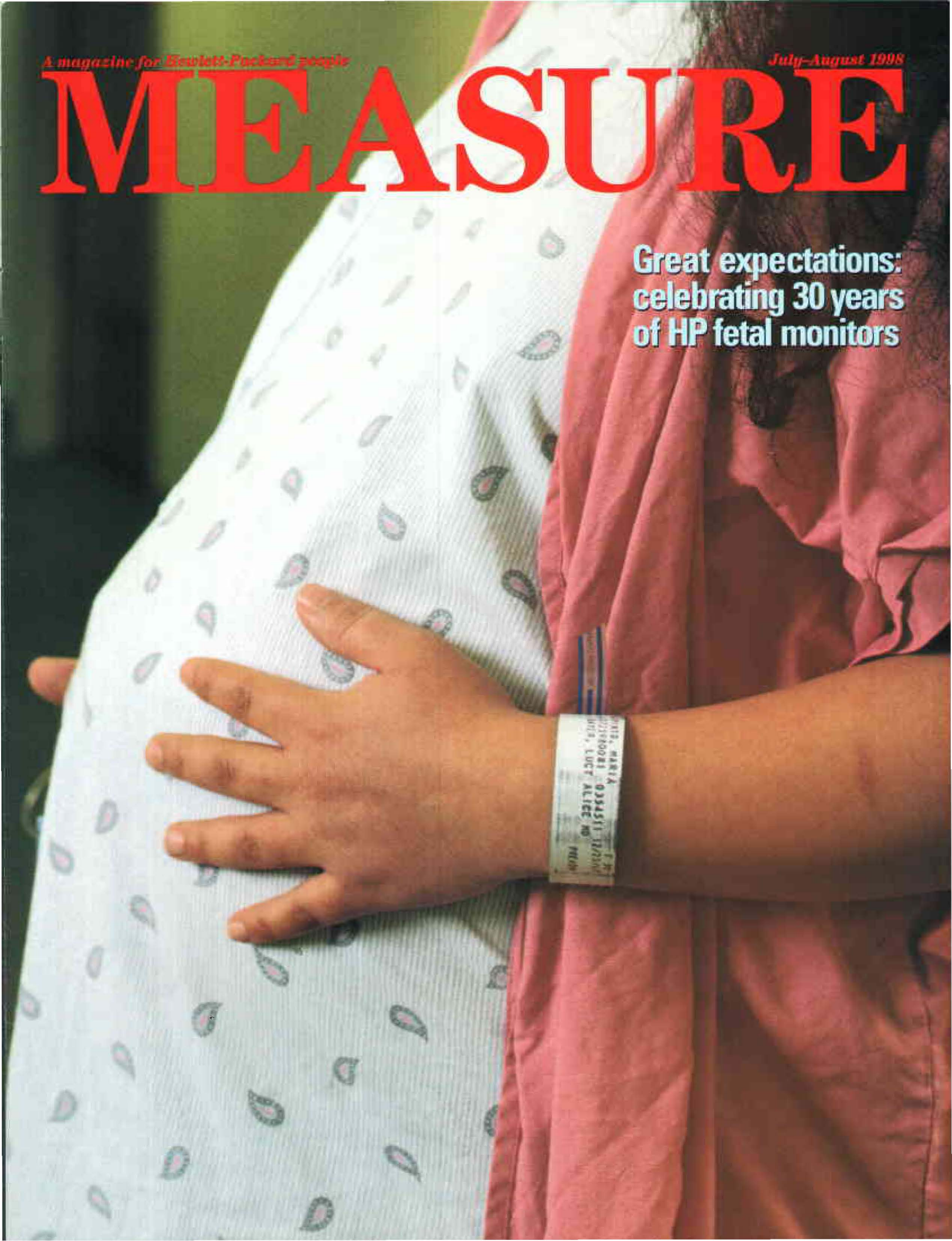


A magazine for Hewlett-Packard people

July-August 1998

MEASURE

Great expectations:
celebrating 30 years
of HP fetal monitors



Customer satisfaction, an area of intense focus in HP in 1998, is a fascinating thing. How can one customer be completely satisfied with a product and another customer completely dissatisfied with the same product?

For example, on the May–June reader-response card, *MEASURE* asked readers—our customers—what we can do to improve. Here are a few responses:

“*MEASURE* seems to focus more on non-U.S. stories,” a reader wrote.

“You are strongly focused on the United States,” another employee noted.

“Put it on a Web page,” said one.

“I read *MEASURE* from cover to cover,” noted a happy reader.

“The articles seem to be sugar-coated,” according to one person.

“This was the best *MEASURE* yet,” countered another reader.

Not exactly a clear mandate, is it? More than anything, I believe it shows that customer satisfaction is a very personal thing. Satisfying 125,300 customers—our employees—completely is impossible. The best course we can follow is to continue to listen to our customers and improve our overall product.

According to those of you who responded to the survey card, the most popular feature in *MEASURE* is CEO Lew Platt’s letter to employees. Obviously, we’ll continue that. You also liked non-U.S. stories such as “Europe’s other millennium challenge,” which dealt with the new European currency, and the Parting Shot photo—submitted by employees—on the back cover. The HP JetSend product-development story “How an idea becomes a product” and the Ask Dr. Cyberspace column were the other top-rated articles from May–June.

Some employees said that *MEASURE* helps them learn about and understand HP better, especially as the company grows in size, complexity and geography. A handful want to see one division featured in each edition. A few suggest we offer only a Web-based version. Some 78 percent of respondents said they read most or all of *MEASURE*. Others said to kill it.

Division reviews are nice, but do the math: With about 60 divisions and six issues of *MEASURE* each year, your division would be featured once every 10 years.

A Web-only version of *MEASURE* has limitations, too. For one thing, it would significantly reduce the number of photographs we could use, and photos are an important part of the magazine. Several *MEASURE* readers, including production workers and retirees, don’t have easy access to the Web. Many people like the portability of print and don’t want to read long documents online.

Yes, you could print out *MEASURE*, but the quality would be lower and the costs higher. Mass printing lowers the per-copy cost and doesn’t tie up your home or office printer for hours on end.

Web publishing also means you have to go “pull” the information instead of having it delivered to you.

The Web is a great archive and interactive tool. That’s why we’re putting more articles on the *MEASURE* section of HP.Now (<http://hpnow.corp.hp.com>) and exploring ways to interact more with you, our customers online.

Thanks to everyone who took the time to respond to our survey. Please keep telling us what you think. We’re listening.

—Jay Coleman



On the cover: Expectant mothers such as Maria Pinto of Springfield, Massachusetts, have depended on HP fetal-monitoring equipment for the past three decades to help keep their unborn children safe. Read all about it, beginning on page 4. Cover photo by Peter Smith.

FEATURES



4 A womb with a view

HP celebrates 30 years in the fetal-monitoring business this year and salutes the millions of babies who have been born safely because of it.

7 In the driver's seat

The Internet will drive the way you live and work in the not-too-distant future. HP's unique set of capabilities positions it to be in the forefront of the technology race.

18 The drive to retire

After a do-it-all, 30-year career with HP, Doug Carnahan sets off on a new course.

19 Out of Africa

A team-building exercise in Namibia becomes a life-enhancing experience for managers returning to HP Europe.

24 A hub of good ideas

HP Singapore's new "Innovations Hub" spotlights a hotbed of local creativity.



Page 18



Page 19



Page 4

DEPARTMENTS

12 Other voices

Don Tapscott tells how Hewlett-Packard is shaping the Electronic World.

16 Web-wise

It's not a dream, says Dr. Cyberspace. There are big changes ahead.

22 People

An investment in the lives of young runaway kids pays off for HP Latin America Treasury Manager Steve Horton.

26 Letter from Lew Platt

HP's chairman, president and CEO says to listen to your customers, then take action.

28 Your turn

MEASURE readers share their views on matters of importance.

29 Extra*MEASURE*

News from around the HP world.

32 Parting shot

Sculpted blue hair is just one reason why HP's Sean Kirkpatrick is called a wild and crazy guy.

MEASURE

Editor:
Jay Coleman, ABC*

Associate editors:
Mary Anne Easley
Kathy Mirtallo
David L. Price

Art director:
Tim Mitchell

Photo research:
Carol Parcels

Circulation/editorial assistant:
Grace Razo

MEASURE is published in mid-January, March, May, July, September and November for employees and associates of Hewlett-Packard Company. It is produced by Corporate Communications, Employee Communications section, Mary Anne Easley, manager. Address correspondence to *MEASURE*, Hewlett-Packard Company, 3000 Hanover Street, 20BR, Palo Alto, California 94304-1185, U.S.A. The telephone number is (650) 857-4144; the fax number is (650) 857-7299; and the e-mail address is jay_coleman@hp.com.

© Copyright 1998 by Hewlett-Packard Company. Material may be reprinted with permission.

*Accredited Business Communicator by the International Association of Business Communicators (IABC).

Hewlett-Packard Company is a global manufacturer of computing, communications and measurement products and services recognized for excellence in quality and support. HP has 125,300 employees worldwide and had revenue of \$42.9 billion in its 1997 fiscal year.

Selected articles from this and past editions of *MEASURE* are available on HP.Now at <http://hpnow.corp.hp.com>.



MEASURE magazine is printed on recycled paper with vegetable-based inks.

HP celebrates 30 years in the fetal-monitoring business this year and salutes the millions of babies who have been born safely because of it.

A womb with a view

By Jean Burke Hoppe



At the turn of the century, natural childbirth meant high rates of maternal death and stillbirths, and infant mortality rates of 20 percent in the first year. Advances in modern medicine soon made childbirth safer but far from natural. If you were born 30 or 40 years ago, chances are good your mother was unconscious during delivery and your father was nervously

spacing a well-worn rut in the hospital waiting room.

Today, natural childbirth is often an informed couple's goal and it's safer than it's ever been. Anesthesia is involved only when life-threatening complications arise. The latest in fetal-monitoring technology is routinely a partner in birthing babies.

It all started in 1968 when Hewlett-Packard Company teamed up with Professor Konrad Hammacher, inven-



At Baystate Medical Center, Maria Pinto (left) and some 5,100 other expectant mothers each year can receive expert prenatal care from Molly Gray, who manages the Center's delivery, recovery and postpartum floor, and the HP M1350B fetal monitor.

tor of the first electronic fetal monitor, or cardiotocograph (CTG), to release the HP 8020A fetal monitor. The first CTGs concentrated on measuring and evaluating the audible fetal heartbeat and electrocardiograph (ECG), which monitors tension at the heart.

Prior to this technology, doctors could listen in only through a wooden horn or ordinary stethoscopes, but had no tools to objectively determine the condition of the fetus throughout labor and delivery. The HP 8020A was considered a major breakthrough in obstetrics 30 years ago.

Since then, a baby just can't get any privacy on his or her trip through the birth canal. Since 1968, fetal-monitoring products have become more compact, more informative, more connected and more fine-tuned, says Mike Dupre, HP sales rep, who calls on Baystate Medical Center in Springfield, Massachusetts, and other medical customers.

You can't really put a price tag on the reassurance fetal-monitoring provides to women with high-risk pregnancies, Mike says, or the detailed information monitoring provides when something does go unexpectedly and terribly wrong.

Baystate Medical Center provides high-risk perinatal service for western Massachusetts. Molly Gray is the unit manager of the Wesson

Women and Infants' Unit. It includes a 38-room labor, delivery, recovery and postpartum floor where 5,100 babies are born each year—all with the help of HP fetal-monitoring equipment. The equipment provides important medical data for the doctors and nurses, but also gives sweet reassurance to patients that things are progressing as planned, she says.

Recently, she says, a Russian-speaking woman, in her third trimester of pregnancy, arrived at Baystate's emergency room after being involved in a car accident. Following an orthopedic workup, she remained distraught, clearly worried about her baby. The emergency room team showed her on ultrasound that the baby's heart was still beating, but that wasn't enough. Molly says one of her nurses took an HP M1350B fetal

Special delivery

Maria Pinto, the expectant mother featured on the cover and pages 3 and 4 in this edition of *MEASURE*, is a real trooper.

