MEASURE

The year was 1963. The Hewlett-Packard Company was a mature 24 years old. The population had grown to 6,000 employees. Communicating with HP's far-flung employees was more difficult each day.

Dave Packard had an idea: Start a print magazine that would link employees around the world. It would be interesting, informative and entertaining.

Dave named the publication: *MEASURE*.

It's 36 years later now. HP has 122,800 employees with 600 offices in 130 countries. More people know the company today for our printers and computer products than for our roots in test-and-measurement products. Communications is measured in Internet time—seconds. The "new" HP—the computing and imaging company—is agile, fast and focused. Those aren't exactly the qualities of a bimonthly print magazine.

And so, after nearly four decades of continuous publication, *MEASURE* will stop being printed after the September–October 1999 edition.

Instead, beginning November 1, stories that you're accustomed to seeing in *MEASURE* will be available on the internal Web site at **http://hpnow.hp.com**. You won't have to wait two months to see them because new stories will be posted there about every two weeks. While *MEASURE* has been mostly a feature-oriented publication, the Web site has the ability to deliver more timely stories, too—and faster. And you'll see articles targeted at each of the four businesses in the computing and imaging company.

In other words, the stories will be agile, fast and focused.

Believe me, this isn't a decision we made lightly. Some readers have suggested for two years or more that *MEASURE* should be Web-only. But we didn't think the timing was right. However, since the announcement on March 2 that HP will split into two companies—one for computing and imaging, the second for measurement businesses—it seemed appropriate for a change.

HP is taking a bold step forward and *MEASURE* should, too. Like HP, we can be fast, focused and agile.

Of course, this decision comes with some sacrifices. Production and some other workers—less than 10 percent of the computing and imaging audience—don't have easy access to the Web. Also, retirees—among our most loyal and vocal readers—can't access the internal Web from outside HP. Somehow, the company will have to explore other ways to serve these audiences.

Several people have told us that they like receiving the printed *MEASURE* and, in the case of U.S. employees, receiving it at their homes. Developing a loyal online readership will be a challenge for us. But it's a goal we're committed to achieve.

The HP Way isn't dead because *MEASURE* no longer will be printed. HP still has a strong commitment to communicating with employees. We're just changing the delivery vehicle from print to online.

You can help us shape the content of the online articles by filling out the survey card in this edition of *MEASURE*. Tell us what you've liked about the publication and what needs to improve. We'll publish as many letters as we can in the July–August and September–October editions.

It's an exciting time as *MEASURE* moves into the next chapter of its history. I hope you like the change.

—Jay Coleman
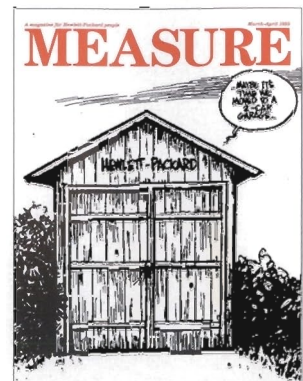
On the cover: For 60 years, "the garage" has symbolized Hewlett-Packard and the creative spirit for which the company became known. The garage was HP's first "facility" and in 1989 was named a California historical landmark as the birthplace of Silicon Valley. So, when HP announced in March that it's splitting into two companies, Scott Willis, *San Jose Mercury News* editorial cartoonist, chose that modest image to symbolize the breakup.

THE INSIDE STORIES

Donna. I got the tickets. Pick you up at 7. Jim
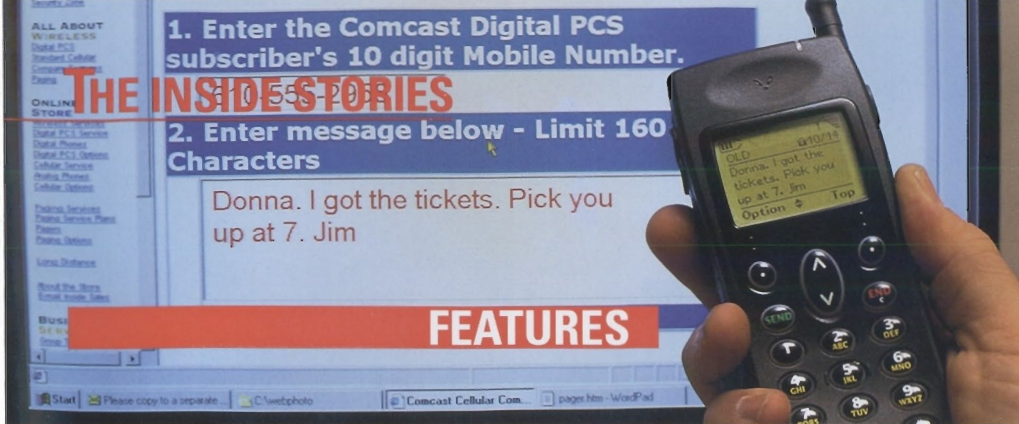
Comcast Cellular Communications plans to use Lucent's Short Message Service to allow its customers to send brief text messages instantaneously to wireless phones via the Internet. For other Lucent innovations, see the story that begins on page 4.

FEATURES

DEPARTMENTS

MEASURE

Lucent: a clear winner

What can HP learn from Lucent Technologies, a company that has rocketed to success since its split from AT&T?

By Jay Coleman
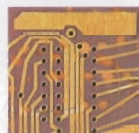
om Uhlman knows full well what Hewlett-Packard employees are going through as the 60-year-old organization splits into two new companies.

In May 1995, Tom, then HP's director of Corporate Development, ended a 12-year HP career and headed back to his East Coast roots to take the Corporate Development V.P. job at AT&T—the 300,000-person, U.S. $75 billion-a-year telecommunications giant.

It was a safe, upwardly mobile move to an exciting job at a prestigious company with a 110-year history.

Then everything changed. On September 25, 1995, AT&T announced it would divide into three new companies: AT&T, Lucent Technologies and NCR.

"I'd hardly unpacked my boxes and was just beginning to understand this huge, complex company when the trivestiture happened," says Tom, who today is president of Lucent's New Ventures Group.

"The AT&T breakup was a shock for me at the time, but now I view it as the opportunity of a lifetime."

"The AT&T breakup was a shock for me at the time, but now I view it as the opportunity of a lifetime," Tom says. "I think it could be the same thing for the two new HP companies. It's an opportunity to rethink your business practices for the future. This is a great time to make changes—cultural, strategic or behavioral. You can start with a clean sheet of paper."

For Lucent, that meant a new beginning as a communications systems and technology company —one of the largest companies of its kind in the world—with revenue of more than U.S. $20 billion.

Ironically, in setting up the new company, Lucent executives studied two big companies with solid business track records: Motorola and HP. Today, HP is using Lucent as a model for how to spin off its new measurement company.

For Lucent, it all began with an initial public offering (IPO) of stock—the largest IPO in U.S. history at the time. One hundred employees representing all parts of the

Best of the Best

Innovation is one of the three key characteristics of Best of the Best companies. And few companies innovate as well as Lucent Technologies. Even its logo says it: Bell Labs Innovations. MEASURE examines the AT&T offspring to learn how Lucent has become one of the Best of the Best in fewer than four years.—Editor

Some applications of Lucent technology include:

Left: Telecom Italia, the largest phone company in Italy and the sixth largest in the world, is a global service provider that uses Lucent intelligent-network software. The company handles 18 million calls a day.

Right: QVC, which depends on Lucent call-center technology to handle customer orders and inquiries, receives between 6 million and 10 million calls a month.

Below: Bank One Ballpark in Phoenix, Arizona, is the world's first "smart" stadium. A single network based on Lucent's SYSTIMAX technology not only connects the stadium's telephones and computers, but also controls the temperature, lighting, score-board and retractable roof.

Lucent

In three years, Lucent Technologies stock has grown from $13.50 to $108.50 per share and split twice. Lucent's 773-percent growth is staggering compared with that of the Dow Jones Industrial Average (76 percent), the S&P 500 (101 percent) and NASDAQ (129 percent).

Price Index (4/4/96 = 100.00)

Legend: Lucent · S&P 500 · NASDAQ · Dow Jones Industrial Average

business gathered at the New York Stock Exchange. A company electronic specialist from Oklahoma made the first Lucent stock purchase—an honor traditionally reserved for the company CEO—and another employee, a technician, rang the closing bell at the stock exchange that day.

The original April 1996 IPO stock price of $13.50 grew to $108.50 by March 1999. In February 1999, Lucent announced a two-for-one split—its second in 12 months. Today, Lucent is the second-most widely held stock in the United States (behind AT&T): about three million shareholders own more than 2.6 billion common shares.

The name game

According to Lucent, the new company name was developed after extensive interviews with customers and other stakeholders.
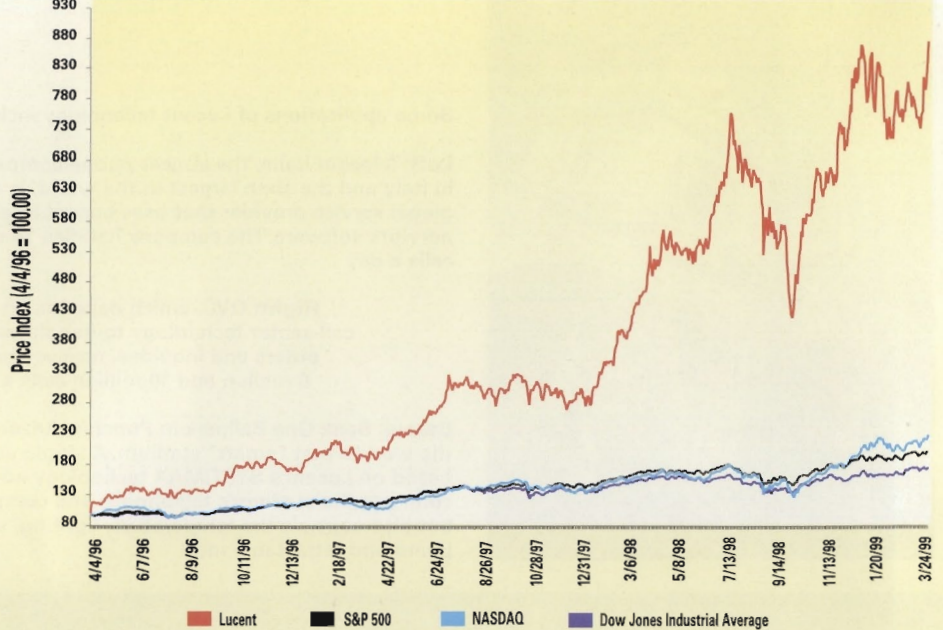
"Lucent means 'marked by clarity' or 'glowing with light.' The logo is a bold, red, hand-drawn innovation ring."

Lucent Technologies
Bell Labs Innovations

Thomas M. Uhlman
President
New Ventures Group

600 Mountain Avenue
Room 2F-111
Murray Hill, NJ 07974 USA
Telephone 908 582 8533
Facsimile 908 582 7840
E Mail tuhlman@lucent.com

Every Lucent employee was granted an option for 100 shares of stock in April 1996. Today, those options are worth about U.S. $18,000.

According to the Standard & Poor's 500 stock index, no other $30-billion company is growing at 20 percent or more a year. "The stock has been just a monster," Mark Herskovitz, co-manager of the Dreyfus Technology Growth Fund, told *Business Week* magazine.

Perhaps the key to Lucent's success is what it retained during the split with AT&T—namely, Bell Laboratories. How important is the identity with the lab, which dates back to inventor and founder Alexander Graham Bell? It's prominently displayed under the Lucent Technologies logo, "Bell Labs Innovations."

This is a lab that has employed 11 Nobel Prize winners, including Horst Stormer, who, with two former Bell Labs scientists, won the 1998 prize in physics. Bell Labs has received more than 25,500 patents, and employees in 20 facilities worldwide earn 3.5 each workday. R&D teams are getting innovations to market in half the time it took just three years ago.

Bell Labs is the birthplace of the transistor, laser, solar cell, light-emitting diode, communications satellite, sound motion pictures and stereo recording, among other technologies.

When Lucent wasn't inventing new technologies during the past three years, it was buying them. The company made more than 20 acquisitions since 1996, including 11 in the field of data networking.

One of those acquisitions was HP's LMDS (local multipoint distribution service) Wireless Business. The acquisition combined HP's expertise in microwave technology and Lucent's strength in network integration to forge a formidable presence in the wireless broadband arena—30 times the speed of a T1 line.

Lucent's boldest move came in January 1999 when it announced an agreement to merge with Ascend Communications, an Alameda, California, provider of wide-area-network core switching and access data-networking equipment. The transaction is valued at about U.S. $20 billion.

In less than four years, Lucent has established itself as a technical leader in virtually every field it's in. It's outrageously successful financially and ranks No. 62 on *Fortune* magazine's 1999 list of the best companies to work for in America.