On June 9, Maria gave birth to a healthy 8-pound, 3-ounce, 21½-inch-long baby girl at 4:05 p.m.—about two hours after the photos were taken.

Mom and baby were doing fine as *MEASURE* went to press.

monitor to the ER. The patient burst into tears upon hearing her baby's steady, strong heart beat-beat-beating, a sound that transcended all language barriers. She relaxed. All was well.

The usual purpose of fetal monitoring is to supply information about how the baby is responding to the stress of labor after its peaceful nine-month swim in amniotic fluid. The basic job of a fetal monitor, either external or internal, is to simultaneously measure each uterine contraction and the baby's heart rate. An alarm sounds if something begins to go wrong.

HP offers a complete range of obstetrical-care solutions, including the HP Viridia Series 50 fetal monitors and the Series 50 OB TraceVue Surveillance and Trace Archiving system, the leading obstetrical products

Hear, here: great moments in fetal monitoring

17th Century

Phillippe LeGaust describes the fetal heartbeat in a poem.

1818

Swiss surgeon François Mayor reports hearing fetal-heart sounds when placing his ear on the mother's abdomen.

1821

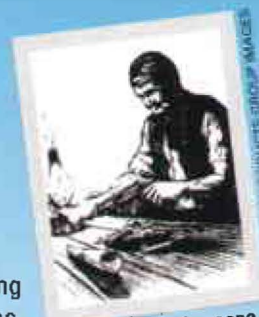
French nobleman Lejumeau du Kergaradec is the first to attribute clinical importance to fetal-heart measurements.

1962

German Professor Konrad Hammacher makes the first fetal-heart recordings in Germany.

1968

HP introduces the first fetal-heart monitor, the HP 8020A.



1800s: early stethoscope development



1969: nurse listens with a fetal stethoscope



PETER SMITH

Fetal monitors

"They [HP Viridia 50 T monitors] give our patients complete freedom to walk around their rooms or the hallways, and the transducers are waterproof, so the patients can even take a shower while remaining on the monitor."

worldwide. The HP Viridia Series 50 internal and external fetal monitors offer heart-rate monitoring for twins and fetal-movement profiles.

Additionally, the HP Viridia Series 50 XM integrated fetal/maternal monitor measures the mother's blood pressure, oxygen saturation and ECG, and the HP Series 50 Sonata fetal-heartbeat detector is another antepartum solution.

HP introduced the world's first fetal telemetry system in 1978; in 1986, ultrasound telemetry was introduced; and this year, a remote transmission system, the HP Viridia Series 50 T telemetry system, was released. The HP Viridia 50 T, a small and lightweight fetal-telemetry system, is compatible with all HP Viridia 50 fetal monitors, as well as with the HP 8040A and HP 8041A fetal monitors.

"Telemetry systems are by far the most popular with patients and staff at Baystate," Molly Gray says. "They give our patients complete freedom to walk around their rooms or the hallways, and the transducers are waterproof, so

patients can even take a shower while remaining on the monitor.

"We know that women are more comfortable and deliver their babies much more quickly if they stay mobile," Molly says. "It can get extremely uncomfortable in late pregnancy or in labor to have to stay in bed, hooked up to a monitoring system, even for short periods of time."

The HP Viridia Series 50 OB TraceVue obstetrical surveillance and archiving system, which offers

comprehensive surveillance of up to 30 patients, both at a central station and at decentralized locations, completes the line of HP's fetal-monitoring solutions.

The HP Series 50 Sonata fetal-heartbeat detector, a hand-held Doppler unit, provides early detection of the fetal-heart rate. Its "early detection mode" can detect pregnancy as early as nine or fewer weeks of gestation.

The use of fetal-monitoring systems has evolved much the way Professor Hammacher envisioned. It was his concern for the well-being of mothers and their babies that motivated his work, and kept him going even when his colleagues didn't take him seriously. Current fetal-monitoring technology takes away a lot of the guesswork and lets doctors, midwives and nurses focus more attention where it belongs—on the patient. **M**

(Jean Burke Hoppe is a Lincoln, Nebraska-based free-lance writer. —Editor)

Hearing more great moments in fetal monitoring

1972

The compact HP 8021A combines ultrasound, direct ECG, external and internal uterine pressure parameters in one device.

1982

The HP 8040A compact fetal monitor uses pulsed widebeam ultrasound Doppler with auto-correlation to measure the fetus. Dual heart-rate monitoring.

1990

The HP M1350A uses dual ultrasound capability with advanced PERFORMANCE PLUS! ultrasound fetal-heart-rate signal processing and new fetal movement parameter.

1995

The HP M1350B integrated fetal/maternal monitor measures maternal blood pressure, pulse oximetry and ECG wave display.



1975–1983: Compact fetal monitor unit



1995–today: HP Series 50 XM integrated fetal/maternal monitor

The Internet will drive the way you live and work in the not-too-distant future. That puts HP—with our unique set of capabilities—squarely

In the driver's seat

By Jay Coleman

The competition for Internet supremacy is heating up, as a handful of competitors—IBM, Sun Microsystems, Dell Computer, Compaq Computer and others—jockey for position.

But this is no horse race. Three years ago, having a sound Internet business strategy was like owning a horse and buggy. Today, we're talking *Star Wars* light speed.

Companies that can't offer their customers a total solution will be left in a cloud of cosmic dust.

In March 1998, HP unveiled its space-age Internet strategy—the Electronic World—and, ever since, many industry analysts have labeled HP the front-runner in the race to harness the Internet's full promise.

"HP is uniquely positioned to emerge as the new millennium's global tech-

nology leader, with a strategy that embraces all four of what we envision metaphorically as overlapping spheres of the Electronic World," CEO Lew Platt announced at Internet World. "Our vision and the completeness of our solutions are unmatched in the industry."

The strategy is an evolution of HP's Extended Enterprise vision (see the May-June 1997 *MEASURE*), adding three new areas: E-Business, E-Commerce and E-Consumer.

The breadth of HP's solution can fill a book—or several Web sites (see page 8). In the following four pages, *MEASURE* summarizes HP's strategy—what it is, why it's important, how HP will make it happen and how HP is positioned to win. Can the company truly overtake and beat its competitors in this race or are we just among the pack of racing hopefuls? That remains to be seen.



E-World

Extended Enterprise

HP's E-World strategy begins with the Extended Enterprise, an IT infrastructure based on open, distributed computing and the Internet.

In other words, you wouldn't start out on a trip around the world unless you knew that there was a reliable infrastructure—roadways, airports, repair services, travel consultants and so forth—to get you to your destination safely.

HP-UX systems, for instance, offer 99.95 percent uptime—the highest in the industry. This amounts to only five minutes of downtime per year. That mission-critical performance is vital for such applications as online-reservation systems.



HP-UX systems play an important role in Federal Express Corporation's move from a mainframe-based to a distributed model of computing. This shifts more "intelligence" into the field, which increases Fed Ex's ability to handle higher volumes of customer shipments.

Read all about it

To learn more about HP's Electronic World strategy, check out the following intranet sites:

<http://co.hp.com/programs/eworld>

[http://hpnow.corp.hp.com/
views/speeches/iworld.htm](http://hpnow.corp.hp.com/views/speeches/iworld.htm)

[http://co.hp.com/cotoday/
Attachments/veil0311.htm](http://co.hp.com/cotoday/Attachments/veil0311.htm)

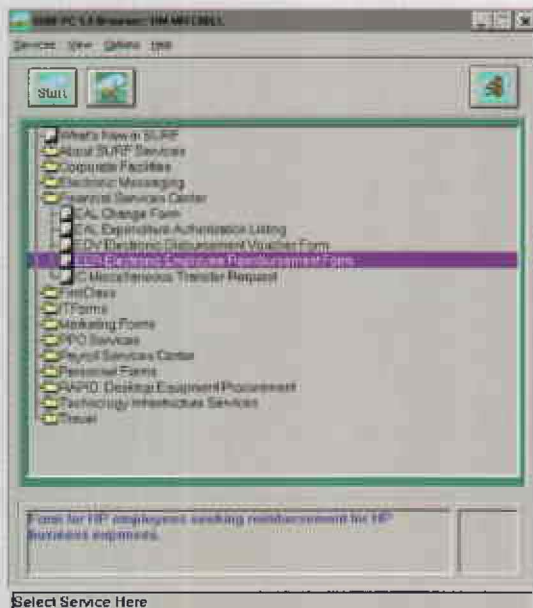
E-Business

E-Business is a new way of helping people run their business. It could mean a radical change in processes using an intranet within a company, or how a company interacts with its suppliers, partners and customers by using the Internet. One of the best examples is something you probably use every week: electronic employee reimbursements.

A mere four years ago, to get reimbursed for business-related, out-of-pocket expenses—gas in your car, a business luncheon and so forth—you filled out a reimbursement form by hand, had your manager approve it, hand-carried it or sent it through the HP mail system to a petty-cash office, had it approved and walked away with the money.

Today, you fill out the form electronically, it's sent to your manager automatically for reference or approval and the payment is deposited automatically in your bank account. It takes only a few minutes and you receive payment (and an electronic notice to that effect) within a couple of days. The process saves you time and reduces a significant amount of labor. It also saves HP about \$3 million a year.

HP's intranet—the largest in the world—has proven to be a highly efficient solution and a great way to demonstrate the wisdom of E-Business to our customers. It handles nearly 20 terabytes of data each month—equal to a stack of paper 550 miles (900 kilometers) high.

A screenshot of the "Electronic Employee Reimbursement Form" web application. The form includes fields for "Emp #", "First", "Last", "Phone", and "Tolnet". Below these are "Billing Information" fields: "Change Tel", "Early", "Sub", "Dist", "Dept", "SF", "PI", "PL", "Options", "Charge". There are radio buttons for "Reimbursement Category" and "Account", and checkboxes for "WorkOrder #", "# of Miles", and "\$ Amt (incl. Tax)". A list of reimbursement categories is shown, including "Awards, Cash/Gift Cert (x137)", "Awards, Food/Meals (x137)", "Awards, Other (x137)", "Batteries (x290)", "Book (x607)", "Celebration, HP Emps (x173)", "Cellular/Mobile Phone (x333)", and "Component Material (x210)". At the bottom, there are "Line Number" buttons, a "VISA" field, a "Total \$ Amount to be reimbursed" field showing "\$0.00", and an "Authorizer" section with "Begin", "Last", "First", and "User" fields. Action buttons "Mail", "Print", "PrintMail", "Clear", "Help", and "Exit" are at the bottom.

HP saves about \$3 million a year using the Employee Electronic Reimbursement system to simplify and speed payments for reimbursable employee expenses.

Electronic World owner's manual

1. What is the Electronic World?

A far-reaching vision and strategy to harness the utility of the Internet with HP's full breadth of solutions, redefining how people work and live.

2. Why is it important?

The Internet is the logical next step in HP's strategy of making computing pervasive—an environment in which people notice the absence of technology, rather than its presence. HP is helping build an "information utility," where computing power is universally available in the same way that you get water by turning on a faucet or electricity by plugging into the wall. You'll be able to plug HP "information appliances" into that utility easily.

3. How will HP make it happen?

HP's Electronic World strategy focuses on four areas: Extended Enterprise, E-Business, E-Consumer and E-Commerce.

4. Why is HP uniquely positioned to do this?

- *Enterprise expertise.* We have a scalable range of systems, sales force, financing, services and a complete solution.

- *Systems strategy.* HP's philosophy of open, distributed computing is a clear advantage over competitors' proprietary-system solutions. And our IA-64 microprocessor architecture will be the industry de facto standard.

- *Unique technologies.* Examples include HP Changengine software for re-engineering business processes, the Integrated Payment System from VeriFone and HP's imaging expertise that goes far beyond printing.