"AT&T had more formality and less openness than I was used to at HP," Tom Uhlman notes. "This dates back to the company's long history, the monopoly the company held
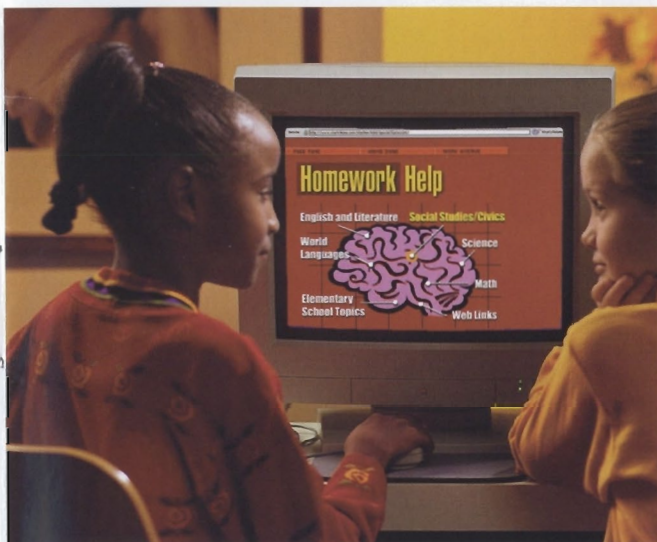
Lucent's Visual Insights software can help businesses detect patterns in their data. Each dot in this example represents items purchased by shoppers at one supermarket, with lines drawn between the purchases of individual shoppers. It reveals a not-unexpected link between purchases of cookies (red dots) and milk (white dots).

and a culture of bureaucracy and entitlement.

"Lucent is somewhat more akin to the HP I left than to the AT&T I joined," Tom says. "Clearly, the stock has performed very well and that has helped reinforce the benefits of the breakup, but I would add that Lucent has excelled by all performance metrics."

As the Lucent account executive to HP, Tom meets quarterly with HP management to discuss ways in which the companies can work better together. "We are a big customer of HP," he says, "and HP is a significant customer of Lucent. So we're very interested in HP's new organizational alignment."

The HP-Lucent relationship even extends to Lucent's board of directors. Former HP CEO John Young has been a Lucent director since 1996.

Lucent's largest customer is its former "parent"—AT&T. In March 1999, Lucent announced that it expects to supply U.S. $1 billion in equipment and services, including wireless access to the Internet, to AT&T.

Early on in the trivestiture, AT&T anticipated layoffs as high as 40,000 employees. And although Lucent did spin off some of its non-core businesses —consumer products and modems, for example— it grew in other areas, including wireless and software development. Today, Lucent actually has 20,000 more employees than it did at the time of the AT&T breakup.

Acquisitions. Innovations. Phenomenal growth. Lucent Technologies has proven

Lucent at a glance

- Headquarters: **Murray Hill, New Jersey**
- URL: **http://www.lucent.com**
- New York Stock Exchange Symbol: **LU**
- 1998 revenue: U.S. **$30.1 billion**
- Number of employees: **143,000**
- Number of employees in United States: **113,000**
- 1999 Fortune 500 rank: **33**
- Number of shares of stock granted to each Lucent employee when company went public in 1996: **100**
- Value of those 400 options (after two stock splits) today: about U.S. **$18,000**
- Number of Lucent patents earned each workday: **3.5**

Millions of people surf the Internet each day for everything from homework assistance to tax advice, with help from Lucent Technologies. Lucent provides a wide range of Internet-enabling technologies to PC manufacturers, Internet service providers, network operators and business enterprises.

What can HP learn from Lucent?

Lucent Technologies was a $20 billion startup when it spun off from AT&T in 1995 and today has more than U.S. $30 billion in revenues. Tom Uhlman, president of Lucent's New Ventures Group and formerly HP's director of Corporate Development, passes on these important lessons:

1. Decide quickly. Try to be "roughly right" during the transition. "It's more important than total accuracy in today's demanding business environment."

2. View change as an opportunity. You've heard it before, but it's true. "People who are challenged by change and who embrace it have thrived in Lucent."

3. Stay focused. "Most of the jobs at HP aren't changing, even though the logo and the company name will change for some. Meeting customer needs is still everyone's No. 1 job."

4. For those HP employees in the new measurement company, identify with the new company and the new name as soon as possible. "It will be difficult for some people; but remember that the HP culture and values can transfer to the new company, as well as remain with the existing company."

that the AT&T breakup—and a chance to reinvent itself—may be the best thing that ever happened.

"It's an emotionally charged time," Tom Uhlman says of the trivestiture period, "but it can be the beginning of great opportunities for all concerned." **M**

E-services: connecting the dots

What began as a seemingly impossible vision nearly 20 years ago at HP is transforming the Web into a huge virtual computer today.

By Lisa Lion Wolfe

It's 1982. Joel Birnbaum, then director of HP Labs and an information-technology guru, paints a picture of an extraordinary future world to an audience of HP engineers. It's a world in which society will view computing as a utility—as pervasive as every day, as available and convenient as a utility, much like electricity.

Joel predicts that a whole host of "appliances"—specialized devices—will plug seamlessly into this information utility to accomplish a host of tasks for the user. He postulates that HP will take a leadership role in building this brave new world of pervasive computing.

The world that Joel pictured 17 years ago seemed inconceivable. Today, it's fast becoming a reality. It's a computing paradigm that centers on the information utility and e-services that will help our customers do business in entirely new ways; that will allow us to get information and services virtually anytime, anywhere, using almost any device. And HP is taking the lead in bringing this new world to customers.

Joel affirms the vision. "There is no better time for HP to introduce e-services and the information utility that we've been working toward for years," he says. "We've defined it, we've been developing it for years and now we will be able to let customers reap the benefits."

So what are e-services? How do they relate to the information utility that Joel has been talking about for some time? What are the benefits to our customers?

E-services and the information utility that Joel envisioned will dramatically transform the Web from a network used primarily to store and forward data to what will effectively become a huge virtual computer. As a result, people will access computing resources that are always available, have no single point of failure and are seemingly everywhere at once but nowhere in particular. What's most exciting about this vast virtual capability are the electronic services, or e-services, that can be delivered transparently to the user from a remote provider.

The relationship of the utility to e-services is that of an infrastructure to an application. For example, think of the relationship of the telephone network (an infrastructure) and the services built on top of it such as fax and voicemail. These telephone services depend on the telephone

> *Anything that can be digitized can conceivably become an e-service.*
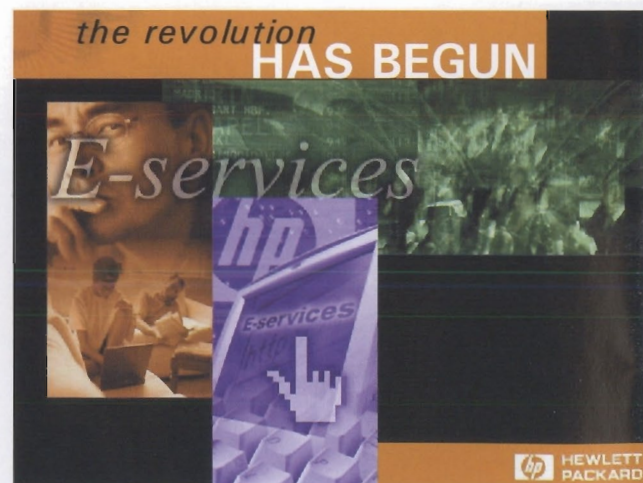
the revolution **HAS BEGUN**
E-services
hp

HEWLETT PACKARD

"I hope I can finish this before the ambulance gets here." A reasona

network but are quite distinct from the voice service for which it was constructed originally. Just as new services have been created on the telephone network, we will see new e-services enabled by the utility.

Anything that can be digitized can conceivably become an e-service. For example:

• Remote heart monitoring could save the lives of patients who live in fear of their next heart attack. They could wear a soft patch that can track heart rhythms on a 24-hour basis.

• Business-to-business e-services such as billing services, Enterprise Resource Planning (ERP) and personal finance all can become e-services.

• Remote diagnostic car repair can be offered, thanks to the information utility. A wireless connection can help diagnose an engine problem and transmit the fix back to the electronics complex in the car.

• IT-based services such as compute power, storage or applications can be delivered transparently to the user from a remote service provider.

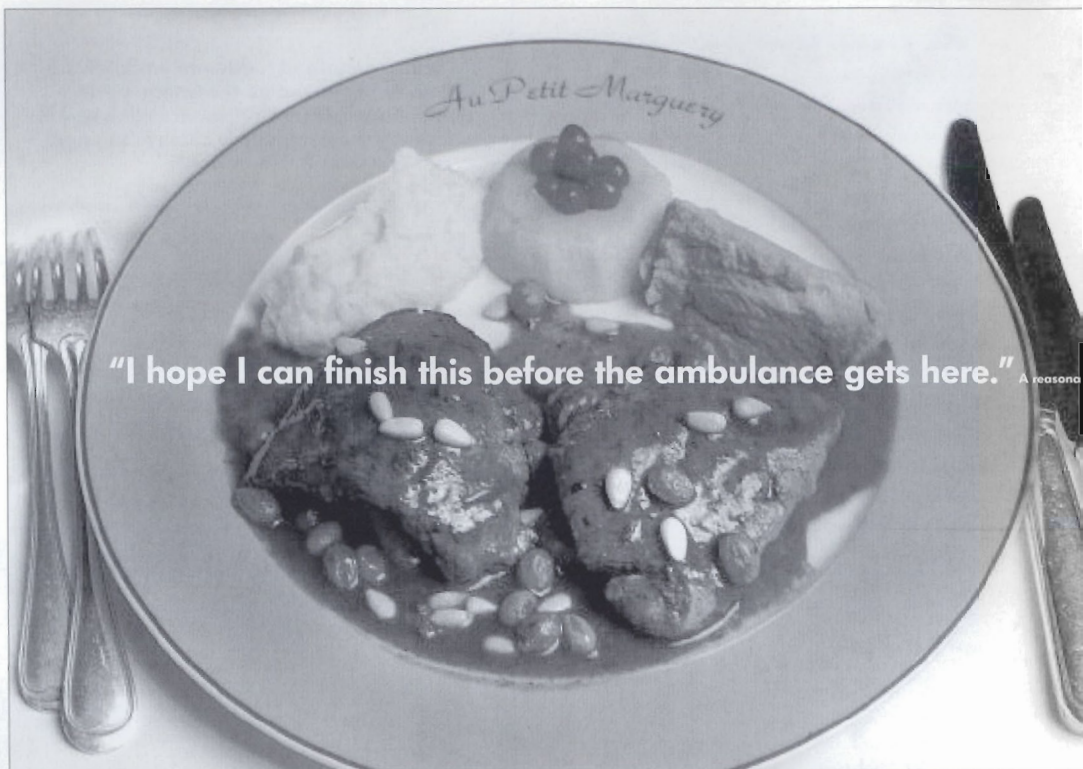E-services also will create entirely new business models. Processes, such as finance, administration and manufacturing, present prospects for new revenue streams not thought of before. Businesses whose processes are superior in performance, for instance, could offer their internal capability as an e-service to generate additional revenue. For example, a telecommunications company with an established billing system could create a new source of revenue for itself by offering its billing system as an e-service to other companies who choose not to invest in their own.

Another specific example of an e-service could be a pharmaceutical company's R&D processes that require what seems like unlimited compute power to create its next breakthrough pharmaceutical product. When the company's R&D people start a simulation that needs more compute power than available, an e-services provider would offload the simulation transparently to the user, delivering seemingly unlimited compute power on demand. The computer that's actually being used could be in the local enterprise or located elsewhere on the utility.

The beginning of these e-services exists today. Take Amazon.com, for example. It took the wired bookseller a long time to create its distribution, billing, inventory and supply-chain management capabilities. HP has developed software, code-named Fremont, that makes it easier and faster to create, deploy and manage e-services. Furthermore, it will enable these e-services to collaborate with each other. So the next Amazon.com-like company can come online in a fraction of the time using HP's Fremont software.

Customers benefit in many ways. New revenue opportunities will abound as creative e-services ideas develop and are offered to their customers. E-services will result in better return on assets, lower obsolescence costs and less capital investment to start new ventures. The list of benefits goes on and on.

Access to e-services will be available through both wired and wireless connections, as well as through a broad range of appliances:

• soft patches and smart cards;
• laptops and handhelds;
• personal appliances not yet created; and
• large, high-end servers.

So what took us so long to realize Joel's dream?

General use and acceptance of the utility depends greatly on standards. However, there was no de facto standard connectivity of the world's computers until 1990 when the Internet was opened to the general population and http (hypertext transfer protocol) and html (hypertext markup language) became worldwide connectivity standards. The Fremont software for e-services developed by

wish, when you consider the implications of e-services. Here's the scenario. You've got a heart condition. You're wearing a small monitor that sends a constant signal to a medical service your hospital subscribes to. Minutes before you even know there's anything wrong, bids for other services are going out automatically through the Internet. Paramedics are dispatched, the best cardiologist within 20 minutes of your location is tracked down and a prescription is electronically sent to a pharmacy that's confirmed to have your medication in stock. But there's more. This service contracts with another service that collects heart data from anywhere in the world. So this same scenario plays out whether you're in Paris, New York or Bangkok. Look at what's happening here. The service-based economy is about to explode as businesses and devices are seamlessly linked together. This is the next chapter of the Internet. And it has nothing to do with you working the Web. Instead, the Internet will work for you. www.hp.com/e-services

The next E. **E-services.**

Joel and his team in HP Labs builds upon and extends the standard connectivity of the Internet to e-services.