- *Managing diverse business models.* These range from the direct-sales, solutions-focused approach—where you get lots of face-to-face contact with customers—to retail sales—consumer-focused businesses that sell to mass markets. "This is something our competitors have been unable to do," says CEO Lew Platt.

E-Consumer

You're traveling on a commuter train in Germany—clicking along at 80 miles (about 50 kilometers) an hour—when a railroad employee delivers your news magazine. Not a magazine that was printed days ago, but a customized version with stories only a few hours old.

Sound like a futuristic dream? Actually, it exists today.

Regular commuters on ICE—Germany's InterCity Express train—can fill out a profile and receive a newspaper filled with stories geared to the readers' individual interests and printed on an HP LaserJet 5Si printer right on the train. The news arrives on the train twice a day via satellite, so the information is still fresh.



E-Commerce

Major retail-clothing buyers have a new way of examining and ordering the latest fashion trends: They just flip on their computers.

The virtual showroom is a reality for clothing designer Liz Claiborne, which uses HP's OpenPix Internet imaging technology to offer a new, cost-effective way for buyers to view its new line of merchandise online. E-Commerce helps people do business.

"HP's technology allows us to post a picture of a blouse and buyers can zoom in to see the stitching, a button or the fabric," says John Sullivan, vice president of information

systems for Liz Claiborne.

Buyers also can print high-resolution images from the Web. This reduces the cost of printing marketing collateral and catalogs. Retailers can keep advertising current by only promoting products still in stock. Liz Claiborne Chairman and CEO Paul Charron initially thought of the Internet only as a marketing tool. HP's Internet imaging changed that.

"We were not looking for this technology," John Sullivan says. "Rather, the technology found us." **M**



laiborne

welcome



Parts department

The examples we've given are merely a quick "look under the hood" of HP's Electronic World strategy. Each of the four areas of the strategy contains a wealth of HP products, services and solutions that comprise HP's overall Internet vehicle.

Here's a more detailed look at the parts of the four areas:

Extended Enterprise

- HP-UX systems
- HP NetServer systems
- HP PCs
- Service and support
- HP OpenView

E-Business

- HP OpenMail
- HP VerSecure
- HP Chain Reaction
- HP Smart Contact
- HP AdminFlow
- Digital workplace
- Distributed printing

E-Consumer

- HP Pavilion PCs
- HP DeskJet printers
- HP PhotoSmart home-photography system
- All-in-one products that scan, fax, print and copy
- Personal automated-teller machines
- Expanding Possibilities branding strategy

E-Commerce

- HP OpenPix
- HP VirtualVault
- HP VerSecure
- HP Express Vault
- v.WALLET PC-based payment utility
- v.POS secure credit-card transactions via the Internet
- v.GATE manages transactions from multiple merchant Web servers
- Integrated Payment System manages all forms of payment and interacts with a bank's legacy system

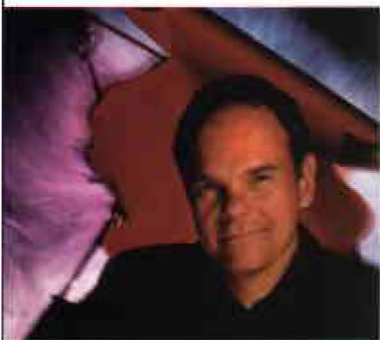
Strategies for the Electronic World

How is Hewlett-Packard shaping its vision of the future—the Electronic World? At the 1998 HP General Managers Meeting in January, G.M.s heard from consultant and author Don Tapscott.

Don is the chairman of the Alliance for Converging Technologies, a research think tank funded by many of the world's leading technology, manufacturing, retail, financial and government organizations, including HP.

He has written six books, including The Digital Economy, Paradigm Shift and Growing Up Digital—the last of which was written on the Web with the collaboration of several hundred kids and adults on six continents.

On the next few pages, MEASURE shares with our readers just a few of Don's insights from his 75-minute presentation to the G.M.s.—Editor

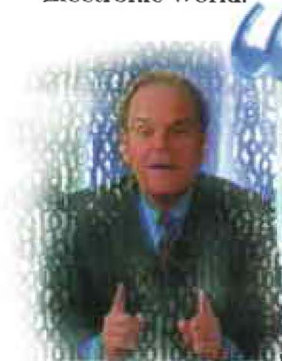


COURTESY OF DON TAPSCOTT

“I’m convinced that the next period for Hewlett-Packard is a time of great new promise. But also of peril. HP is faced with the opportunity to become the partner of choice in building and achieving the Electronic World.

“On the other hand, as the acquisition of DEC by Compaq shows, this is a volatile, new, dangerous environment.

“I think as much as any other company, HP embraced the idea of the shift in technology described in *Paradigm Shift*. The basic idea was to create an enterprise that is open, high-performance, integrated and ‘Internet-worked.’ And as the shift extends out into business, commerce and society as a whole, I believe that we are moving into a fundamentally different kind of economy. And this is really taking us into a whole new Electronic World.”



“To me, the Net Generation is one of the most powerful new forces to transform our world. What we’ve got here is the first generation to come of age in the digital age. They’re about to transform everything that we know about the enterprise, about commerce and about marketing. They’re growing up digital. And, increasingly, computers, video games and the Internet are part of their world. They’re bathed in bits.”

“To me, the Net Generation is one of the most powerful new forces to transform our world.”

"The Web is basically eating TV, as broadcasting is really moving into its final days."

"For example, I was speaking to the board of directors of the grocery manufacturers association. They are the CEOs of big companies in the food industry. And I was introduced by Jack Stahl, the North America group president of Coca-Cola Company.

"He said he was at home one night when the telephone rang. An adult on the other end said, 'Is Sam there?' Sam is his 13-year-old son.

"Jack said, 'No, I'm sorry. Can I take a message?'

"The person calling said, 'He's not home? Well, where is he?'

" 'He's playing soccer. May I ask who this is?'

"The adult said, 'He's playing soccer? He's supposed to be at work.'

"Jack responded, 'At work? Who is this?'

"It turned out that Sam had been posing as a 28-year-old on America Online and he's had a job monitoring chat groups. This was his boss phoning up to find out why he wasn't at work. Jack wondered why his 13-year-old had all that disposable income all of a sudden.

"Any of you who have teenagers know what I'm talking about. Who's the system administrator in your home?"

Imagine in the United States alone, 80 million knowledge-sharing, network-energized, media-savvy, globally oriented youngsters hitting up against the old model of the enterprise. Sparks are going to fly.

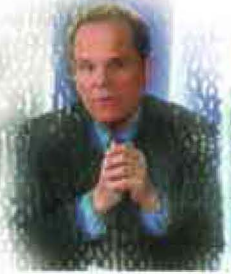
"Now let's look at this. The starting point is how is kids' culture changed by their experience in the digital

world? Well, let me pose a question to you: What do you think is the main victim, for kids, of time on the

Internet and time on computers in homes? I'll give you a hint. It's not playing soccer, it's not hanging out with your buddies, learning the piano, doing your schoolwork, talking to your siblings. The main victim is time on TV."

The Web is basically eating TV, as broadcasting is really moving into its final days. Television watching of families with Internet access is cratering as kids decide that they don't want to be broadcast to, they want to be the casters.

"It won't be broad, it will be molecular. There won't be 500 television channels, as people talk about. There will be 50 million channels. Probably a bunch of your kids have channels (Web sites). My daughter does. She's 14. 'Nikki's Chatterbox,' it's called. Nikki's views on the situation in Bosnia. Nikki's discussion group of Leonardo DiCaprio. Nikki's discussion



Technology is changing every institution in society: business, learning, entertainment, com-

merce, government and so on. We shouldn't be surprised that it's changing these kids and creating a new culture.

"I worked with 300 kids in *Growing Up Digital*. Of those 300 kids, 85 percent know more about computers and the Internet than both of their parents."



In the 1960s, we had a generation gap where kids and parents had big differences over lifestyle, values, ideology and so on. Today we

don't have that so much; kids and parents get along pretty well. I think this is the most loved generation ever. What we've got today is a generation lap, where kids are lapping their parents on the info-track."



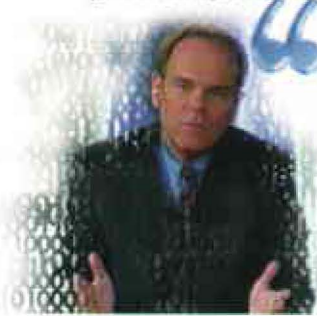
For the first time, children are an authority on a central issue facing society. I was an authority when I was a kid—on model trains. But

today, kids are an authority on the central innovation transforming every institution in sight. The 9-year-old is an authority at the breakfast table. This is creating a whole new concept of what it means to be an authority.



Imagine in the United States alone, 80 million knowledge-sharing, network-energized, media-savvy, globally oriented youngsters hitting

group of how teenagers can manage their parents. I hate that one. It's password-protected."



N-Gens are creating a new culture characterized by what I call intellectual and emotional openness. These kids are aware of the safety, but they spill

their guts on all kinds of things. They make themselves quite open and vulnerable. I think this is what we're going to need for openness within enterprises as a whole to create open collaboration, knowledge-sharing, and so on.

"It's a culture of inclusion. Excluding people on the basis of race, gender and age is bizarre to these kids. And this is going to help us create a culture of collaboration leading to the notion of a collective leadership. This is the kind of thing that HP is probably as successful as any company in achieving—ideas in waiting for a generation that could effortlessly embrace them.

"As one kid said to me about knowledge-sharing, when we presented them with all these impediments to knowledge-sharing that adults had come up with, 'Well, what good is

knowledge if you don't share it?' And isn't that what the Web is all about?"

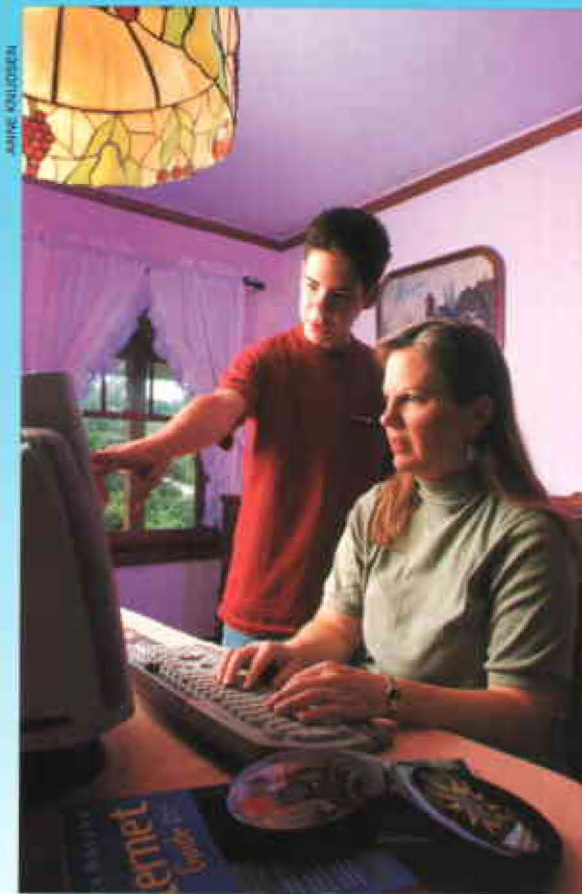
"It's a culture of free expression and strong views. The kids are exposed to and participate in a wide range of ideas. They develop views on things early. And this is leading, possibly, to the idea of internetworking human intelligence.

"It's a culture of innovation. For these kids, if it ain't broke, they want to break it.

"They want to obsolete everything. And that's wonderful. That's what we need in enterprises today.

"It's a culture of investigation. These kids want to constantly

"It's a culture of sensitivity to corporate interest. They don't dislike corporations, they just hate heavy-handed promotion."



It's how you look at it

For Laurie Mittelstadt, a member of the technical staff at HP Labs in Palo Alto, how you approach the computer age is a matter of perspective.