The information utility and e-services represent the next chapter of the hurly-burly, fast-moving history of the Net. It's being written today, and HP—particularly Enterprise Computing Solutions (ECS)—has taken the lead to let the world know about it.

Ann Livermore, ECS president and CEO, and her team have been leading the development of ECS's e-services

The print ad campaign is running in multiple languages. This Spanish-language ad touts the new HP 9000 N-Class Enterprise Servers. The headline reads, "For your convenience, the ceiling has been removed."

STEVE CASTILLO

CARTER DOW PHOTOS

strategy. It's a strategy that brings synergy to all of ECS's computer activities.

"E-services is the basis for an explosive new economy," Ann says. "Today, we're positioned perhaps better than anyone else in the industry to take advantage of a movement we see everywhere around us." Ann says that all of our expectations and perceptions will be impacted in this world where services are delivered electronically. "This is a tremendous opportunity for HP," she concludes.

Nick Earle, HP vice president and ECS's chief marketing officer, is leading the massive marketing effort to announce e-services to the world. Nick also is responsible for the e-services marketing strategy, which will thread through every division, product, software, service and solution offering in ECS.

"Since the formation of ECS," Nick says, "the team has rallied around the e-services vision. I've never seen so much achieved in such a short period. It's an amazing time for all of us and a time that should make us all proud to be here."

Today, HP is putting the "e" in services. The picture that Joel outlined in 1982 is being filled in, defined, made palpable by HP employees.

"For half a century we've invested in innovation and differentiated contribution in our products," Nick says, "and we're not stopping now." **M**

(Lisa Lion Wolfe is a strategic program manager in Enterprise Computing Solutions.—Editor)

SAATCHI & SAATCHI IMAGES

"An avalanche could start at any moment," says one ad, here in French, that introduces the new HP enterprise servers.

An instinct for the home run

Brilliant, articulate, great with customers—retiring HP Labs chief Joel Birnbaum has been one of HP's brightest stars for nearly 20 years.

By Betty Gerard

Above: An HP visionary for nearly two decades, Joel Birnbaum officially retired from HP Labs in February. Retirement celebrations included this one at the Tech Museum of Innovation.

Right: Joel applies his training in physics as a pitcher on the 1957 Cornell University baseball team.

Playing stickball in the streets of the Bronx, New York, where he grew up, Joel Birnbaum was a "three-sewer man."

To the uninitiated, this means he could whack the ball the distance of three city sewer covers. Not bad for a brainy guy who would go on to pitch for the Cornell University varsity baseball team and cover even greater distances in the world of technical research. (With characteristic modesty, Joel points out that the legendary ballplayer Willie Mays, another New Yorker, was a "five-sewer man.")

Joel officially retired from his position as senior vice president of R&D and director of HP Laboratories (HPL) in February, triggering a series of farewell parties. The largest gathering was at the Tech Museum of Innovation in San Jose, California, attended by hundreds of HPL people and CEO Lew Platt, who joked, "Joel, you've had a lot of parties for someone who's not really retiring."

In "retirement," Joel will spend half his time as the first "HP Chief Scientist." He will report directly to the CEO and focus on the newly

independent computer company, serving as a premier representative of technical—and business—solutions expertise to outside contacts in industry and academia, and as a technical resource internally.

He will play an important part in helping shape the development and rollout of e-services, based on HPL technology, which HP envisions as

Joel Birnbaum

the next chapter of the Internet (see article on page 8). It is an assignment dear to Joel's heart, because he spotted early the potential of the Internet and the Web, and has been promoting the concept of a pervasive information utility for almost two decades.

The sweep of the e-services concept fits Joel's instinct for the big idea, the home run. "He has the ability to make people expand their vision," says Eugenie Prime, Corporate Libraries manager. "You think your dreams are so big until you talk to Joel."

HP Labs has found an appropriate way to honor Joel's influence: The Joel Birnbaum Prize of $10,000 will be awarded annually to an HPL employee who has shown outstanding vision, innovation, persistence and contribution. Says Ed Karrer, director of the measurement-and-component company's central research lab, "Those are all properties associated with Joel."

HP Labs Director Dick Lampman believes Joel has an empowering style that in many ways is ideal for a research environment, where answers aren't always known. "Joel explores ideas with probing questions," Dick says. "He's also one of our true visionaries and he has an extraordinary ability to articulate his vision."

In the past, *MEASURE* has covered some of Joel's provocative formulations, such as MC-squared (the conjunction of measurement, computation and communication) and his futuristic prediction of a computer-aided "second brain."

Although a steady stream of new technologies continued to be transferred from the central labs to the product divisions for development, Joel challenged HPL people five years ago to find ways to transform HP Labs into the World's Best Industrial Research Lab (WBIRL).

Joel's son, Michael, and wife, Eileen, with Joel, are entertained by the speakers at his retirement party. Joel was on the board of directors for the San Jose Tech Museum of Innovation for many years.

This challenge gave all employees a chance to define what "best" truly means and the many ways in which excellence could be demonstrated—for the community of the world as well as the company. The result was dozens of projects that improved processes and a much-improved research agenda.

He also served as technical advisor for a series of vision videos for the company. Jan Smith, who has directed videos such as "Image," "Synergies," "Magellan" and "First Global," says, "Over the years, Joel has shared with me the most amazing and very usable ideas. Not only is he brilliant, but he's such a nice man, with a heart of gold."

Because he can speak to non-scientific people in a way they can understand, Joel has been a great asset to the field, talking to HP's own

sales teams and to customers. He has a deep understanding of customer problems and can relate concepts directly to solving major issues they might be confronting.

"Joel listens deeply," Dick Lampman says. "He doesn't just dazzle with his brilliance and then leave the customer wondering what he said after the light disappears."

The demand for Joel's time for customer visits has been far greater than he could fulfill with his other travel commitments. HP Labs has major labs in Palo Alto, California, and Bristol, England; labs in Japan and Israel; and smaller research groups near the Massachusetts Institute of Technology in the Boston area and in Cambridge, England.

That's quite a travel regimen for an East Coast fellow who had never lived elsewhere before joining California-based HP nearly two decades ago.

While in graduate school at Yale University, where he received two degrees in experimental nuclear physics, Joel moonlighted as a self-taught systems programmer for IBM in New York City. After receiving his Ph.D. in 1965, he joined IBM in the Thomas J. Watson Research Lab in Yorktown Heights, New York. He first headed its joint project with Yale and the Atomic Energy Commission to develop an online data-acquisition-and-control system that led to a whole family of IBM products.

"I spent three or four years living between the worlds of physics and computer science," Joel says. By 1975, he had advanced up the managerial track to become director of

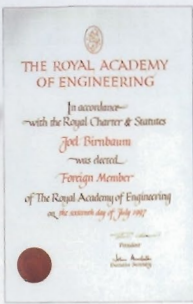Among Joel's proudest awards are (left to right) the National Academy of Engineering, the Institute of Electrical and Electronic Engineers, the Royal Academy of Engineering—presented by Prince Philip—and the Sheffield Fellow medal from Yale University.

Computer Science, responsible for a wide range of projects, including IBM's first RISC (reduced-instruction-set) computer.

After HP recruited him in November 1980, Joel first headed a newly formed Computer Research Center in Palo Alto, which initiated the Spectrum program. That program ultimately consolidated all HP non-PC computer products into the HP Precision Architecture family. In 1984, he was named vice president and director of HP Laboratories. In 1986, when HP's RISC architecture went from the lab to production, Joel moved to a line job as general manager of the Information Technology Group, responsible for all HP-PA hardware and core software systems. Two years later, he became general manager of the Information Architecture Group that developed HP's Cooperative Computing Environment —the next generation of HP's networked systems. He returned as director of HP Labs in 1991 with the added responsibility of vice president for R&D, and was elected a senior vice president in 1993.

Along the way, he has collected a number of high professional honors. He was elected to the National Academy of Engineering and the Royal Academy of Engineering. He is a Fellow of both the Institute of Electrical and Electronic Engineers and the California Council on Science and Technology. He

...Joel has an empowering style that in many ways is ideal for a research environment, where answers aren't always known.

also serves on advisory boards at Yale, Carnegie Mellon University, Stanford University and the University of California at Berkeley.

In March, Joel shared the platform at the American Physics Society meeting with many Nobel laureates to explore the intersection of physics

HP CEO Lew Platt and his wife, Joan, helped honor Joel at the party at the Tech Museum. In "retirement," Joel still will spend half of his time as the first HP Chief Scientist.

with other disciplines; he represented the information-technology community. In June, the Technion University of Israel will award him an honorary doctorate of science.

Bill Worley, an HPL Distinguished Contributor, has known Joel since they were at IBM together. "I appreciate Joel's openness to new ideas and his ability to see to the core of things," he says. "He has very broad-ranging interests himself, in both a technical and personal sense, and he keeps track of the thinking of a huge number of people in academia and industry."

Joel now will have time to read some of the many beautiful books and listen to some of the classical CDs he's been collecting. He's also installed a home digital darkroom for his photography hobby. He and his wife, Eileen, a retired opera singer,

own an apartment in New York City, where they'll live three or four months of each year. They'll spend six months a year at their home in California, and they'll have time to travel for the sheer pleasure of enjoying the great architecture and arts of the world. Their family—a son and four daughters, along with a first grandchild—also is bi-coastal.

While Joel is "looking forward to the ease of semi-retirement," he welcomes a continued association with the restructured Hewlett-Packard. "I want so much for HP to rebound from its problems," he says, "and I want to help if I can."

Joel still loves sports, and sports metaphors often crop up in his elegant presentations. When HP became a sponsor of the Stewart Grand Prix auto racing team three years ago, Joel asked racer Jackie Stewart how HP Labs could provide meaningful technical support. The result is an ongoing project to correlate the massive data (a gigabit each lap) collected from 190 onboard sensors so the car can be tweaked for top performance. Someday the application may well become a product for customers.

The three-sewer man of kids' ballgames in the Bronx moved on to a big-league career in technology. For Joel Birnbaum, it's been a fulfilling game—with many more innings to go. **M**

(Betty Gerard is an HP retiree and Palo Alto, California-based freelance writer.—Editor)

Breaking up is hard to do

For 60 years, Hewlett-Packard has been steady, predictable, envied, imitated. A Boy Scout, some said. Boring, others added. Then came the big announcement on March 2: HP will split into two companies —the computer-and-imaging company (about a U.S. $40 billion enterprise), which retains the HP name, and "NewCo"—the temporary name for a new measurement company—that will begin operation in the year 2000 with a new name and about U.S. $8 billion in revenue.

HP Chairman and CEO Lew Platt will oversee the division of the companies and serve on a four-person committee to select a new CEO. Then he'll retire from HP.

Ned Barnholt, formerly an HP executive vice president and general manager of the Measurement Organization, becomes CEO of "NewCo." Other top officers will include Bob Walker, chief financial officer; Bill Hahn, vice president for Strategic Planning; and Jean Halloran, vice president of Human Resources.

Barely a month had elapsed when HP made a second announcement: the heads of the four computing-and-imaging business groups were named as presidents and CEOs, and will have greater autonomy and accountability than ever before.

This edition of *MEASURE* offers a glimpse at the announcement and its impact. For up-to-date information, check the HP.Now site at http://hpnow.hp.com.

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...MAYBE IT'S TIME WE MOVED TO A 2-CAR GARAGE...

HEWLETT-PACKARD
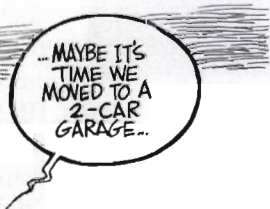
Coining a name: the flip side

Finding the perfect company name in 1999 takes much more than choosing heads or tails.

By Muoi Tran

In 1939, two recent college graduates decided to start their own company. By simply tossing a coin, Bill Hewlett and Dave Packard determined the name: Hewlett-Packard. The name was one of the few certainties for the new business, which had $538 in cash, a headcount of two, a one-car garage as a laboratory and no products to sell.

Zip through six decades to 1999. Seconds after the initial announcement of the creation of "NewCo"—one of the two companies that will result from the realignment of the original Hewlett-Packard Company—it already would make the *Fortune* 200 list, with its current $8 billion in revenue, 40,000 employees, and 60 years of experience and technical success. But, alas, it lacks a name.

Somewhere between 1939 and 1999, the business flip-flopped.

For today's corporations, the difficulty of selecting a name has increased tenfold. Past traditions and values must be considered simultaneously with future goals and opportunities. "Capturing the best of the old and the best of the new is a critical challenge," says Bill Hahn, vice president of Strategic Planning for "NewCo."

Creating new names in the past was a simple, straightforward process, according to Landor Associates, the leading international firm helping "NewCo" pinpoint a perfect title. Today, however, legally available names that are clear, distinct and memorable are in short supply.

Furthermore, names that transcend national boundaries must be readily understood, easy to pronounce and free of inappropriate cultural associations.