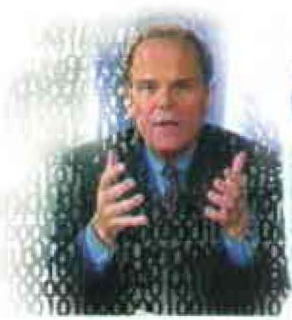
"My 13-year-old son, Paul, constantly teaches me other new things on the computer," Laurie says. "I tend to think of a computer as a calculator and a word processor, and Paul thinks of it as a telephone and a TV."

Paul recently taught his Mom about instant messages, which are faster than e-mail and create virtual chat groups online instantly. Paul has been interested in computers since kindergarten, Laurie says.

look under the hood. This is going to lead to the concept of new authorities.

"It's a culture of immediacy. To these kids, it's better never than late. Things move around at the speed of light. And that's what we're going to need to create the real-time firm for a real-time economy.

"It's a culture of sensitivity to corporate interest. They don't dislike corporations, they just hate heavy-handed promotion. Kids don't want to have their time wasted. They don't want to be exploited. I think they want to be treated as intellectual capital as opposed to a variable expense, which is how we treat labor today."



Your dishwasher is, as (HP Senior Vice President and Director of HP Labs) Joel

Birnbaum would say, an information appliance. And it is. Pretty smart, too. You're going to have to do a hardware upgrade probably. Probably a software upgrade, too. But then the dishwasher becomes attached to the Net in the home, and when the dishwasher gets low on dishwashing detergent, it sort of calls in: 'This is the dishwasher speaking. Help me out here. I've got a couple of weeks left.' If you've authorized your dishwasher to order dishwashing detergent, then it puts in an order.

"This is not science fiction, this is technology that HP could be part of creating in the electronic home.

"Another factor that spells trouble for the brand is agent technology. Some of you may have read in *The Digital Economy*, years ago I was doing a kids panel. I asked these kids, 'If you could have any computer, what would it be like?' And one of the things that my daughter described in this panel is she'd like to have CyberNikki. And CyberNikki would go out into cyberspace and try on clothes for her and so on."



How is HP going to find, within itself, the will to transform itself? And who are the customers going to look to for leadership in transforming their organization, their world, to create



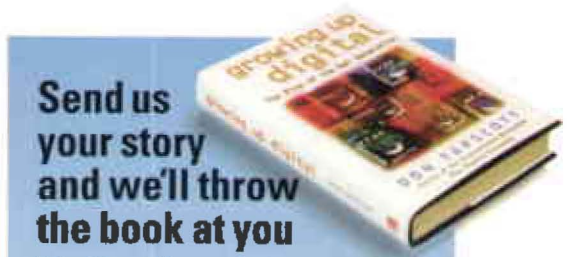
"I personally think that the management style of an HP, although it may seem awkward and cumbersome at times, is the right approach because you need to create an organization that can learn."

that the management style of an HP, although it may seem awkward and cumbersome at times, is the right approach because you need to create an organization that can learn. Even better than the way you can learn today.

"One thing is for sure: The next period is not going to be boring." **M**

this new opportunity?

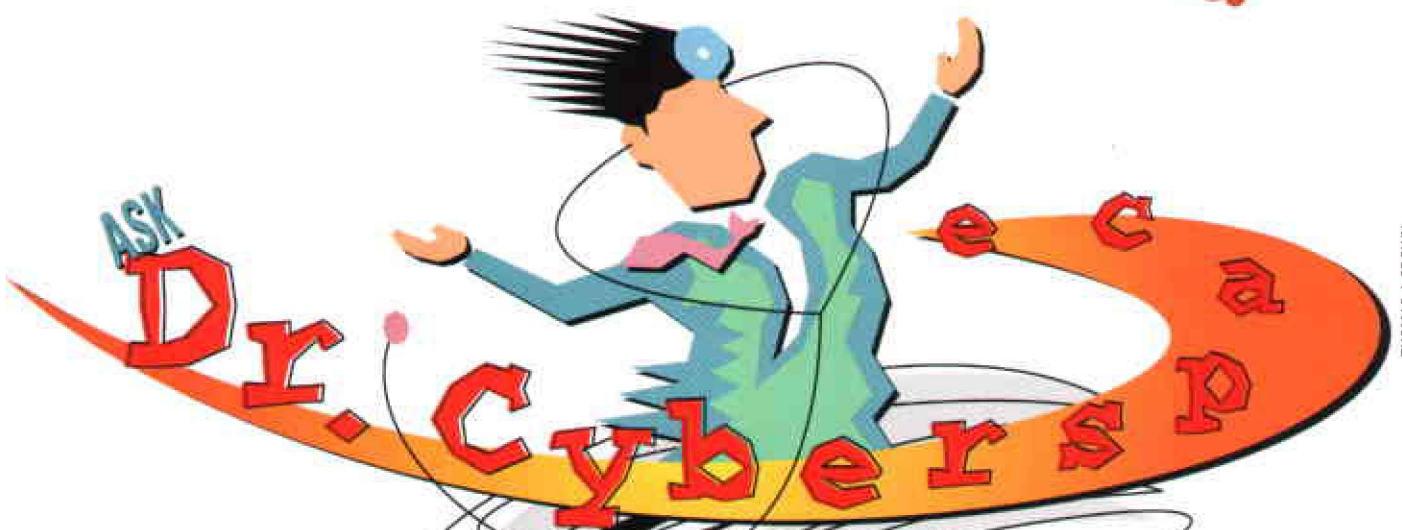
"My view on that is that leadership can come from anywhere. Yes, it can come from a chairman, a CEO, a CIO and so on. But it can also come from anywhere within an organization. I personally think



Send us your story and we'll throw the book at you

Would you like your own copy of Don Tapscott's *Growing Up Digital*? Send us your story—how your child is lapping you, a lesson that your new college hire taught you, what you like and don't like about the age of the Net Generation—and we'll send you a free copy of Don's latest book, as long as the supply lasts.

Keep your story as brief as possible and send it (address on page 3) to Editor Jay Coleman. We'll print as many as possible on *MEASURE's* intranet Web site at <http://hpnow.corp.hp.com/views/measure/index.htm> and Don will print some on his Web site <http://growingupdigital.com>.



THOMAS J. BROWN

"We may not know what lies at the end of this path we're on, but one thing's for sure, this definitely isn't Kansas anymore."
CIO magazine, January 1, 1996



New concepts drift from odd terminology to familiar lingo at the speed of a 28.8K modem. But other things—technological things—are happening in the blink of an eye. And as HP proceeds with its strategy to build the Electronic World (see story on pages 7–11), it's darned exciting to imagine what the future holds.

Blink. It's 2010.

At home, your TV and PC are one in the same. Flat-panel monitors are everywhere, all linked to the Internet and an information furnace that controls heat, lights, audio and video and security. Cameras outside warn you that the in-laws have arrived and sensors signal when the dog strays into your prized petunias. Your bathroom is equipped with an expandable LCD (liquid-crystal display) screen that fits in the corner of a mirror so you can view the Web or catch up on the latest news while brushing your teeth.

Life just isn't the same—anywhere. It's all about e-this and @-that; an Internet here and intranet there.

The cyberbabble bug has stung even my own family name. A German company has bottled a perfume called Cybersp@ce. You can catch a whiff—not physically, but virtually—of this unisex scent at <http://parfum-magazin.com/pages/newcyber.htm>.

Sprechen Sie Deutsch?

The kitchen of the future is a space where everything is connected and your refrigerator, oven, microwave, dishwasher—and yes, even your kitchen sink—all know what the others are doing. Want meatloaf for dinner? The fridge and cupboards check to see that they hold all the right ingredients. The oven starts preheating. When you're done preparing the plump, juicy loaf, it's time for a break. You pour yourself a cup of coffee from a machine that remembers who you are and how you like your coffee. Sound like sheer heaven?

At work, you've got more flat-panel monitors working as PCs. Maybe you're even wearing one on your wrist that acts as a phone, pager, appointment calendar and video screen.

PCs are equipped with computer agents, smart little programs that will do things for you to make work easier. All you have to do is give it voice commands.

"Hey, buddy," you tell your friendly computer. "Find me the best seats for the musical *Rent* at the Shaftesbury Theatre a month from today." Off goes the agent to search for tickets in London. "Make me reservations at a nearby restaurant." Presto! The agent comes back with your choices. Of course, you can do the same at home instead of on company time, but what's a few seconds?

Everything will be wireless because thousands of orbiting satel-

lites provide more speed at lower cost than archaic wired connections. This helps you on business travel now that every airplane seat is equipped with a built-in flat-panel computing/entertainment display.

Driving to work is stress-free. Car PCs will route you around traffic accidents. If you want to read the newspaper, put on smudge-free lipstick or use your laptop, a combination of expressway sensors, global-positioning systems and in-car computers do the driving for you on limited-access roadways. Yahoo!

If you expect to wake up from this dream soon, forget about it. The future doesn't end here. As a matter of fact, the fun has just begun. How else would you explain a designer who's created scientific underwear that will keep you at exactly the right temperature? Coordinate fabrics with your wearable PC wristband and you might set a new trend.

For now, the most exciting thing in Dr. Cyberspace's future is the expected

arrival of a new family member, due in September. Check my online clinic for updates on Cyberspace Junior's entry into the world at <http://hpnow.corp.hp.com>.

Will the tot be part of the Net Generation or some other not-yet-named Gen? What do you think the future holds for him or her? I would love to hear from you. Send your ideas to doctorc@corp.hp.com. **M**



Dr. C used these Web sites as reference material. All good doctors consult with experts; so do I.

PC Magazine-June 9, 1998
<http://www.zdnet.com/pcmag/>

MIT Media Research Lab
<http://www.media.mit.edu/>

Institute for the Future
<http://www.iff.org/>

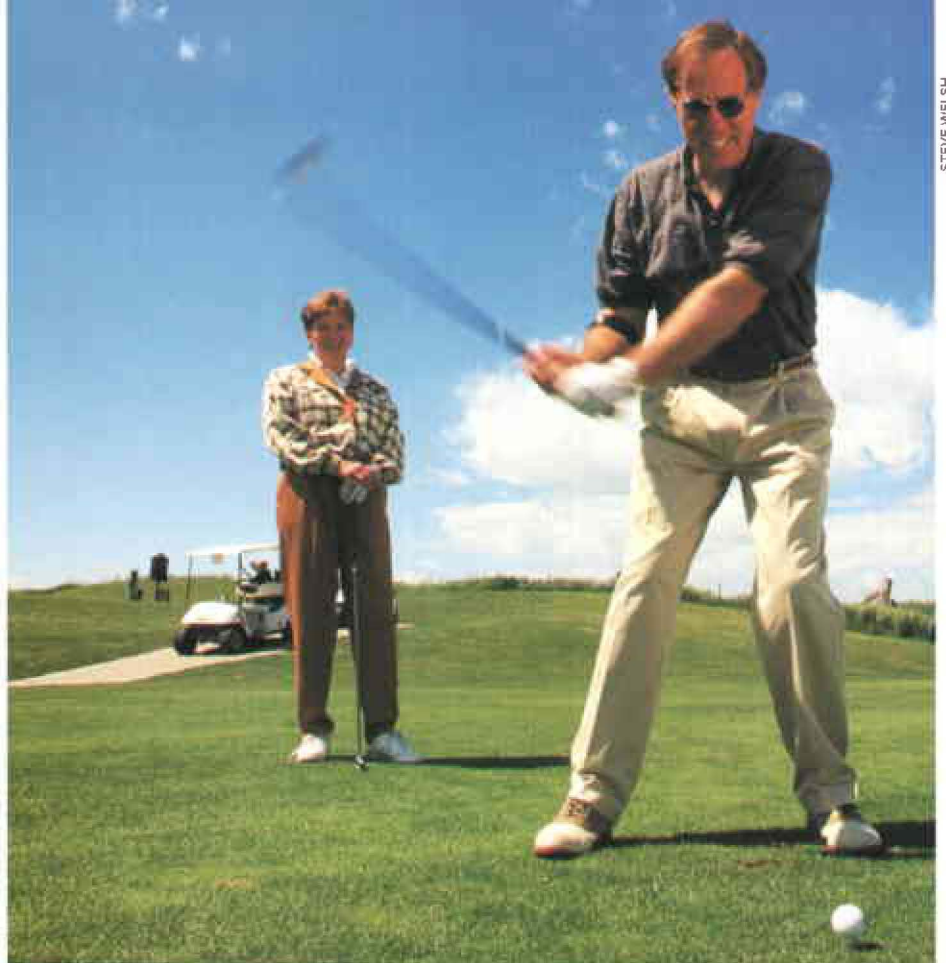
The drive to retire

After a do-it-all, 30-year career with HP, Doug Carnahan sets off on a new course.