With these numerous considerations, the quest to find a new name for the measurement company is especially complicated. But HP and Landor have devised a three-phase plan, spanning from two to three months, to guide the selection and announcement of the new name.

• **Assessment and strategy**: First, Landor assesses the current brand by interviewing employees, customers and business partners and reviewing literature and advertising. Then, it establishes a "positioning platform"—future desired brand images that the new name should reflect.

DOUGLAS PECK

The formula for selecting the name for a new company includes history as well as future goals, says Bill Hahn, vice president of strategic planning for the soon-to-be named "NewCo."

• **Creative development**: At this point, Landor recommends specific name suggestions to "NewCo" and a selection team chooses the name. Also, Landor validates proposed names to ensure that the actual names, logos, brands, Internet domains, trademark searches, etc., are legally available.

• **Refinement and launch preparation**: Depending on the results of the search, the final choice may need some tweaking to be valid. And while the name is being selected, both internal and external launch campaigns are being developed for the name announcement and follow-on awareness campaign.

Brand image is critical in launching a name, Bill notes. For example, if the image is fast-acting, then a company can't respond slowly to customer requests. "It's very important that we match new internal behaviors —what we do—with the new external messages we're trying to project—what we say—to have an effective name and brand launch," Bill adds. **M**

Name to fame

Founded in 1941, Landor Associates has helped create some of the world's most famous brands—from airlines (Delta SkyMiles) to services (FedEx— The World On Time), from telecommunications (Lucent Technologies) to consumer products (Frito-Lay Sun Chips and Hanes Smooth Illusions), and including global institutions like the Olympic Games and the Nobel Prize.
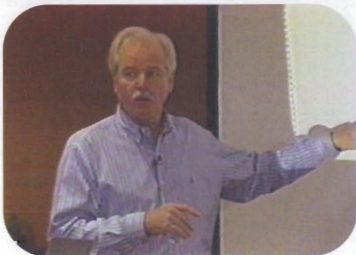
The two sides of a split decision

Employee reactions varied widely when HP announced the biggest change in its 60-year history.

By Kathy Mirtallo

Tom Ashburn, Customer Service and Support G.M., outlines the transition plan with Mountain View, California, employees.

The news hit most HP people like a ton of audio oscillators. After months of speculation and rumor about major companywide changes, employees learned in early March that HP would split into two separate companies— one focused on measurement and components, the other on computing and imaging.

"Shocked" is the way many employees described their feelings upon first hearing the news. Few had predicted a change so dramatic. The biggest stunner of all was that only one of the companies would keep the HP name.

Those in the Measurement Organization, the business in which HP is rooted, were hit particularly hard. Initially, many felt sadness, anger and betrayal. Some wept.

"People felt very badly over the loss of the HP name," says Roberto Favaretto, vice president and general manager of European Field Operations for the Test and Measurement Organization. "One person said, 'I feel as if I have been deprived of my family name.'"

But sadness gave way to optimism for many as they began to talk with their managers, their employees and each other about the positive things that could come out of the realignment—for both companies.

"The coffee pot talk here in San Jose (California) had a galvanizing effect," says Kelly Mitchell, communications representative with the Components Group. "Our G.M. pro-

jected a positive attitude that was quite contagious."
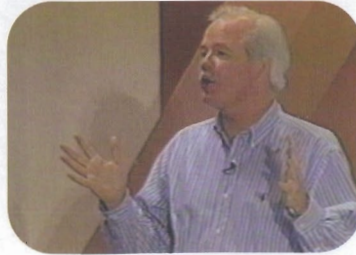
Tom White, general manager of the Communications Solutions Group, was en route to Beijing from Melbourne when the news broke. "I arrived prepared to describe the benefits of the realignment, but soon found the opposite was happening," Tom says. "The employees were soon explaining the benefits to me, as were many of the customers we met during the following days."

Measurement people speculated about the possibilities for success in an $8 billion start-up. "This is exciting. We can finally be a bigger fish in the pond rather than a tiny part of a big company," says Anita Manwani, general manager of the NetMetrix Division.

There was a less emotional reaction to the announcement among computing-and-imaging business employees. Many thought a split of some kind was inevitable. Some were surprised it hadn't happened months or years ago.

"The split is a positive first step to helping the businesses move with more speed and focus," says Jim Burkett, a quality consultant with the Roseville (California) Site Organization. "But I don't think we're done yet. I think there are some big unknowns out there as far as future changes go."

Jeff Contos, order-fulfillment manager in Channel Logistics and Fulfillment at the Santa Clara (California) site, feels the change opens up opportunities in both com-

Cynthia Danaher, Medical Products Group G.M. in Andover, Massachusetts, talks to employees at her "All Hands" meeting.

panies to find new and better ways of doing things. "The old way of doing things was great for us," Jeff says. "It served our needs, but this change will allow us to look at processes and practices in a fresh way."

The 16,000 employees in HP's infrastructure and shared services—those organizations that provide

Above: Lew Platt joins a meeting called by Bob Walker (left) and Bob Wayman (right) to address the Corporate offices employees. Below: HP Japan's President Masao Terazawa discusses the strategic transition plan with his employees.

support to both the "NewCo" and the computing-and-imaging businesses—were left with few answers to questions about where they might land as a result of the split. They'd have to wait for those answers as management worked out the details of the transition.

HP began communicating with employees as soon as the public announcement went out—which due to an information leak was moved up about four hours. The HP.Now internal Web site was chock-full of up-to-date information. E-mail and voice-mail messages flooded the networks. General managers held coffee talks to capacity crowds. Some G.M.s went on the road to reach as many employees face-to-face as possible. One hosted seven coffee talks in four days.

Employees were diligent, as well, in their efforts to get information. The internal HP.Now Web site received more than half a million hits in 16

hours. Employees sent in more than 1,000 questions to the site's Q&A page the day of the announcement. At HP Singapore, 150 employees of the Inkjet Supplies Manufacturing Division walked a kilometer through snarled morning rush-hour traffic from one HP building to another to attend a division coffee talk.

Weeks after the announcement, many employees continue to ponder how this change will affect them personally. Will benefits change? Will career options be limited compared to opportunities in the old, larger HP? Through all of this change, will HP's values persist?

The breakup of HP still is difficult to imagine for many, even as the company moves closer to the official split. "I personally felt sad and still do—it's the end of an era," says Cheryl Katen, general manager of the Home Imaging Division. "Though my head knows this is good, this also won't be the same company it was." **M**
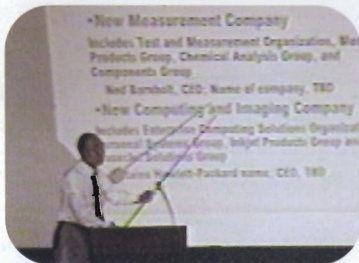
EAP advice for you

HP employees in the United States have a resource available to them called the Employee Assistance Program (EAP), which offers confidential, professional consultation and referral for a wide range of issues.

Here are suggestions from the EAP for managing job-related change:

• Tell yourself the truth. Allow yourself to be upset, worried or angry.

• Reach out to others. Discuss your feelings with supportive family, friends, co-workers or the EAP.

• Stay focused. Use "to do" lists to keep your goals clear.

• Be patient. It takes time to sort through your emotions and adjust to change.

• Let go of the past. Keep moving forward. Prepare yourself with a positive attitude and new skills.

A capital idea

If "NewCo"—the measurement-and-components company—has an IPO, it could be the largest in Silicon Valley history.

By Mary Anne Easley

Since the announcement that HP's Measurement Organization will split off and become a separate company with a possible initial public offering (IPO) of some portion of its stock, employees have raised many questions about IPOs. What exactly is an IPO and why is HP considering one? What are the advantages and disadvantages? How would this one compare with other Silicon Valley IPOs or IPOs in general?

Bob Wayman, executive vice president and chief financial officer, says that it's not yet definite, but an IPO is being considered. "The purpose of most initial public offerings is to raise cash," he explains. "An important consideration for us is to create a following in the stock."

Somewhere around 15 percent of "NewCo's" stock would be issued in the IPO. While it could end up being slightly more or less, an IPO cannot reach 20 percent without incurring potential tax liability.

Since most technology IPOs raise less than $100 million, this one likely would be the largest technology IPO in Silicon Valley history.

According to Morgan Stanley Dean Witter, the leading underwriter of technology IPOs, an IPO is a key milestone, marking a company's entry into the world of publicly traded companies. It's a special event and usually a rallying point for employees because they can see the fruits of their labor directly reflected in the marketplace. An IPO offers a chance for the management team, investment banks, accountants, attorneys, PR and investor-relations firms to express to public investors what is special about a company. Among the IPOs Morgan Stanley has handled in recent years are those for Cisco, Rambus, Netscape and @Home.

There are circumstances, however, that could derail the possible IPO, Bob says—"mostly market conditions, some kind of an adjustment in the market. If you go back to August '98 when Russia defaulted on its debt, the IPO market literally dried up. There are times when the interest in new equity is either so

An IPO's usual sequence of steps

1. Board of directors—The board and certain officers must be named before you can file a prospectus with the Securities and Exchange Commission (SEC).

2. Investment bankers—Should there be an initial public offering, HP must select lead underwriters to handle it. Others likely will be added later.

3. Separating the two companies—Accounting employees have been working since the March 2 announcement to separate HP's "books," apportioning the assets, liabilities and cash flows of the two enterprises. This must be completed before the prospectus is filed. "This is a challenge," says HP Vice President and Treasurer Larry Tomlinson, "since HP is so interconnected."

4. The S1 (also called the registration statement)—This document, filed with the SEC and incorporating the prospectus, is usually several inches thick. It contains details of three years of audited financial information, contract and lease agreements, business prospects, competitors, board members and more.

low or it has to be priced so favorably to get any interest, it doesn't make sense to do an IPO. So you just pass, but you have to decide for how long you're going to pass."

While an IPO could add three to five months to the time it will take to split HP in two, it has several advantages: It establishes interested investors and a research following among stock analysts, it generates cash and, compared to a straight spinoff, it can result in premium valuation of the stock.

The sequence of events during an IPO is fairly standard (see time line at bottom of page). An important part of every IPO is a roadshow, during which company management spends two to three weeks meeting with investors, often in Europe and Asia, as well as the United States.

Of course, before the IPO, HP's performance and that of the Measurement Organization will be closely watched.

But employees should be aware that securities law prohibits any discussion of an IPO before a prospectus is filed with the Securities and Exchange Commission (SEC) except for the name of the company, the type of securities that will be issued (in this case, common stock) and the purpose of the IPO. At no time should any employee discuss the value of the new company, its growth prospects, the potential value of its stock or the investment banks likely to underwrite the IPO. Such disclosures, referred to as gunjumping (see sidebar), could seriously jeopardize the possible IPO.

Bob Walker, chief financial officer of "NewCo," predicts, "There will be a lot more attention focused on the Measurement Organization by both the investment community and the general business community. That means recognition when we do a great job and exceed expectations, but also a lot of negative comments and scrutiny when we fall short."

For a plain English guide to IPOs, visit The Initial Public Offering Resource Page at **http://linux.agsm. ucla.edu/ipo/ipopage.html#9**. **M**

Learn the lingo

IPO experts have their own terminology. Here, with the permission of Renaissance Capital Corporation, is some of the more colorful slang.

KATHLEEN MITCHELL

Beauty contest—The parade of investment bankers through a company's offices when the company is considering an IPO and plans to select one or more investment banks to handle it.

Fallen angel—A high-quality company whose stock drops below its issue price due to market conditions or lack of research coverage.

Flipping—Obtaining shares of stock at the IPO price and immediately selling them in the aftermarket.

Gunjumping—Promoting or hyping a new company before filing the required documents with the Securities and Exchange Commission. This is a no-no.

Tombstone— Advertisement in the financial press once an IPO is completed that lists the underwriters in order of importance.

For a complete glossary, go to **http://www.ipo-fund.com/ glossary.htm**.

The prospectus—This document, which is usually 50 or more pages long, outlines the merits and risks of investing in a new company. It is distributed to institutional investors a week before the roadshow.

6.

The roadshow—A new company's management team spends two to three weeks on the road meeting individually and in groups with potential investors.

7.

The offering stock price— The day after the roadshow ends, the board and management team of a new company, based on investor interest and on the advice of the underwriters, set the opening price of the stock and it begins trading.

8.

Distributing shares in the new company—About six months after an IPO, the remaining shares of the new company likely would be distributed to HP shareholders as a dividend. This interim "seasoning period" allows the new stock to get established in the marketplace.

Just the two of us

By Betty Gerard

■ Measurement
■ Computer

Hewlett-Packard's evolving structure

As HP begins the process of detaching its measurement businesses to form their own newly independent company, here's a brief record of key changes in the organizational structure of the product groups. It reveals that, over time, a dynamic company has continually been restructured to reflect new markets and products, as well as changes in top management.

This is a selective, group-level look at product operations only, with the many other significant functions omitted: Corporate departments, HP Labs, most sales and marketing and details of international operations. It doesn't show the reporting structure to company executives, nor does it include names of individual entities (divisions and operations).