BOISE, Idaho—Even as a young, 41-year-old general manager of HP's Computer Peripherals Bristol (England) Division in 1982, Doug Carnahan endeared himself to the people who worked for him. Every morning, he'd walk from his desk to the far end of the plant to get coffee, then wander back through the production lines, talking to people.

"The production environment is far different in Britain, but Doug broke through, getting on easy speaking terms with everyone," noted John Stedman, the first R&D manager in Bristol and now G.M. of the Appliance and Scanner Business Unit.

In May 1998, Doug—HP's Mr. Versatility—retired after a 30-year HP career. At age 56 he plans to slow down from a pace that has meant 60 percent travel during the last several years. He'll relax, catch up on leisure reading, help with his wife's wholesale nursery business and pursue his love of outdoor sports, including hunting, fishing, snow and water skiing.



In retirement, Doug Carnahan and his wife, Meredith, can spend more time in leisure activities, including golf at Spur Wing Country Club, their hometown course in Meridian, Idaho.

California born and educated, Doug began his HP career in 1968 as a facilities engineer in Corporate Construction in Palo Alto. He was promoted to project manager in the Microwave Division in 1969, fabrication manager of the Santa Rosa (California) Division in 1972 and became manufacturing manager of the Boise Division in 1977.

He went to Bristol in '82 to oversee the startup of peripherals manufacturing, then returned as G.M. of the Boise Division in 1985. Doug served as G.M. of the Publishing Products Business Unit and the Printing Systems Group before joining HP's Management Staff in 1993 as G.M. of Component Products. Later that year, Doug assumed the post of G.M. of the Measurement Systems Organization. He was elected a senior vice president in 1995.

"Doug is one of the most adaptable and flexible HP people I've ever known," says CEO Lew Platt. "Whether it was working as a manufacturing manager, starting up the Bristol operation, over-

seeing the growth of our LaserJet business, or leading the Measurement Systems Organization, Doug always performed with a high level of energy and a great passion for results. He has been an incredible player in the HP organization."

Doug's two children seem to be following in his footsteps. His daughter, Kerry, works for Microsoft, and son, Jason, recently joined HP.

Never one to rest, Doug told the *Idaho Statesman* newspaper that he'll approach his retirement pursuits of reading and sports activities with a new energy.

"Instead of touching the tree tops, I want to dive into things a bit more," he said. "Basically, I just want to spend time enjoying myself." **M**

Out of Africa

A team-building exercise in Namibia becomes a life-enhancing experience for managers from HP's Europe, Middle East, Africa organization.

By Mary Weed

WINDHOEK/WATERBERG PLATEAU, Namibia, Africa—We didn't need to be in Africa to learn team spirit, how to be a better person and the gift of giving—but it helped!

Deep in the heart of Africa, nestled between the chilly Atlantic Skeleton Coast and the Kalahari Desert, where people can be removed from HP and home comfort zones, wonderful discoveries await that can benefit HP, the people we work with and those we love.

The experience was a crash course in teamwork, coordinated through Raleigh International, a U.K.-based charity for developing young people. Volunteers, ages 17 to 25, finance their own trip to work on challenging community and environmental projects and expedi-

tions in developing countries around the world.

Raleigh picks a new country every other year. After projects in Uganda and Namibia the last four years, the program moves to Ghana in the fall of 1998.

In our intense, 10-day session in April 1998, we visited a Raleigh proj-



BEKA CLAYTON/JOLLY

Giraffes roam the Waterberg Plateau.

ect to see the volunteers in action. Then we spent eight days in Windhoek, the Namibian capital. Our job was to fund support for young Namibians from the local business community. We called on the local businesses to donate money, supplies and other resources to finance the project.

In the process, we peeled away layers of organization, status, titles and support systems. We learned that being effective starts with sharing—and that when you work for a cause greater than yourself, it can touch your work life *and* your loved ones.

Our journey began at the Waterberg Plateau Park in north central Namibia. The park towers 200 meters above the surrounding landscape and is one of the most spectacular features of the northern region. It's home to many rare species, including black and white rhinos, Cape vultures and roan antelope.

We witnessed the spirit of the volunteers and gained insight into conservation and wildlife management. With an understanding of the work



MARY WEED

Raleigh International's Dominic O'Neill (left) and members of the Namibia Ministry of Health and Social Services, including Permanent Secretary Dr. Kalumbi Shangula (center) unpack HP's donation of a much needed HP Pagewriter electrocardiograph.

Out of Africa

under way, we traveled to Windhoek to find resources—money, material, people and so forth—to help the volunteers.

Projects targeted for this Namibia Challenge included building primary schools, purchasing medical equipment, collecting blankets, mattresses and other necessary items for eye operations in the bushlands, and assisting “save the rhino and cheetah” conservation projects.

Carmen Embleton, marketing communications manager for the Local Products Organization (LPO), and a team member, says, “Many of the people

from HP had not worked together before and didn’t have experience raising money or finding sponsors, especially in a developing country. We were thrown into a strange environment to do a very new job for a new kind of customer—a charity.”

Our HP team raised U.S. \$250,000—\$1 million Namibian dollars—all from local companies. “But the pay-off is not in money,” says Ivan Baran, LPO area manager for Russia, the Commonwealth of Independent States and Central Asia. “It’s about team spirit, and the dedication and desire of our group and the Raleigh volunteers to succeed.”

Besides doing something worthwhile for charity, the experience provided HP people with a rare way of developing themselves. Graham Valentine, worldwide LPO general manager, who founded the project, says, “We set out to create a unique development experience for HP managers. Through the enthusiasm, skill and creativity of the 28 HP managers who have participated in the program in the past five years, we have built a program that is a success for all.

“It’s probably the most holistic training event organized by any company anywhere,” Graham says. “HP has won admiration and respect as a company that is prepared to take a risk with a new idea—and succeed.” He adds, “As HP enters the next level of ‘virtual management,’ the soft skills

people I see every three months is through trust.”

Moreover, the program stretches people to explore new skill sets. Uganda team member Constantin Salameh, G.M. of the EurAsia Financing and Complements Business Unit, adds, “This was one of the most valuable change-management experiences I have had in my 14 years with HP.”

Team members take on new roles from those they are paid to do at HP. When Brigitte Almaschi, Enterprise Systems Group sales center manager-Europe, was on the first Uganda Challenge, she had to switch roles from marketing to sales, asking the Shell Oil director in Kampala for money or sponsorship in kind. She walked away

with 70,000 liters (15,400 pounds) of oil needed for the Raleigh expedition. Brigitte’s apprehension to do “cold calling” was overcome by this experience of success.

On the 1998 Namibian Challenge, Cécile Sabathé of HP France, set a professional objective of learning negotiation skills. By the end of the week, she was talking to company presidents and negotiating Land Rover vehicles for Raleigh expeditions. Cécile says, “It turned

out that each time we stepped outside our comfort zone, we extended it that much further!”

It’s easy when the task captures your imagination, notes team facilitator Ben Clayton-Jolly, a consultant



The HP participants had a chance to see firsthand the kind of construction work that Raleigh teams undertake during a visit to a remote location in the Waterberg Plateau Park.

in human relations are vital. The only way I manage



Top: In downtown Windhoek, Namibia’s capital, Koen Vanpraet (left) and Cécile Sabathé discuss tactics en route to meet another potential Raleigh sponsor.

Middle: Namibian Prime Minister Hage Geingob (left) expresses support for the Raleigh program as British High Commissioner Glynn Davies (center) and Raleigh’s Jon Rogers observe.

Bottom: During the 1997 Raleigh expedition in Namibia, Roger Wilson (left) and Dominic O’Neill (second from left) talk with Chief Tjikua, one of the regional Traditional Leaders of the Herero people of Namibia, and his counselor.

Besides doing something worthwhile for charity, the experience provided HP people with a rare way of developing themselves.

With 1.6 million inhabitants living on 824,269 kilometers (322,000 square miles), the Republic of Namibia has one of the lowest inhabitants-per-kilometer (0.66 per square mile) in the world. Namibia became independent in March 1990 after 75 years of South African rule.



HP employees and Raleigh volunteers observe as Ugandan villagers relocate their homes away from a rubbish pit.

with HP and Raleigh. "If you have an environment where you can thrive and focus your energy, you can peel away the layers."

With knowledge of Africa, Raleigh and HP, Ben helps the team members on their individual journeys with probing questions about learning at three levels: personal (who I am, things I can change, skills I didn't know I had); how we work as a team; and return on investment (what we transfer back to HP and ourselves).

Graham explains, "The HP spirit in Africa is like a sports team with diverse personalities in which the total is greater than the sum of the parts. In business, we have a selfish cause to earn money, and this is a way to do it in an unselfish way by giving your skills to a good cause while learning at the same time."

Franz Nawratil, HP vice president and managing director of HP's operations in Europe, Middle East and Africa, says, "It's a win for the team, for the charity, for the African community and for HP. As HP enters the next millennium, keeping trust and the HP Way thriving will be as vital to our success as the experience and degrees HP people possess."

A word of caution for those also bitten by the African bug and seeking to help the continent: As team member Luciana Broggi points out, "It's pretentious to think that a 10-day trip can contribute to Africa's economic well-being. Instead, we can do our part to create an environment where it's mutually beneficial to all—HP, Raleigh and the country where we work."

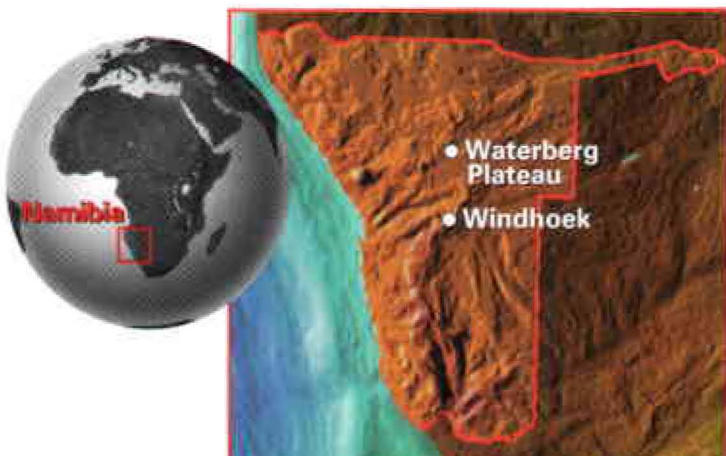
No wonder upon returning to HP France after our Namibian adventure,

Lucien Repellin wrote the team, "Now that I'm back to the 'jungle,' I can tell you that it's not easy." Fellow team member Koen Vanpraet of HP

Belgium says, "Working in an intensive environment can make you forget your colleagues' feelings. But once thrown into a completely unknown world with huge challenges for our team, I realized what true help and support is. When we returned from Africa, I felt ripped away from people I really loved and cared for."

Even as our emotions and thoughts stir around inside us after this experience, one thing is clear: The idea to mix HP training, Africa and charity work is a true lesson in humanity and a clear path for the HP Way to thrive in the years ahead. **M**

(Mary Weed, who works in HP's Europe, Middle East, Africa headquarters in Geneva, Switzerland, was part of the Namibia '98 team. —Editor)



Saturday night believer

By Grace Loh

An investment in the lives of young runaway kids pays off for HP Latin America Treasury Manager Steve Horton.