More detail would show the remarkable organizational climb of peripherals from a single division to two of HP's major operating units on the current chart. Similarly, Test and Measurement has moved up the organizational track to the top rung. With these missing items, the integrated circuit business isn't visible at present, although it has been a division reporting directly to the CEO or formed a group of its own. It is now a division in Measurement's Components Group.

Nomenclature has changed, too. First there was a handful of groups, then groups of groups, later called "sectors" for a number of years, and emerging subsets of groups termed variously as "organizations" or "business units."

Now Measurement can establish its own identity.

Year	Employees	Net Revenue	Organization
1930s			
1939	2	$5,000	Bill Hewlett, Dave Packard form partnership in Palo Alto. Begin operations with **test instruments** as products.
1940s			
1940	3	$34,400	Hire first employee.
1944	137	$1.5M	Production boost from WWII; beginning of two labor shifts.
1950s			
1952	537	$10.9M	Stanford plant → Palo Alto plant
1958	1,778	$30.4M	**Al Bagley** (frequency counters) · **Norm Schrock** (oscilloscopes) · **Bruce Wholey** (microwave signal generators, noise meters) · **John Cage** (audio-visual voltmeters). First divisionalization along product lines in the product development laboratory. HP adds its first acquisitions in 1958 and 1959. Moseley (led to San Diego Division), Boonton Radio (New Jersey Division), Paeco and Dymec (Palo Alto Division and systems successors).
1959	2,378	$48M	HP establishes its **first overseas presence** with European marketing in Geneva, Switzerland, and manufacturing in Böblingen, West Germany.
1960s			
1961	5,040	$87.8M	Enters **medical business** with acquisition of Sanborn Co. in Massachusetts.
1965	9,033	$164.9M	Enters **analytical instrumentation business** with acquisition of F&M and

The garage at 367 Addison Avenue in Palo Alto, California, is where HP got its start.

Dave (left) and Bill outside the Redwood building, 1943. The first company car (middle) was a 1942 Buick station wagon.

HP's first European manufacturing site in Böblingen, Germany.

More than 12 considerably autonomous operational divisions organized along product lines.

| 1966 | 11,309 | $203.3M | HP's first computer designed (as a controller for test and measurement instruments) |

In 1960, Loveland, Colorado, saw the first U.S. manufacturing site outside of California.

| 1968-70 | 16,000 | $351.5M | First group structure adopted in 1968 when independent operating divisions—that had grown and spun off new divisions—combined to form related product groups: |

- International Group
- Data Products Group
- Operations Group
- Electronic Products Group

Building entrance at HP's Stanford site, built in Palo Alto, California, in 1961.

1970s

| 1974 | 28,800 | $884M | New level of management added. Two executive vice presidents named to oversee operations, product groups redefined and position of EVP of administration created. |

- Computer Systems Group
- Calculators Group
- Instruments Group
- Components Group
- Medical Group
- Analytical Group

| 1979 | 52,000 | $2.3B | The first appearance of groups reporting to groups came in 1979 with formation of the Computer Groups, followed by the Instrument Groups in 1980. |

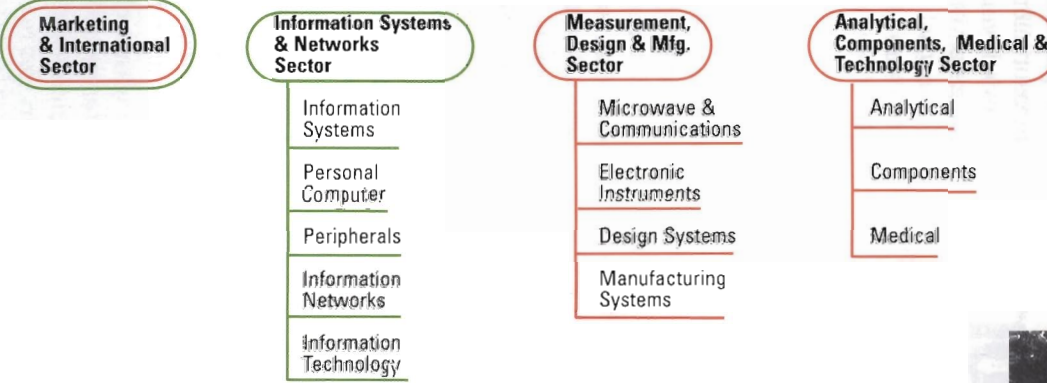HP Labs' Deer Creek site in Palo Alto, California, built in 1978.

1980s

By 1982, the top of the organization chart looked like this:

- Computer Groups
- Personal Computation
- Analytical Group
- Medical Group
- Components Group
- Instrument Groups

| 1984 | 82,000 | $6B | Four "sector" organizations formed to oversee a growing number of groups. One sector was devoted to marketing and selling (computers, instruments). The chart at the end of the year: |

- Marketing & International Sector
- Information Systems & Networks Sector
  - Information Systems
  - Personal Computer
  - Peripherals
  - Information Networks
  - Information Technology
- Measurement, Design & Mfg. Sector
  - Microwave & Communications
  - Electronic Instruments
  - Design Systems
  - Manufacturing Systems
- Analytical, Components, Medical & Technology Sector
  - Analytical
  - Components
  - Medical

In 1988–1989 the Bristol, England, site was completed.

| 1986-87 | 82,000 | $8B | A reorganization puts all of HP's technical computing activities in the same sector. In February 1987, the long sector names were simplified: |

- Marketing & International Sector
- Systems Technology Sector
- Technical Systems Sector
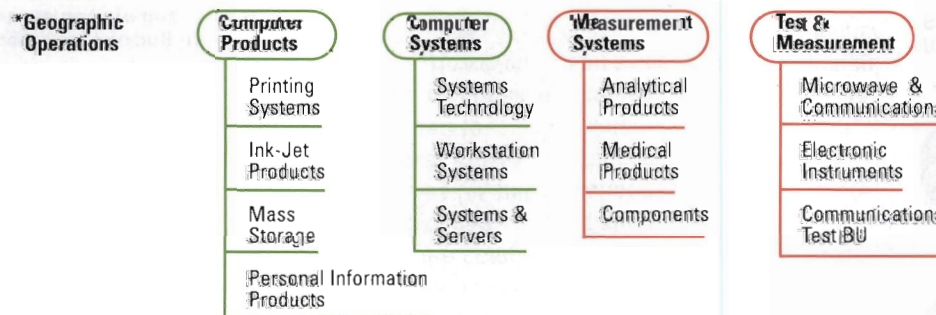- Measurement Systems Sector

| 1988-90 | 92,000 | $13.2B | In 1988, computer-product sectors are reduced from three to two, based primarily on distribution channels rather than the former split along business and technical lines. Within Measurement Systems, a Test and Measurement organization was created in 1990 to oversee two groups. |

Bill and Dave in 1989 at the commemoration of the garage making it a state historic landmark.

1990s

By November 1990, the top of the chart looked like this:

- Marketing & International
- Computer Products Sector
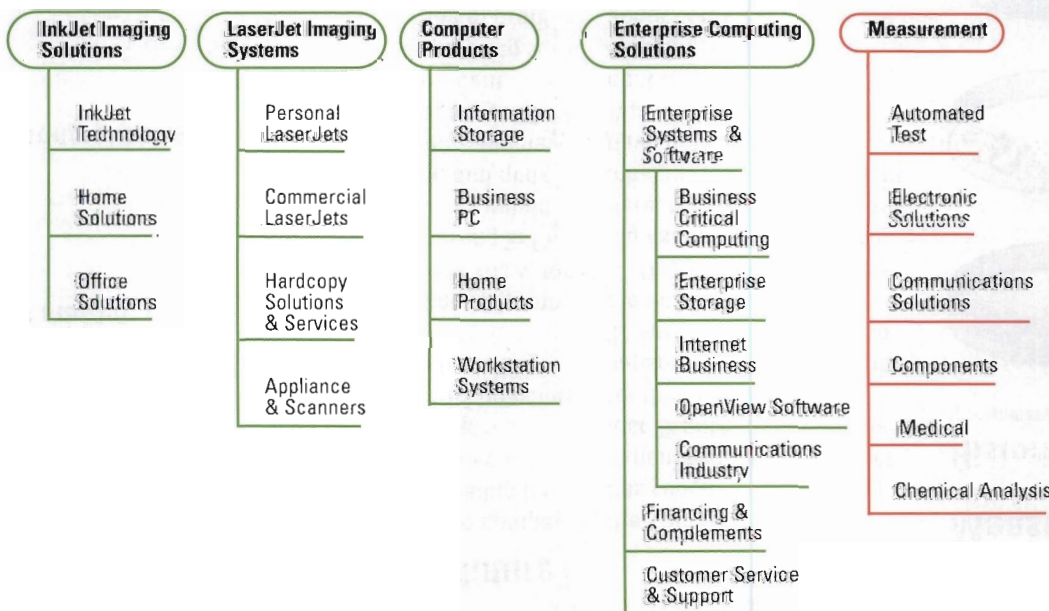- Computer Systems Sector
- Measurement Systems Sector

| 1992 | 92,600 | $16.4B | Geographic Operations* is formed and all businesses now have their own sales and marketing responsibility. Test & Measurement moves up to top level. Use of "sector" for major business organizations fades away. Product groups continue to develop, along with use of subset business unit (BU). |

- *Geographic Operations
- Computer Products
  - Printing Systems
  - Ink-Jet Products
  - Mass Storage
  - Personal Information Products
- Computer Systems
  - Systems Technology
  - Workstation Systems
  - Systems & Servers
- Measurement Systems
  - Analytical Products
  - Medical Products
  - Components
- Test & Measurement
  - Microwave & Communications
  - Electronic Instruments
  - Communications Test BU

The Mexico City facility was built in two phases. The right side was completed in 1995 and the left side in 1997.

| 1995-99 | 122,800 | $47B | In January 1998, a single Measurement organization is formed in a consolidation of Measurement Systems and Test & Measurement. In 1995, customer support and all computer activities had been consolidated into a single computer organization, which continued to make realignments, then restructured into four new top-level organizations in November 1998, which evolved into companies. As of April 1999, the organization chart of product groups looked like this: |

The Atlanta, Georgia, site was built in 1996.

- InkJet Imaging Solutions
  - InkJet Technology
  - Home Solutions
  - Office Solutions
- LaserJet Imaging Systems
  - Personal LaserJets
  - Commercial LaserJets
  - Hardcopy Solutions & Services
  - Appliance & Scanners
- Computer Products
  - Information Storage
  - Business PC
  - Home Products
  - Workstation Systems
- Enterprise Computing Solutions
  - Enterprise Systems & Software
  - Business Critical Computing
  - Enterprise Storage
  - Internet Business
  - OpenView Software
  - Communications Industry
  - Financing & Complements
  - Customer Service & Support
- Measurement
  - Automated Test
  - Electronic Solutions
  - Communications Solutions
  - Components
  - Medical
  - Chemical Analysis

These HP Singapore buildings were completed in 1997.

F&M Scientific Corporation in Pennsylvania. HP Labs formed.
➤ Takes equity position in HPA for solid-state research that results in (components business).
More than 12 considerably autonomous operational divisions organized along product lines.

Back to the future?

Computer organization

Historical averages (FY'94–FY'98)*

(preliminary, unaudited; adjusted for special charges)

≈31% — Gross margin

≈22% — Operating expenses

≈6% — R&D expense

≈10% — Operating margin

≈7% — Net margin
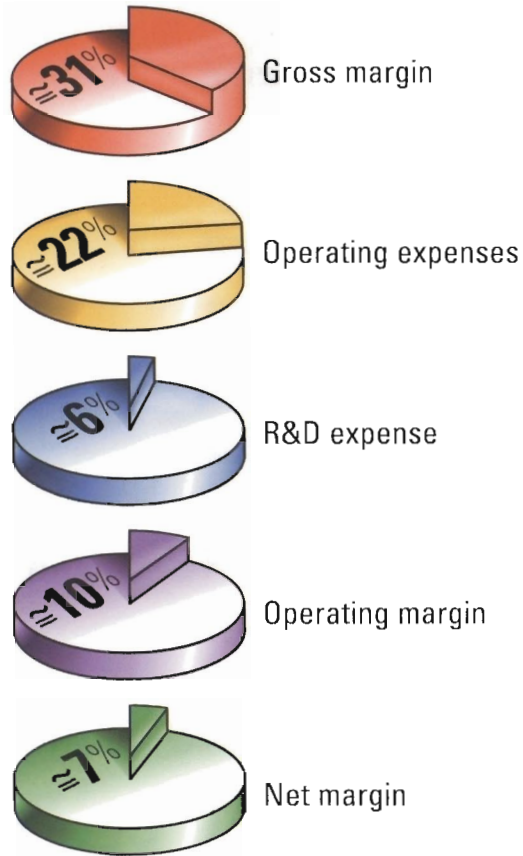
The computer organization's success at reducing its operating-expense ratio has kept the bottom line healthy despite pressure on gross margins.

*These numbers don't add up to 100 percent because the charts are a highly compressed view of each organization's financial profile.

How would the two companies that HP is creating have done as stand-alones in the last five years? That's an intriguing "what-if" question that these two charts begin to answer.

The bottom line is…pretty well. As the charts show, for the five years starting in FY '94, both companies would have had similar, and quite healthy, operating- and net-profit margins of about 10-11 percent and 7 percent, respectively. (Operating margin is the ratio of profit dollars to revenue, before taxes and non-operating income and expenses are figured in; net margin is the same ratio after those adjustments are made.)

The two companies differ, however, in how they got to that bottom line. As a percent of revenue, the computer organization has had higher cost of sales (or, put another way, lower gross margins) due in part to intense pressure on prices in PCs and printers. However,

the computer organization has reduced its operating expenses to an average of just 22 percent of revenue for the last five years— substantially lower than the 37 percent average on the measurement side.
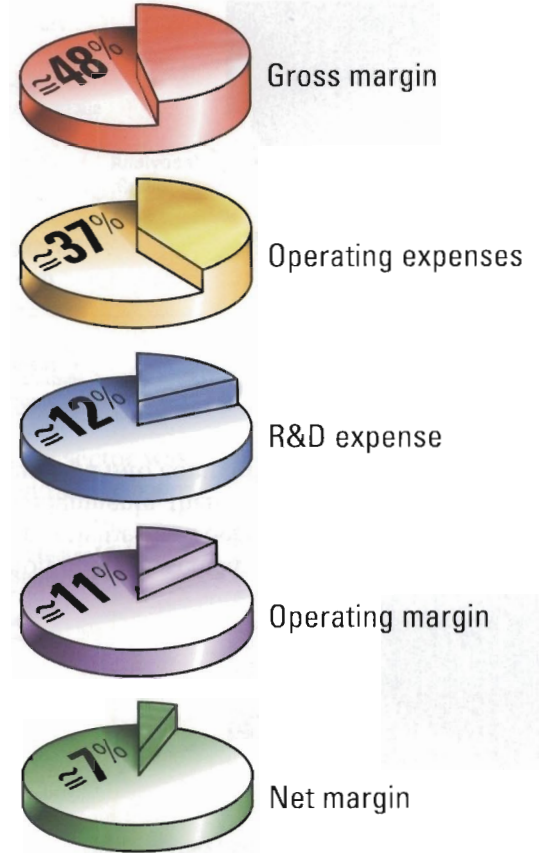
One element of operating expenses is R&D, and here, too, the computer and measurement organizations have different profiles. Again measured as a percent of revenue, R&D spending has averaged about twice as high on the measurement side as on the computing side. Of course, in absolute dollars, 6 percent of $39.5 billion (1998 computer revenue) is still a lot more dollars than 12 percent of $7.6 billion (FY '98 measurement revenue).

Remember, the figures on the charts are approximate historical averages; what happens in the future remains to be seen. But if history is any guide, both companies are starting life on a sound financial footing.

—*Steve Beitler*

Measurement organization

Historical averages (FY'94–FY'98)*

(preliminary, unaudited; adjusted for special charges)

≈48% — Gross margin

≈37% — Operating expenses

≈12% — R&D expense

≈11% — Operating margin

≈7% — Net margin

Relatively high operating-expense percentage and R&D investments reveal the importance of direct sales and leading-edge research to the measurement organization's success.

A million and one questions

How do you make "infrastructure" decisions involving 16,000 employees and 600 offices in 130 countries? Very carefully.

"For sites where both organizations share space today, we'll decide whether the non-owning organization will move out or remain as a tenant."

Realigning Hewlett-Packard into two companies is relatively easy, right? If you work primarily for the Measurement Organization, you're now part of "NewCo" (the new measurement-and-components company). If you work in computing and imaging, you stay with HP.

Now, what about the 16,000 "infrastructure" employees? And the 600 HP offices in 130 countries? And the patents, licenses and other legal documents for more than 30,000 products?

How do you begin to sort out a million and one details?

For Dotty Hayes, who heads HP's internal audit group, it's been a daunting task from the moment she was asked to chair the infrastructure task force.

"I started jotting down issues I knew we had to address and stopped when I reached 400," Dotty says. "And that's just the beginning."

Infrastructure employees are those who work in HP Labs, Geographic Operations, the Product Processes Organization and Corporate functions such as Information Technology (IT), Finance, Real Estate, Human Resources and Legal. The key decisions are which employees will wind up with each of the two companies after the realignment, and which functions might provide shared services to both.

"This is bigger than anything we've ever done before and we need to produce results under an extremely tight time line," Dotty notes. "We have a narrow window of opportunity to capture the full value of this transition, so our motto is, 'Fast and good enough.' We can make it perfect later."

As you can imagine, it will take weeks or months to make some decisions. The HP.Now Web site at **http://hpnow. hp.com** remains the most reliable and up-to-date source of information during the 12- to 18-month transition period. Meanwhile, Dotty's overall infrastructure team and dozens of smaller subteams are working hard to forge the best solutions in their areas.

In Corporate Real Estate, for example, Director Laine Meyer is scrambling to make decisions by May 1999—just in time for the decisions to be included in the financial planning and structuring of "NewCo."

"The primary criteria will be which organization is the primary occupant," he says. "For sites where both organizations share space today, we'll decide whether the non-owning organization will move out or remain as a tenant."

Laine's team will develop a plan for future relocations and establish service agreements for the transition period at sites where one company's activities remain as a tenant. With the large number of offices in the geographic operations the transition period may take up to two years.

Corporate Offices for HP's computing and imaging businesses will remain in Palo Alto. "NewCo" headquarters also will be in Palo Alto at 395 Page Mill Road—a site that HP has occupied since 1943.

IT decisions represent some thorny issues, including: How will IT resources be redistributed across the two companies? What happens to the data centers? How will IT divide millions of dollars of computer systems?

Two of the many approaches being considered for the redistribution question are "clone-and-go"—where

LINCOLN POTTER

great places to work and poised for success.

First, the leadership team for "NewCo" had to be defined, and those people had to hire their direct reports. That happened in March and April. Next, they determined staffing needs and shared information about the new company with employees.

Infrastructure employees whose time primarily has been dedicated to one company most likely will continue to work for that company. The other employees will fill out a brief skills/experience questionnaire and indicate which company they'd like to work for.

The process of placing employees takes into account the skills needed in each company and employees' preferences.

All infrastructure people will learn which company they'll work for by June 30, 1999. Employees who believe the assignment is a mismatch can use HP's job-posting process to find another job up until 30 days before the legal separation of the two companies, which will occur in the second quarter of fiscal year 2000.

"We envision that we'll need more people for the two companies than we currently have," says Susan Bowick, HP vice president of Human Resources, "so we anticipate some external hiring to get the right skill sets in place.

"This is a demanding time for us, but the end result should be two high-performing teams." **M**

each company would have identical application interfaces and data—and temporary "service bureaus"—where an IT group would sell shared services to both companies.

Employees can get ongoing information about IT decisions by checking the IT Connection Web site at **http://it.hp.com/it**.

"People" issues revolve around how to relieve uncertainties for the 16,000 infrastructure employees and how to create two strong, appropriately staffed companies that are

Branching out from the family tree

Susan Packard Orr and Walter Hewlett discuss the realignment from their unique perspectives: as HP board members and children of the company's founders.

How do you feel about the realignment of HP into two separate companies—as both directors and as members of the Hewlett and Packard families?

Susan: I'm an enthusiastic supporter. We all thought very long and hard about it, and discussed it at length. It seems to me that at this point in HP's history, the realignment is the right thing to do.

Of course, there is the emotional side to it—there was the legacy of this great company to consider. The way I like to think about it is that we're spawning two great companies that will both carry on the HP Way and all the very important values that have been there from the beginning.

Walter: As we were getting closer to making the decision, I started thinking more about what it meant from the emotional side. I was surprised at how strong my feelings were.

So it was a difficult thing emotionally. But intellectually, I understood why this was something that had to happen.

Why do you think the move was necessary?

Susan: The two parts of the company have very different business models. By realigning them, it creates a lot of opportunities ahead and puts us in a much better position to take advantage of them. And there are opportunities that we might otherwise have missed.

Over the past year or so, HP has not been performing at the level that it could—or should—be performing. So it was necessary to take some bold moves and re-think the direction or directions that we want to go.

Overall, I think this opens up wonderful opportunities for both sides.

Walter: The question that could be asked is "Why now?" It's possible that the realignment could have been put off for a while. But this is actually a good time to do it. The company is very strong now, so we're going to end up with two strong entities—both of them, by the way, the descendants of the Hewlett-Packard Company.

> "I regard both entities as equal descendants of the company that Bill and Dave started."

If a family has a son and a daughter and they both get married, in our society the son generally keeps the family name and the daughter gets a new one. But they're equally the descendants of their parents. I regard both entities as equal descendants of the company that Bill and Dave started.

What concerns do you have about the two companies?

Susan: I'm concerned in the short term that there is a lot of work to be done. It's important that everyone stay focused on achieving good

results while we're going through all the realignment and restructuring. Such things can be very distracting, so that's my deepest concern.

I think everybody should realize that the realignment does not mean the end of the Hewlett-Packard Company or that somehow this great legacy is gone. As we look to the future, it's important that all the values stay in place. I believe they will, but it's something that everyone needs to work on.

Walter: There are people out there who would love to see the HP story come to an end—I'm talking about our competitors. I can imagine these people saying that the realignment is proof that the HP Way worked in the 1950s and '60s and '70s—and that it worked for a company of a certain size—but that it doesn't work now and it doesn't work for a big company.

I think that's completely false. I think the HP Way has been and con-

tinues to be a tremendous competitive advantage for Hewlett-Packard. Our competitors would love to see it go away and we have to make sure that doesn't happen.

You have a unique viewpoint as members of the founders' families. How do you think Bill and Dave would have felt about the separation?

Walter: The realignment might not be something that my father and Dave would have done when they were managing the company, but the times have changed.

What I'm getting at is that each group of leaders has to look at the situation in a fresh way and do what's right for the company at that time. I think that's what my father would agree with. He would say, if the level of complexity that we've gotten to is interfering with the various parts of the company—interfering with their way of doing business and their objectives—then this is what we need to do.

Susan: It's extremely difficult to guess what Father would have thought. He was such an extraordinary businessman and had such

insights into things. I couldn't begin to understand exactly how he would have seen this.

However, I will say that Father did not make decisions based on sentimentality. He was always looking forward—always looking to see what we could do next and where we could go next.

I don't think the need to hold on to something from the past would have stopped him from doing this. **M**

Getting back to the HP Way

Dick Hackborn is destined to be a first-ballot member of the Hewlett-Packard Hall of Fame. He joined the company in 1960 as a design engineer and held several management positions before being named G.M. of the former Computer Peripherals Group in 1979. In this role, he established HP's legendary printer business—contributing to his HP legacy and dramatically changing the company's focus.

In 1992, he was named to the HP board of directors.

Dick retired from HP a year later, remaining on the board as an influential member.

Following are some of his thoughts on the realignment.

Why do you think the realignment was necessary?

Dick: I think we reached the point where it had become humanly impossible for any one CEO—or any one board of directors—to adequately cover all the businesses that we're in.

With the increasing rate of change in the high-tech industry, and the computer industry in particular, it's critical for the CEO to have time to directly lead the business —from the point of view of keeping the company focused on the major market and technology trends, keeping the managers working as a team and championing the company's strategic contributions to the outside world.

So it became clear that it was a necessary step—but not sufficient—to simplify the company's structure. The realignment will give us a dedicated CEO in each of our main businesses, along with dedicated boards—things that are increasingly important these days. To me this was the critical need for HP.

What needs to be done next?

Dick: We have to follow through on getting strong leadership for both companies. On the measurement side, we already have Ned (Barnholt), and from the early things I've seen, I think he's going to be leading an extremely exciting company. He'll be able to really focus on some of the key areas—in electronic instrumentation, life sciences, components and some other places. And his new company will be 100-percent focused on these businesses, rather than being part of an organization that derived only about 15 percent of its revenue from the measurement activities.
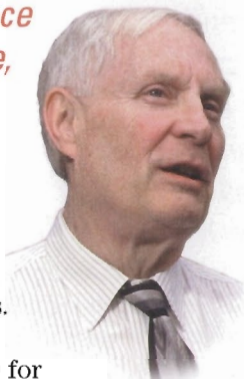
On the computer side, it gives us a chance to take the next step in our CEO area. Lew is retiring in a year or two and it's very important that we find somebody who is going to lead this business for at least the next five years. It's also important that we bring in some fresh insights as we move into the Internet world—and even in some of our more traditional

> *"The realignment will give us a dedicated CEO in each of our main businesses, along with dedicated boards—things that are increasingly important these days."*

businesses like printers and PCs.

So getting a very strong CEO for the overall computing-and-imaging company is crucial. That's the next step that needs to be taken.

One of the concerns among employees is that there has been some erosion in the HP Way over the past few years and that the realignment will cause it to erode even further. How would you respond?

Dick: That's a very important concern. When we were looking at restructuring the company, we purposefully went out and gathered a lot of inputs about the state of the HP Way today and what it means to people. Most of the inputs we received sounded very familiar to the HP Way that I remember—back almost 40 years now.