MIAMI, Florida—Steve Horton has a standing date every Saturday night. Not with his family, not with the remote control and not with his buddies at the local pub. Instead, you'll find him at a movie theater in Fort Lauderdale, chaperoning up to a dozen teenagers from Covenant House, a nonprofit organization and shelter for runaway kids.

As HP's treasury manager for Latin America, Steve manages cash and foreign exchange, implements financial strategies and develops partnerships with financial institutions in eight Latin American countries. He's on the road constantly, logging some 90 travel days a year. So how does he find the time to volunteer?

According to Steve, who is single, "When something is important to you, you'll make time for it."

After several years of donating money and participating in fundraising events for Covenant House, Steve decided to get more involved. He thought about it for a year, wondering how he could manage to be a regular volunteer with his frequent business trips. His solution was restricting business travel to weekdays so that his weekends would be free.

In January 1996, Steve became a recreational escort for kids under 18—and he hasn't looked back since.

Every Saturday, Steve drives 70 miles to the shelter in Fort Lauderdale to chaperone a group of kids who've earned the privilege of a night out. The kids earn points for working toward a personal goal, such as finding a job or reconciling with their families. A typical outing includes a PG-13

"I may have other things to do on a Saturday night, but having the opportunity to be here—when other adults are not concerned or interested in being with you—is very important to me."

movie and a trip to the park to play basketball and have a snack, before returning to the shelter by 10:30 p.m.

What inspires him to work with runaway kids?

"I was brought up to believe, the more you're given (in life), the more you're expected to give," he says.

Steve became acquainted with volunteer work early on. His mother was—and continues to be—an active volunteer at one of the major hospitals in Mexico City, where Steve grew up.

Fit to be tied

"I'm a fanatic when it comes to neckties," confesses Jose Valderrama, a credit analyst in HP's Miami office. Little did he know that his impeccable taste in men's clothing would one day make a difference to young men trying to get off the streets.

Last November, Jose asked Steve what he was doing for Thanksgiving. "I thought maybe he was going to see his family in Mexico City, but then I found out about his volunteer work with Covenant House."

Inspired by Steve's example, Jose asked how he could contribute. Steve mentioned that Covenant House accepts donations of unwanted business clothes to help residents look presentable for job interviews. It occurred to Jose that ever since HP introduced casual dress a few years ago, he hadn't been wearing his prized neckties as often. So he donated about 40 ties from his collection to the kids at Covenant House.

"I've been collecting ties all my life, but there are people who need them more than I do."

To learn more about Covenant House, visit <http://www.covenanthouse.org> or call 1-800-388-3888.



KATHLEEN MITCHELL

Some 163 employees work in HP's Latin America headquarters in Miami, Florida, serving 2,300 employees in Mexico and Central and South America.



Though he's not a formal counselor, he takes every opportunity to teach the kids about responsibility, commitment, the need to work hard and make sacrifices.

"I do a lot more listening than talking," he says.

Steve tells the story of one Puerto Rican teenager who left home at 13, lived on the streets for two years, then found his way to Covenant House. He left the house for the Job Corps to train as an auto mechanic but was back within two months.

"I told him I was glad to see him, but disappointed that he hadn't tried hard enough," Steve recalls. "A lot of the kids here have had a lack of support or involvement from adults. So when you tell them you're disappointed, they actually appreciate it, because they feel like no one's ever cared for them enough to care whether they were doing well."

Another time, a 17-year-old boy asked Steve why he was hanging out with "a bunch of losers like us?" Without missing a beat, Steve replied, "I don't think any of you are losers; you're just kids who are going through bad times. That doesn't make you bad, and that doesn't make you a loser. I believe that each of you has the potential to be a productive citizen."

"I may have other things to do on a Saturday night, but having the opportunity to be here—when other adults are not concerned or interested in being with you—is important to me."

With about 100 residents at any given time—and only 12 to 15 staff members per shift—volunteers are essential to Covenant House's daily operations. Steve is an ideal volunteer for several reasons: He speaks Spanish fluently, the kids like him and he's available when they need him most—

on the weekends, typically the hardest time to get volunteers.

Continuity also is important. According to David Spellman, Covenant

House Florida director, "Our kids have been in settings where they could not count on anything. Steve provides the reliability and stability that they have been missing."

The real measure of Steve's success as a volunteer is in the attitudes of the kids he deals with. Seventeen-year-old Linda, who's been separated from her family for six months, says, "It feels

great to know that somebody out there cares, even though he's not family or anything."

Sixteen-year-old Princeton used to think it was "uncool" to go to the movies with a chaperone, "but with Steve, it's OK." **M**

(Grace Loh is a San Francisco, California-based free-lance writer who reports on "the human side of business" for Fortune 500 companies.—Editor)

"I do a lot more listening than talking."

SUSAN GREENWOOD

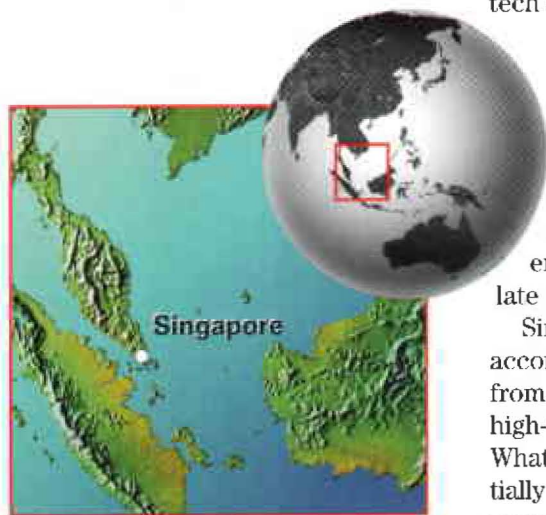


"I was brought up to believe, the more you're given (in life), the more you're expected to give," says HP's Steve Horton (far right), who volunteers each week at Covenant House in Fort Lauderdale, Florida.

A hub of good ideas

HP Singapore's new "Innovations Hub" spotlights a hotbed of local creativity.

By Betsy Brill



Established in 1970 with 62 employees, HP Singapore today employs 9,500 people in manufacturing, marketing, research and development, regional distribution, regional sales, support and infrastructure services.

SINGAPORE—Singapore surprises. The smallest country in Asia is a fascinating microcosm of cultures—Chinese, Malay, Indian and Eurasian. This tiny city-state—population 3 million—is a crossroads of religion, food, commerce, past, present and future. It is a humid, lush tropical garden. It is a gleaming, efficient city.

Here, you can catch the scent of burning incense as you walk past a Chinese temple. There, catch a whiff of freshly roasted coffee beans when you slip into an ultramodern cyber-cafe. Singapore is both of these things—and wants to be more. Singapore aims to become the “Intelligent Island”—the world’s most high-tech nation—by early in the next century.

Singapore, you see, boasts one computer for every 12 citizens. The number of cell phones per capita here is rivaled only by Hong Kong. Now, with a world-class broadband infrastructure linking government, households, schools and businesses, the country is poised to make its high-tech ambitions a reality.

There are 5,000 PCs on the campus of the National University of Singapore alone. Every new building, both residential and commercial, is being wired for the future. All this in a former Third World nation that emerged from colonialism in the late 1950s.

Since 1970, Hewlett-Packard has accompanied Singapore on its rise from Third World outpost to potential high-tech capital of the “First World.” What attracted HP to Singapore initially was cost-effective, labor-intensive manufacturing, says Cheah Kean Huat, managing director. What grew the Singapore operations from 62 employees in 1970 (47 of them still work for HP) to more than 9,500

today, however, is a series of local innovations that has transformed HP Singapore into a revenue-generating major operations hub for the Asia Pacific region. Cheah and his team have documented those innovations with “The Innovations Hub”—a mini-museum in HP Singapore’s sleek facilities on Alexandra Road.

As the leading technology company in Singapore, HP attracts thousands of visitors each year—from customers and potential customers to seminar participants and international business leaders—eager to learn about HP’s presence in this techno-savvy nation.

Want to visit the regional offices? Just tell the cab driver: “HP, Alexandra Road!” A bit like arriving in San Francisco and saying “Take me to the Golden Gate Bridge,” perhaps? In both cases, the driver knows exactly where to go.

Invariably, Cheah says, most visitors ask to tour HP’s facilities—a daunting task given that HP Singapore is spread across seven sites in the area.

For many people, the Innovations Hub provides a “capsule tour” that is as informative as a site visit. The lobby showcases innovations that originated in Singapore—including such “firsts” as a patent for keyboard printing that reduced the customization of keyboards for Asian languages from 40 days to one.

NEW SCIENCE





At the Innovations Hub in Singapore, Aminah Karmani, information technology administrative assistant, examines a glass container invented by an HP Singapore engineer. The container allows light-emitting diodes to be manufactured without arsenic.

The Hub includes a Wall of Fame that showcases the 26 U.S. patents earned by Singapore engineers.

Other Singapore innovations on display include HP's first mobile printer (and winner of the 1993 U.S. Gold Award for Industrial Design Excellence), the first wide-format printer for small businesses, the first wide-screen palmtop PC and the first color palmtop PC. All of these products were designed, developed, manufactured and marketed under HP Singapore's worldwide charters.

"If you think about it," Cheah says, "the shift from manufacturing to innovation is not such a great leap."

Problem products are returned to the factory, where they're analyzed. From analyzing and solving problems and working with customers and suppliers,

"you get to the point where you can anticipate customer needs, and you begin to innovate," Cheah says. "From product innovation, you move to product generation to demand generation. Now we're talking about more than managing costs. We're talking about creating revenue for HP."

Hub visitors can even track some hypothetical revenue in a multimedia demonstration of the way HP Singapore uses its own technology for electronic commerce. Follow the placement of an order, check its availability, see it through shipping and delivery—just the way a reseller uses an HP extranet to work with the Asia Pacific Distribu-

tion Operation (APDO).

Originally distributing HP LaserJet printers to the region,

APDO today handles more than 3,000 computer and peripheral products—\$3 billion worth annually.

"We want to showcase and encourage innovation," Cheah says. "HP Singapore is the hub for the region, and we're the major springboard for HP into the rest of Asia."

A typical museum display lasts years. With a showcase for innovation, though, years can melt into days. One display in the 8-month-old Hub originally highlighted the wide-screen HP 360LX palmtop PC, which was created in Singapore. But along came the HP 620LX palmtop PC, the world's first color palmtop PC—also designed and developed by HP Singapore. The "curators" already have changed the display to include their latest innovation. **M**

(Betsy Brill is a San Francisco, California-based free-lance writer. —Editor)

Just tell the cab driver: "HP, Alexandra Road!" A bit like arriving in San Francisco and saying, "Take me to the Golden Gate Bridge."

How can you improve HP's customer loyalty? Listen to your customers, then take action, says HP's chairman, president and CEO.

Any employee who doesn't understand the critical need to serve our customers well at this moment in HP history isn't paying attention to the message. That's why I'd like to devote this letter to a simple, yet vital, aspect of customer interaction—listening.

Let me give you an example.

Recently, a Hewlett-Packard client business manager and I spent an hour with the CEO of one of HP's largest and most important customers. The energetic, hard-working client business manager had a list of items to discuss with the CEO and was intently focused on getting through the list.

"HP people don't know how to listen."

The CEO, on the other hand, began discussing precisely the challenges his company faces today and what he believes is necessary to overcome those challenges. These weren't at all the agenda items my HP colleague wanted to concentrate on; they were better. For 45 minutes of that hour, we listened and heard rare insights into a customer's problems—straight from the CEO—and ideas on how HP could help. Had we only focused on what was on our agenda, we would've lost a golden opportunity to learn.

Unfortunately, many of our customers are telling us the same story: "HP people don't know how to listen. You're too busy saying what you have to say. I would expect a company like HP to pay enough attention that you find out what I don't know."

That's pretty harsh criticism about our company—a company that still holds a slim leadership position in customer satisfaction in our industry. But I believe it illustrates that we have a lot of work to do to improve our reputation and widen the gap between HP and our competitors.