However, there were other aspects of it that were not at all the way I remember Dave and Bill operating the company. An example is consensus building. In my personal experiences with Dave and Bill, you certainly had opportunities to give your inputs. But once that was done, a decision was made—everybody accepted it and everybody acted on it. That isn't exactly consensus.

Another thing that Dave and Bill always demanded was very strong accountability. I mean, you felt it every day. You were there to make

a contribution, a contribution that resulted in tangible market performance—actual end results in terms of market success and financial performance. That was how your contribution was determined. We seem to have gotten away from that.

HP has gotten so much larger, complex and bureaucratic—despite the best intentions of everybody. And that's not the HP Way either.

So if people are thinking that we've been losing some key parts of the HP Way in recent years—some of the important ones—they might be right. I really believe that these two, more focused companies will give us a chance to get back to the real HP Way.

We've also heard comments from employees who say that there is such pressure to perform in today's fast-moving markets that their managers don't seem to pay as much attention to HP's core values as they should. Do you think there might be something to this concern?

Dick: That's a tough question because you have to ask the person who's saying that what the core values are. If somebody thinks the core values are studying and analyzing without implementation, procrastination caused by trying to achieve consensus and allowing everybody involved in a decision to have veto power on every other person's business, then those are the kind of values that I'd like to see go away.

But if they think the core values are objectives like making a contribution to customers, expecting a reasonable return on your investments, trusting people and giving them maximum freedom to implement—but also holding them accountable—then those are the kinds of values that continue to be important and should be emphasized. I don't see anything in today's world that changes that. **M**

The $40 billion four

Agile, fast and focused. Those were the three primary attributes that HP's computing-and-imaging businesses hope to achieve with the March 2 announcement of the company realignment.

How agile, fast and focused can a $40 billion company be? In April, HP named the leaders of the four businesses president and chief executive officer of their respective organizations to help increase authority and accountability.

MEASURE asked the executives to comment briefly on their new autonomy, vision for their organization and possible changes ahead.

Ann Livermore, *Enterprise Computing Solutions (ECS)*

The new titles represent the appropriate stature for our executives in the marketplace. The customers and partners of ECS know that my staff and I can make everything happen in our business.

ECS will have a very intense focus, coupled with faster decision-making. That will help us from a growth perspective.

We've been working on an intense customer focus and faster decision-making ever since ECS was formed in November 1998. We created a new business plan, realigned resources and launched our e-services vision in the first four months that ECS has existed.

Antonio Perez, *Inkjet Imaging Solutions*

The change will result in greater speed and flexibility, and will help enable significantly expanded business partnerships. In turn, this will result in our ability to fine-tune total solutions for our customers, and give us a greater presence and influence in our own ecosystem.

> "The most important thing that occurred as we went through this process of restructuring the company was that each of the four of us started thinking differently. We began taking control of the destiny and direction that we wanted each of our companies to go."
> —Carolyn Ticknor

The changes for Inkjet Imaging Solutions will be focused primarily on a greatly expanded business-development capability, which will contribute strongly to our growth. We also expect to significantly strengthen group expertise in a number of areas where we previously relied on HP Corporate. We also expect to strengthen our efforts in the area of industry communication.

Carolyn Ticknor, *LaserJet Imaging Systems (LIS)*

The most important thing that occurred as we went through this process of restructuring the company, was that each of the four of us started thinking differently. We began taking control of the destiny and direction that we wanted each of our companies to go.

We've already worked with Ann Livermore to move Commercial Hardcopy from the Product Support Division over to LIS. This is part of stepping up and saying that service and support are going to be important differentiators in the future. PSD did a world-class job of No. 1 customer satisfaction, and we have to maintain that.

We'll hire some business-development people to work on acquisitions. Acquisitions—either of technology or of companies—are going to be a key to our growth.

Duane Zitzner, *Computer Products (CP)*

This structure will bring the focus of the business even closer to the customer. We want our customers to feel a real partnership that extends beyond the products they buy from us.

HP Computing and Imaging CEOs (left to right) **Antonio Perez**, Inkjet Imaging Solutions; **Ann Livermore**, Enterprise Computing Solutions (ECS); **Carolyn Ticknor**, LaserJet Imaging Systems (LIS) and **Duane Zitzner**, Computer Products. The latest organization chart is on HP.Now at http://hpnow.hp.com/.

Major disruptions in business models are now measured in weeks rather than years. We must have the flexibility to make changes with this kind of velocity. When an opportunity is presented such as a partnership, we need to assess and capture it quickly. Our competitors are moving quickly to embrace the opportunities unleashed by the Internet. We need to make real traction in that direction.

We intend to drive the visibility of our business to the outside world, including customers and market influentials at a much faster pace. **M**
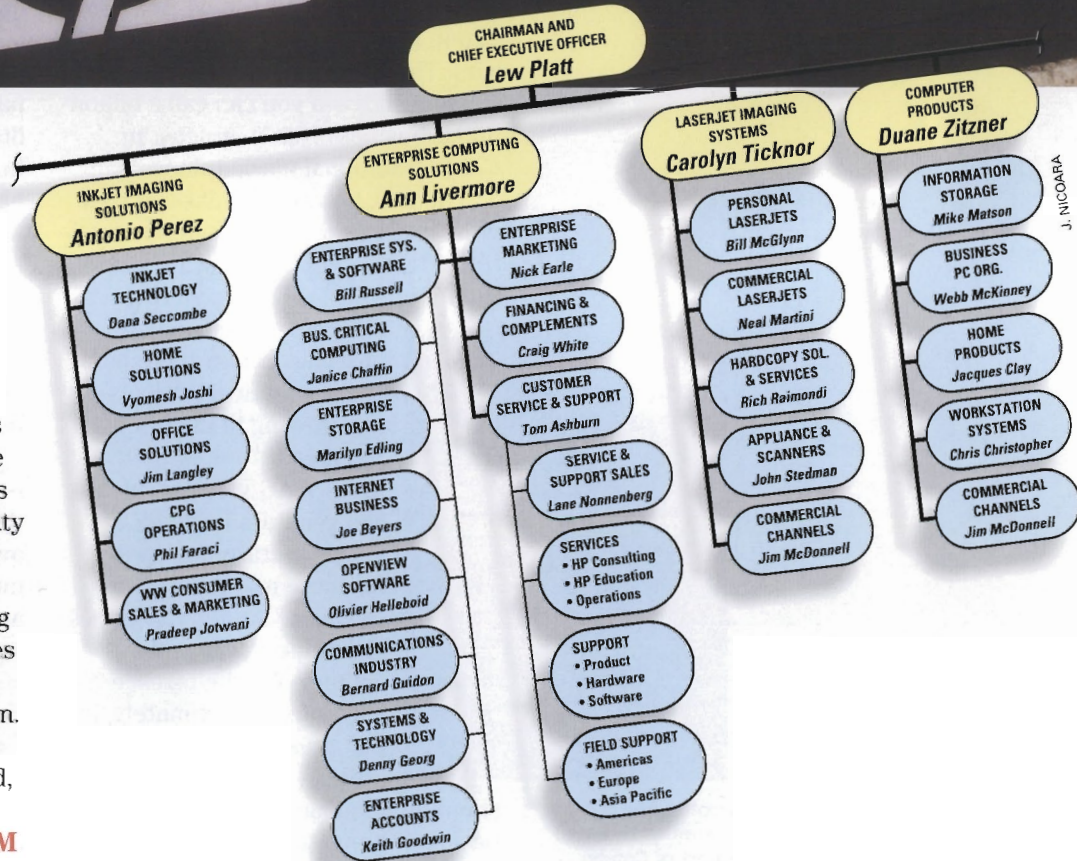
Exciting possibilities in life sciences

Lab-on-a-chip and gene scanning represent two big opportunities for HP's former Measurement Organization.

By Sam Lightman

CALIPER TECHNOLOGIES PHOTO

One area of focus in "NewCo," the new company to be formed from HP's Measurement Organization, is **microfluidics**. HP equipment will measure samples as small as a billionth of a liter as part of Caliper Technologies' lab-on-a-chip technology.

HP's Measurement Organization is on the path to becoming a separate company. So how do you identify new opportunities for your business?

"Basically, it's easy," says Ned Barnholt, HP executive vice president and CEO of "NewCo," the temporary name for HP's former measurement-and-components business. "You pick markets that are big, growing fast and undergoing a lot of change. That's generally where you find your big opportunities."

Well, sure. Nothing to it.

Two of the big opportunities, Ned says, are communications and all the good work the Measurement Organization is doing there, and the whole area of life sciences.

If you're in the Chemical Analysis Group (CAG), that's music to your ears. Things have been a little flat in CAG recently—if you can call a billion-dollar business "flat"—at least in CAG's traditional marketplaces.

There is, however, a massive rosy glow on the horizon. "While our traditional businesses are growing at a rate of maybe 5 to 7 percent, the businesses focusing on pharmaceutical and bio-pharmaceutical markets are growing in excess of 20 percent," notes Rick Kniss, CAG vice president and general manager.

The overarching term for these markets is "life sciences." And life sciences is definitely where the action is for the foreseeable future. Fortunately, in that area—as in so many others—CAG has a long-standing dominance as a vendor of basic instrumentation.

"Gas and liquid chromatographs connected to mass spectrometers are

like the hammers and chisels—the basic research tools—for this whole life-sciences area," says Vince Dauciunas, CAG business-development manager. "Since we have always had a strong position there, we are poised to continue our growth by providing these instruments to the expanding biopharmaceutical industry."

But beyond the basics, CAG has a handle on some new technologies that could launch HP's new measurement company like a rocket to the next millennium. On the front end, there's microfluidics. At the output, there's gene-array technology. In the middle, figuratively and literally, there's CAG.

The trouble with these new technologies is that they're so hard to visualize. Consider microfluidics. Here's a technology that takes a nanoliter of sample—a billionth of a liter—and applies it to an instrument housing a glass or quartz chip with pathways measured in microns ($1/1000$ of a millimeter or .00000039 inches) etched into it. The instrument performs complex sample preparation, separation, detection and analysis tasks at unheard of speeds while the analyst sits there waiting a few milliseconds for the result.

There's more. When the instrument is finished performing the separation, the analyst simply throws the chip away, inserts a new chip that automatically reconfigures the instrument and begins a completely different analysis.
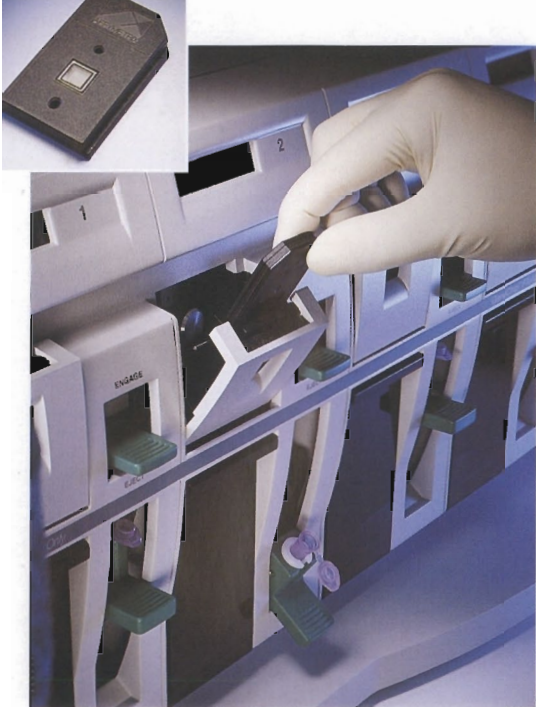
The company pioneering this technology is called Caliper Technologies Corporation, based in Mountain View, California. In May 1998, HP and Caliper signed a deal to develop the first generation of analytical instru-
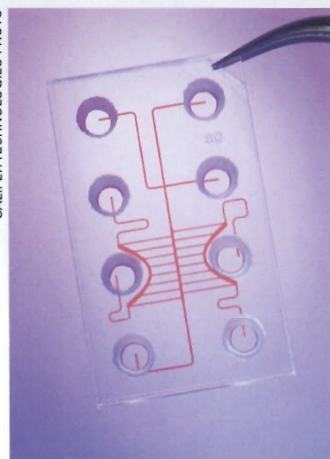
Affymetrix uses HP technology to identify unknown DNA sequences. A researcher inserts a GeneChip probe array—a glass chip, mounted in a cartridge (left inset)— into a Fluidics 400 station (left) for analysis. The whole GeneArray system includes an HP G2500A GeneArray scanner (below), a PC with GeneChip software and the Fluidics 400 station.

mentation and information systems based on Caliper's lab-on-a-chip technology.

"About two years ago, we developed a plan to focus on markets in the pharmaceutical and biopharmaceutical industries," recalls Bill Buffington, R&D manager for CAG and general manager for the bioscience program. "We identified some of the elements we would need to move CAG into that direction. We saw microfluidics as a technology that would enable massive parallelism and increase the rate of new discoveries and development."

"We think a combination of microfluidics technology and microelectromechanical sensor technology will eventually enable the individual researcher to have an entire synthesis-analysis-screening facility on the desktop," Vince adds. "We think that has the power to speed things up exponentially."

What does this all mean? "Caliper has the potential of revolutionizing the fundamental chemical and biochemical processes of research, discovery and diagnosis," marketing guru Regis McKenna wrote last year.