In February, we took one of many steps to address this problem when I named Manuel Diaz to the newly created position of HP vice president of Customer Advocacy. Manuel, one of our most seasoned, effective and passionate sales and marketing executives, is perfectly suited for this job. He is the former vice president and general manager of the worldwide Enterprise Accounts Organization in the former Computer Organization's Sales and Distribution Group, and he has a close relationship with many of our top accounts.



Before beginning videotaping a message for joint customers, Lew (left) confers with Ray Lane, Oracle's chief financial officer.



FOTOPENSURO DIJKSTRA B.V.

Listening to customers is vital to any relationship. Here, at a simulated HP Retail Store in Amsterdam, John Clare (far right) chief executive of the Dixons Store Group in the United Kingdom, talks with (from left) Hans Gerritsen of Computercentrum; Sjaak Vermeulen, HP V.P. for Field Operations Sales and Marketing—Europe; Franz Nawratil, managing director for HP Europe, Middle East and Africa; and Lew.

Manuel's first two priorities have been to concentrate on "hot" situations—resolving issues where there is a high level of customer dissatisfaction—and proactively visiting large customers and strategic-solution partners to understand where we're doing well and where we're not meeting customer expectations.

In just five months, Manuel has visited with many of our premier accounts—our top 58 customers—and shared some important lessons with HP's Executive Committee. These customers are critically dependent on HP products, they have extremely high expectations and almost no tolerance for error.

Manuel's delicate role is to determine what are the customers' expectations of HP, what are our expectations of our customers and how to bridge the gap between the

two so we can take these relationships to a higher level. He doesn't say "You're right" and "You're wrong." He's there to solve problems—usually by listening.

Since we announced the company's increased customer intensity at our January General Managers Meeting, I've significantly reprogrammed my time, too. I used to have four to six customer contacts a week; now it's probably double that. I almost never travel just to an HP site these days, but build in at least one customer visit per trip.

While Manuel carries Customer Advocacy in his title, the job really belongs to all 125,300 HP employees. That may sound trite, but it's true. Think about the times when—as a customer—you've had delightful experiences. People went out of their way to understand your needs, then met or exceeded them. Now think of a time when you've been a disappointed customer. Someone dropped the ball or conveyed to you that he or she

really didn't care. From that moment on, you want to go back to the good company and avoid the bad one.

It's no different with our customers. Most of our customers respect HP for our quality, reliable products, support and great people. But I also frequently hear from customers who say that their first contact with an HP employee led to a hand-off to several other employees around the company. If each employee really owned the relationship when he or she dealt with customers, many of our customer-satisfaction problems would be resolved.

It all comes back to listening and taking action. If we all take those steps faithfully, we can solidify our leadership position and make customer loyalty a clear competitive advantage again.

YOUR TURN

MEASURE readers share their views on matters of importance.

A photo finish

It is a shame that there isn't a more up-to-date photo of the Team Jordan car with one of the current drivers and livery. I guess the cover photo from the May-June 1998 *MEASURE* is from the 1996 season.

Reubens Barrichello now drives for the Stewart Team, so at least he still gets HP sponsorship.

PHIL STAFF
Bracknell, U.K.

Other racing enthusiasts spotted the same thing as Phil. We always look for striking cover images that will attract readers.

In this case, the budget-minded MEASURE staff chose a photo that, while a bit dated, was appealing and inexpensive.

—Editor

Just browsing

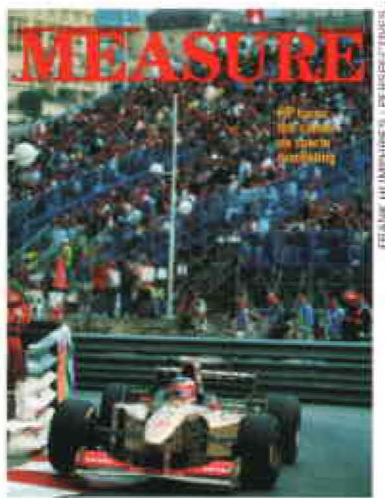
Regarding the March-April 1998 Dr. Cyberspace column on browsers, I

thought I'd give you our recent findings.

Last year, Hewlett-Packard Consulting Switzerland developed the first Java-based Internet Bank in Switzerland. The solution had to fulfill the most stringent requirements concerning security and reliability.

Although our solution runs on both browsers now, our conclusion concerning the winner in both categories is clear: Netscape Communicator.

STEFAN STOLZ
Geneva, Switzerland



Faster and faster...

I really enjoyed your From the Editor letter in the May-June *MEASURE*. It was down-to-earth, but humorous and fun! I can easily relate to it with our two kids and hectic life here in Asia, with its recent momentous challenges.

I agree: the activity wheel of life keeps spinning faster and faster and faster.

CAROLYN WARMINGTON
Hong Kong

Casting "aspursions"

I enjoyed your article, "It's how you play the game" (May-June 1998). However, I was amused to read about HP's sponsorship of the Hotspurs, the London soccer club. Nobody in the U.K. refers to Tottenham Hotspur as "the Hotspurs." Here, they are known as "Spurs," "Tottenham" or, in days gone by, the "Lilywhites." Also, the full name, Tottenham Hotspur, is singular.

I wonder how the article would have read if HP had instead sponsored Spurs' deadly London rivals, Arsenal (that is their full name). Incidentally, Arsenal supporters have their own names for Tottenham Hotspur—and vice versa—but most are unprintable.

MARC BROWN
Pinewood, U.K.

I'm surprised

I was browsing *MEASURE* and was surprised to read the letter from Ms. Muhlenbruch-Yee, where she mentions "babies killed by abortion."

She is entitled to her views on abortion, but I am surprised that you printed such a letter. In doing so, I feel that HP is endorsing such ideas.

Women have fought long and hard for the right to choose. Now is not the time for *MEASURE* to start taking sides.

ALISON McCALLUM
Grenoble, France

As the name of the section suggests, the opinions expressed in Your turn letters are those of the writers, not necessarily those of the MEASURE staff or HP management. Neither MEASURE nor HP is taking a side.

—Editor

Also known as

While I was stationed in Korea in 1985, we were informed that it would be an insult to refer to their country as "South Korea." Had I done that to a Korean national, it surely would have started a fight on the spot. We were instructed to refer to the country as "The Republic of Korea."

I noticed that Lew Platt refers to "South Korea" in his May-June letter, and wondered if there was still a sensitivity.

ERIC SHAIN
Loveland, Colorado

Technically, South Korea is the Republic of Korea, just as, technically, Taiwan is the Republic of China and China is the People's Republic of China. The shorter, common names are the ones most popularly used.

—Editor

Please send mail

Do you have comments about something in *MEASURE*? If we publish your letter, you'll receive a Dr. Cyberspace *MEASURE* T-shirt.

Send your comments to Editor Jay Coleman. The addresses and fax number are on page 3. Please limit your letter to 150 words, sign your name and give your location. We reserve the right to edit letters.

EXTRAMEASURE

News from around the HP world

By Grace Razo

Printing at its peak

MOUNT EVEREST, Nepal —You would think that an HP DeskJet 340C printer would have been out of place high atop Mt. Everest. But for an 11-member team—the first ever from Singapore—an HP DeskJet 340C was basic survival gear.

In an environment such as Mt. Everest, where the base camp lies at the lofty height of 17,717 feet above sea level, communication with the outside world is critical.

Johann Annuar, the group's communications specialist, says the team depended on the printer, provided by HP's Asia Peripherals Division.

"We used it to print e-mail and other interesting stuff. But weather reports were the primary function, which were extremely impor-



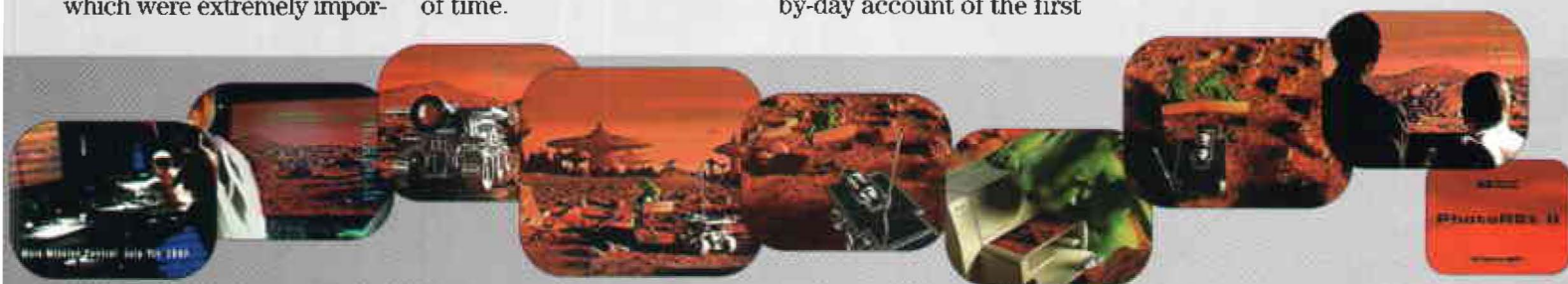
Team doctor Dr. Shani Tan, beside the HP DeskJet 340C printer at base camp, says she heard one member yell into his radio, "...looks like I've reached the vertical end of the earth!" when he reached the summit at 6 a.m. on May 25, 1998.

tant. Mountaineering is, in part, a game of peek-a-boo with the weather, so climbers can avoid life-and-death situations if they know about weather patterns ahead of time.

"This was a lot easier with the HP DeskJet 340C," Johann says. "For a portable, its speed and resolution are remarkable."

Get a fascinating day-by-day account of the first

Singapore Mount Everest Expedition '98 at <http://www.everest.org.sg/index.html>.



These aliens—models created by the same crew that produced the characters for the movie *Star Wars*—were also spotted in the United Kingdom and Latin America.

Take me to your leader

SINGAPORE—Rumor has it that little green men have been sighted on TV screens all over Asia Pacific.

Yikes! It's true.

The Mars aliens star in a new HP DeskJet printer commercial that won first

place in May at the Television Corporation of Singapore's Viewers Choice, a prestigious event where consumers vote for their favorite commercial.

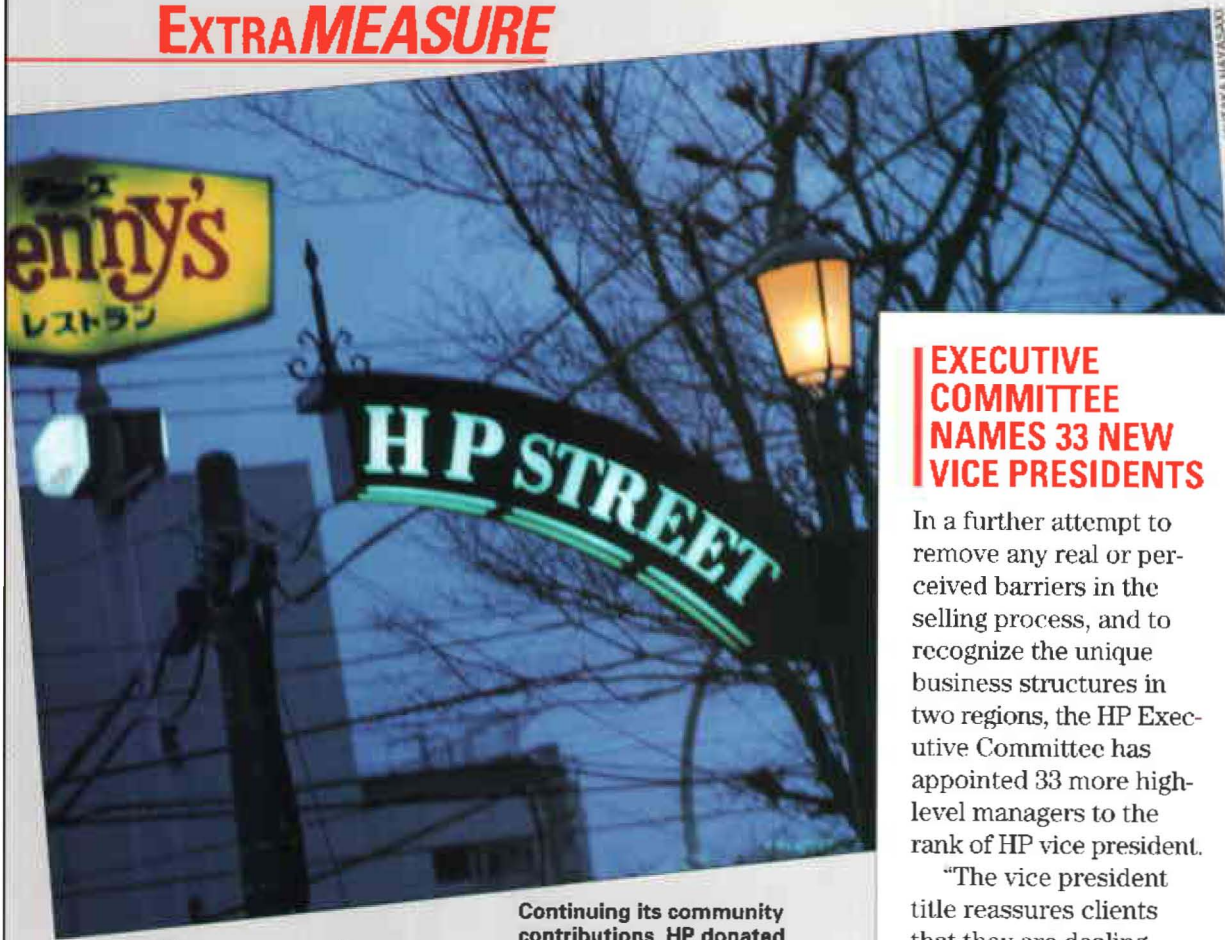
The "Capricorn II" award-winning commercial highlights PhotoREt II—Photo

Resolution Enhancement—technology.

The commercial shows how green Martian creatures fooled Earth scientists into thinking Mars was a barren place—made possible by the best in inkjet printing.

"With PhotoREt II, we needed a big-bang-type launch that was worthy of HP's new breakthrough technology," says Lisa Morizono, Asia Pacific's consumer marcom manager.

Find out more at <http://www.photoret.hp.com>.



Street worthy

TOKYO, Japan—Clear across the globe from Japan you'll find the first public place—Hewlett-Packard-Strasse in Waldbronn, Germany—named after the company. In May, the local community rewarded HP Japan with the same tribute: a street of its own.

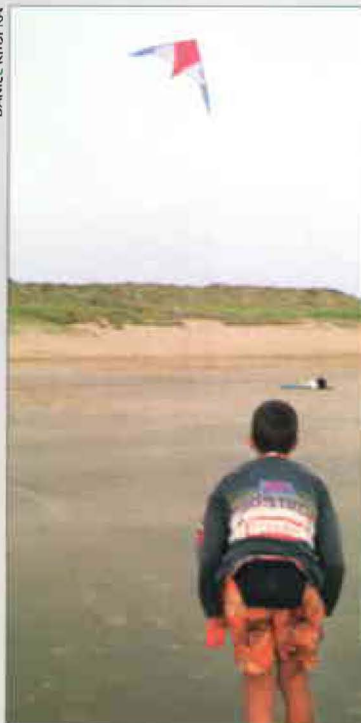
Near HP's Takaido headquarters, the street—renamed HP Street—is a result of HP's community support and good citizenship, which includes an annual charity bazaar, blood drive and summer movie festival.

The bond between HP Japan and the local shopkeepers' association is so strong that the merchants were the ones who proposed to name the street beside the Takaido headquarters after HP.

Continuing its community contributions, HP donated two street lamps, which flank HP Street.

And the future plan for the group is to change its name to the Shopkeepers Association of HP Street.

DANIEL KRUPKA



Thomas Krupka keeps watch on his father's bright invention. See a closer view and the story on page 31.

EXECUTIVE COMMITTEE NAMES 33 NEW VICE PRESIDENTS

In a further attempt to remove any real or perceived barriers in the selling process, and to recognize the unique business structures in two regions, the HP Executive Committee has appointed 33 more high-level managers to the rank of HP vice president.

"The vice president title reassures clients that they are dealing with someone who has the authority to make significant decisions and commitments," said **Lew Platt**, HP chairman, president and CEO.

The new vice presidents are:

- *Chemical Analysis Group:* **Chris Van Ingen**, Field Ops Sales and Marketing

- *Commercial Channels Organization:* **Bernd Bischoff**, Field Ops Sales and Marketing, Europe; **Carlos Guzman**, Field Ops Sales and Marketing, Latin America; **Adrian Koch**, Field Ops Sales and Marketing, Asia Pacific; and **Mike Naggiar**, Field Ops Sales and Marketing, North America

- *Components Group:* **Colin Chin**, Field Ops Sales and Marketing

- *Consumer Products Business Organization:* **Jackye Churchill**, Field Ops Sales and Marketing, North America; **Sjaak Vermeulen**, Field Ops Sales and Marketing, Europe

- *Computer Organization, Japan:* **Masao Terazawa**, Field Ops Sales and Marketing

- *Enterprise Accounts Organization:* **Nanci Caldwell**, Field Ops Sales and Marketing, North America; **Airton Gimenes**, Field Ops Sales and Marketing, Latin America; **Bob Robertson**, Field Ops Sales and Marketing, Asia Pacific; and **Karen Slatford**, Field Ops Sales and Marketing, Europe

- *Enterprise Systems Group:* **Nick Earle**, group marketing manager

- *Geographic Operations:* **Rui da Costa**, G.M., HP Latin America Geographic Operations; and **Katsuto Kohtani**, G.M., HP Japan

- *LaserJet Solutions Group:* **Lee Ray Massey**, group marketing manager

- *Medical Products Group:* **Jim Cyrier**, Field Ops Sales and Marketing

- *Software and Services Group:* **Tom Ashburn**, G.M., Customer Support Business Unit; **Heiner Blaesser**, G.M., Customer Support Europe; **Mike Cox**, Field Ops Sales and Marketing, Americas; **Wolfram Fischer**, Field Ops Sales and Marketing, Asia Pacific; **Uli Holdenried**, G.M., Customer Support Americas; **Deb Nelson**, group marketing manager; **Susan Pobjoy**, Field Ops Sales and Marketing, Europe; **Gerry Sheridan**, G.M., Customer Support Asia Pacific; and **Craig White**, G.M., Financing and Complements Business Unit

- *Test and Measurement Organization:* **Don Andrews**, Field Ops Sales and Marketing, Asia Pacific; **Ray Drost**, Field Ops Sales and Marketing, Americas; **Roberto Favaretto**, Field Ops Sales and Marketing, Europe; **Tsugio Kataoka**, Field Ops Sales and Marketing, Japan; **Tom Newsom**, group marketing manager, Automotive Test Group; and **Bill Tomeo**, group marketing manager, Communications Test Solutions

DANIEL KRUPKA

VICTORIA HAYASHI



Thomas adjusts the strings on the kite. You can see the LEDs on the lower crossbar.

Daniel lights up the sky

GRENOBLE, France—Daniel Krupka, an HP France quality and process consultant, has made the world a brighter place.

Using HP SnapLED (light-emitting-diode) technology, Daniel designed and built an illuminated kite with the help of his three sons, Thomas, Rémy and Lionel. Daniel hopes his one-of-a-kind kite will light

up the hearts of patients at the Centre Helio Marin of Berck—a medical center in northern France for the seriously handicapped—during an annual kite-flying event held nearby.

Daniel says he had the idea for the kite but was faced with the problem of weight: Regular electrical bulbs were much too heavy for the kite to fly properly. LEDs provided a bright solution.

Back to nature

Wonder where you can go birdwatching for an endangered red-cockaded woodpecker, or fishing for a canoeful of Dolly Varden?

Find the recreation spots where you can do these activities at the new U.S. National Park Foundation's Web site <http://www.Recreation.GOV>.

To handle the site's expected 4 million to 5 million monthly visitors who are looking for information on all U.S. federal outdoor

recreational resources, HP donated an HP NetServer system.

The site fulfills a pledge to U.S. citizens made by the Clinton Administration's Reinventing Government initiative, which asks federal agencies to put customers first.

Make sure you look up North Carolina's Alligator River National Wildlife Refuge and Alaska's Kenai Fjords National Park, which, respectively, answer the questions above.



Make your vacation plans stress-free with this online resource of U.S. parks.

HP'S Q2, FY98 RESULTS

HP reported a 16-percent increase in net revenue, a 12-percent increase in orders and a 13-percent decline in net earnings for the 1998 fiscal year's second quarter.

Net earnings were \$685 million. Earnings per share on a diluted basis was 65 cents.

HP TO CONTROL EXPENSES

In a memo to members of HP's Executive Committee shortly after the second-quarter results were announced, **Lew Platt** outlined the "key expense-control measures we will be taking to bring our expenses in line with our project revenue and cost-of-sales growth."

STATE OF INCORPORATION

HP has completed the change in the company's state of incorporation from California to Delaware.

SOCIETY ELECTS TAYLOR

John Taylor, director of the Peripherals, Appliances and Consumer Systems Center of HP Laboratories, has been

elected a Fellow of the Royal Society of London. Election is recognized worldwide as a sign of the highest esteem in science.

BRISTOL SITE DEDICATED

With a crowd of 400 employees, government officials and university leaders looking on, **Lew Platt** formally dedicated HP's new \$30 million (U.S.), 150,000-square-foot research facility in Bristol, England, June 5.

TRANSITIONS

Tom Saponas, formerly G.M. of the Lake Stevens Division, has succeeded **Tom Vos** as G.M. of the Electronic Instruments Group. Vos retired May 31 after a 32-year career.

Max Fallet, G.M. of Computer Products Distribution Europe (CPDE), also retired May 31 after 28 years of service.

Reinhard Winkler has succeeded him as CPDE G.M.

Flavio Sehn, G.M. of HP Brazil, plans to retire on August 31, after nine years with the company. When Sehn retires, **Carlos Ribeiro**, G.M. of HP Brazil's Commercial Channels Organization (CCO), will assume the country G.M. role in addition to his CCO position.

Wild and crazy guy

SANTA ROSA, California—Zany? Wacky? Loony? You'd probably say all of the above about this blue-haired human.

But for Sean Kirkpatrick, a software engineer in HP's Lightwave Division, whose carved and colorful noggin you see here, being different is his motto in life.

"Everyone gets so caught up with one way of thinking that we fall into a rut," Sean says. "I just try to shake things up."

To commemorate his one-year HP anniversary on May 7, Sean unveiled this special hairdo and became a Santa Rosa site sensation.

"I had planned this for my first day at work last year," Sean says. "I wanted to show my joy at becoming full-time (after being an HP contractor). Unfortunately, the blue dye didn't work, so I put it off until this year."

When photographer Herbie Yu, a graphic designer in the Microwave Technology Division—whose job includes taking photographs for division projects—got a call to "come take a look at this,"



he says he didn't know what to expect.

"I was surprised," Herbie says with a chuckle. "That took a lot of courage to do."

Sean—whose original hair color is brown and gray—admits to a reputation for being out of the ordinary wherever he goes:

work, performances as a musician and Santa Rosa Junior College, where he teaches computer classes.

"I like to make people smile," Sean says.

In the past, Sean has shaved his hair in the shape of a shamrock and dyed it vivid green for St. Patrick's

Day. On the Fourth of July, Sean sported—you guessed it—a patriotic mane of red, white and blue stripes.

"The colors came out orange, green and yellow," Sean says. "Many people confused it with the Italian flag." **M**

For U.S. address changes, use Change of Address form in Personnel on the Web at <http://persweb.corp.hp.com>.



MEASURE Magazine

PO Box 10301

Palo Alto, California 94303-0890

Bulk Rate
U.S. Postage
Paid
Permit 3917
Portland, OR