One of the applications of this new instrument probably will be in DNA

sizing experiments. What does an analyst do with a segment once it has been separated from the DNA?

Enter Affymetrix, CAG's other booster rocket into the brave new world of the biopharmaceutical future. Affymetrix has a business arrangement with CAG similar to Caliper's.

Affymetrix uses GeneChip® probe arrays that enable researchers to identify unknown DNA sequences. They apply a known DNA sequence —that is, a gene—to a substrate and run a sample mixture of unknown genes past it. If an unknown sequence mates or docks with the known sequence, voilà, there's identification.

But Affymetrix doesn't do this for one gene at a time. Rather, it creates a chip on which the company applies perhaps 100,000 different sequences. "The result is a massively parallel detection device for genes," Bill Buffington says. "Comparing this to conventional gene-sequencing devices is like comparing an abacus to a supercomputer."

HP's contribution to the relationship with Affymetrix involves the technology in the award-winning gene-array scanner, which can read chips with as many as 400,000 features. The scanner won the Editors' Silver Award for best new product at the 1997 Pittcon conference.

The main idea is to improve the drug-discovery cycle by reducing it from about 10 years to five years, Rick Kniss says. "By understanding the genetic cause of disease, we can treat it earlier in a person's life and treat it with a lower-cost solution, rather than waiting for some traumatic event like a heart attack to happen," he adds.

"I am absolutely convinced," Bill says, "that life sciences in a broad sense is going to drive the fabric of life for the next 20 years or more." **M**

(Sam Lightman is a free-lance writer based on Salt Spring Island, British Columbia, Canada.—Editor)

The CEO of "NewCo," the new company to be formed from HP's Measurement Organization, discusses the exciting opportunities ahead.

In the weeks since the March 2 announcement on the realignment of HP into two separate companies, change has been a constant for all of us involved with the transition. Starting up a new company is a bit of a roller coaster ride. It's exciting, it's thrilling, and it leaves us wondering when we'll be able to pause, take a look around and reflect on where we are.

As you know, we have many teams in place that are sorting through all the complex issues this transition entails. There is a lot to be looked into, and I know it takes longer than everyone would like to get final answers. My thanks to all of you for your continued patience as we work through the difficult questions.

I want to take a minute for us to catch our breath and let you know what the view looks like from my perspective. Of all the activities that have kept my staff and me so busy over the last few weeks, one priority, of course, has been the search for a new name. That's been a roller coaster ride in itself. Like many of you, I felt some initial sadness that we would not have the HP name going forward. But I know it was the right business decision, and the firm we are working with has been doing a super job. They have

interviewed managers, talked to employees, gotten the opinions of our customers and reviewed lots of our sales and advertising materials. I am confident my managers and I will have some great suggestions from which to choose.

When I think of all the work being done and the excitement and dedication of all of you, I can clearly see our new company taking shape, and I want to share that perspective with you.

My goal for us is to create a growth company. We are the leading supplier of test equipment for the telecommunications and the wireless world. We have new initiatives underway in the Internet world, testing critical infrastructure and measuring the quality of Internet services. We expect and are finding huge growth as the leading supplier of optical components and optical measure-

ment. Fiber optics, host bus adapters and lightwave instruments all have excellent growth.

In life sciences—and I include our medical products in this—our liquid chromatographs sell into the pharmaceutical market for drug discovery and development. And increasingly, opportunities in this field come from outside the hospital—in-home as well as outpatient care. Our Heartstream portable defibrillator is doing very well.

As you can tell from the list above, we are and will continue to be a diversified technology company, by no means restricted to measurement only. With our vision of creating innovations that change the world, we will grow in a number of directions. Walter Hewlett, Bill's son and an HP board member, points out that Bill and Dave never thought of HP as an instrument company. They believed in finding opportunities where the company could make a contribution that matched our capabilities. Then they pursued those opportunities regardless of where they led. That's why we got into the computer business and why we got into printers. Over time, our new company will want to grow in areas outside our current markets, areas where we can make technology-based contributions.

The idea of making a contribution —central to the values of HP—is one that we will take with us to form the foundation of our new company. But it's not the only one. I know as employees, you have been wondering just what kind of company this is

going to be. I want to assure you that our goal is to carry forward the best traditions of HP.

I have worked for Hewlett-Packard for more than 30 years. I want our new company to be a place like HP, one that people are proud of, a place where we can all contribute, grow and have a successful career. We want it to be a place where we enjoy the people we work with and the environment in which we work. We want to continue much of the informality of HP. We want to keep the tradition of how we treat people, how we manage and how we make others feel included.

Clearly, we want to attract and retain the best—to continue to employ the excellent people we have today. A part of being a top place to work includes a competitive, attractive compensation and benefits program. We don't have all the specifics yet, and we know that's of concern to many of you. It's a very complex task to work through all the different programs in all the countries of the world where we are located. Each country has its own set of laws that must be complied with. But any changes we make will be done within the context of our desire to attract and keep the best. We don't intend to take away your length of service or your retirement benefits. We will honor these things according to the laws of each country.

So you can count on continuity in our new company. You can count on it being the same great place to work that HP has always been.

But there are some things that we do want to change. The company I see taking shape will emphasize increased focus, speed and accountability. We must focus on our customers and on the right business

opportunities. We need to pick a few things and do them well. Increased speed implies a sense of urgency to meet customer requirements. Technology moves fast. We need to stay ahead of the pace in order to serve our customers as their technology evolves. And we need increased accountability. That means that we meet our commitments, whether to our customers or to each other, and execute well.

So from where I sit, it looks like the changes will continue. But so will the traditions we all value. And with these key elements wrapped in an environment of growth and excitement for our businesses, I think we can have a dynamite organization. The ride is just beginning. I know we have more thrills in store. But from here, the view looks great. Let's enjoy it together.

HP's chairman and CEO emphasizes the need to "keep the plane flying" during the organization's transition to two companies.

It's been more than two months since the biggest announcement in HP's 60-year history—the decision to split the company—and I think it's a good time to reflect briefly on recent events while focusing on the critical tasks facing us in the next 12 to 18 months.

I'll talk about why it's absolutely essential that we "keep the plane flying" during this transition period later in this letter. First, I want to address two questions that I've heard frequently during the past two months:

1. Why did HP decide on this split—separating "NewCo" (the new measurement-and-components company) and computing-and-imaging companies?

HP's board of directors and Executive Committee seriously have been studying the best course of action for HP for more than nine months. In that time, we've looked at dozens of company models, including the GE model, where businesses are very independent and GE essentially is a holding company that links the businesses. In the end, we overwhelmingly decided that it made the most sense to establish two independent companies: one for "NewCo" and the other for computing and imaging.

You could spend years debating if HP's realignment could be accomplished in a better way. Our company leadership certainly debated the choices for a long time. We feel confident that we made the right decision, and that time—and business results—will prove us correct. (See comments from HP Directors Susan Packard Orr, Walter Hewlett and Dick Hackborn on pages 26 to 29.)

2. What was the urgency for making the announcement when we did?

A better question might be "Why didn't we do this six months or a year ago?" The fact is, dividing HP is an enormously complex job. It's a conclusion you don't reach without a great deal of analysis and discussion.

Once we made the decision, we were required by U.S. law to disclose the news publicly.

We were set to make the announcement at 1 p.m. on March 2. When the story appeared in *The Wall Street Journal* that morning, we had to move up the press release by four hours. That ruined our plan to inform employees simultaneously with the outside world.

We had more than 100 people inside and outside HP working on the communications plan from January until March 2, so it's pretty incredible that word didn't leak sooner.

Once the news broke, there was considerable attention in the media, as well as some predictably lively discussion within HP. The media largely characterized the announcement correctly: Dividing HP will give both companies greater speed, focus and ownership for their respective direction and success.

It isn't the split itself that's important, but what comes after the split. Let me explain.

"NewCo" will be the largest of its kind in the world, and it will be recognized as such. That never would happen under our old structure
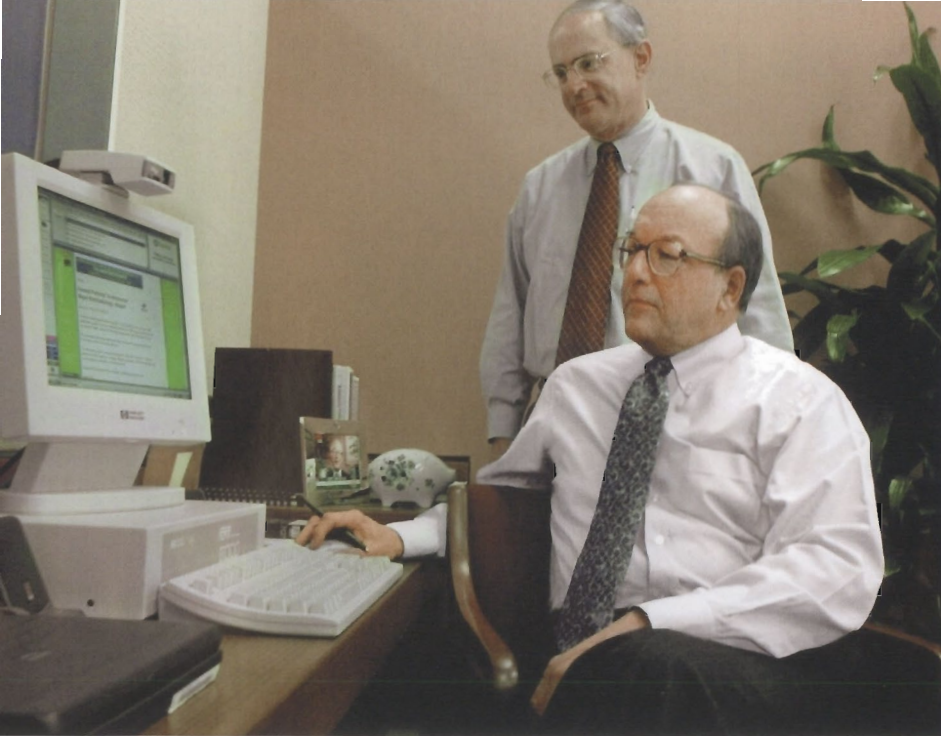
because most people who follow HP were far more interested in the computing-and-imaging side of the company.

Now, under CEO Ned Barnholt, the new company can focus on two fundamentally high-growth areas—communications and life sciences—and get the respect it deserves from investors and analysts.

I've known Ned for more than 25 years and I know he'll be a great CEO. He's smart, has good strategic and operational judgment, and he's building a very solid management team. Ned is committed to retaining the core values of HP, just as we are in the computing-and-imaging company. Ever since March 2, I've seen a tremendous excitement about the prospects of his new business. Ned's company has an extremely bright future.

I've also seen a sharper focus in the past two months by employees in HP's computing-and-imaging company. On April 6 we elevated the heads of the four businesses while giving each more autonomy and accountability. This means that each business can have a crisp, customized mission that concentrates on its market, but still be part of a unified strategy. For example, we can have one coordinated HP message, such

as our current e-services strategy (see page 8). We also can meet our customers' needs for broad solutions, using the capabilities of the four businesses.

Of course, we still have a huge amount of work to do, including determining what's the best formula for infrastructure employees—those in Corporate IT, Legal, Human Resources, Finance, HP Labs and the Geographic Operations—in the new two-company alignment. There are still hundreds of questions to be answered, and I urge you to consult the HP.Now internal Web site (http://hpnow.hp.com/) and your management for the answers during the transition phase.

There's a natural tendency to get caught up in the excitement—or overwhelmed by the details—during the transition period. However, we can't let that happen. We have an obligation to our customers, our shareholders and ourselves to keep the company strong. The objective is to take one healthy company and create two healthy companies. That means not waiting until all the details are known or until a new CEO is named to move ahead aggressively with innovative products, programs,

services and support that satisfy our customers' needs and bring rewards to our shareholders.

You may remember that there was a rash of commercial airplane crashes in the United States in the late 1970s and early 1980s. After extensive investigations, the Civil Aeronautics Board was shocked to learn the reason for the crashes: The three-person cockpit crews had not really been trained to operate as teams.

Something went wrong in each of the crashes. One plane couldn't get its landing gear down. Another plane's flaps hadn't deployed as they were supposed to. In each of the cases, the cockpit crew began working on the problem and no one remembered to fly the airplane.

So as we continue our journey through the most exciting and demanding times in our history, remember the fundamental reason HP has been great for 60 years: We've always expected the best from our company and ourselves. Let's keep that in mind as we complete the transition.

Lew

ASK Dr. Cyberspace

Doctors don't just write prescriptions. The cure for your Y2K ailments simply could require a change in diet and a little exercise.

KATHLEEN MITCHELL

I know, I know: Life is crazy enough. You don't have the time for anything, much less making sure your system is Y2K compliant. Besides, the year 2000 is months from now, right? Well, my friends, you might not feel the pressure now, but if 2000 comes as fast as changes around here have been coming, now's the time to stop procrastinating and take matters into your own hands. After all, 2000 will be here before the realignment of HP into two companies.

And speaking of the realignment, more than a handful of people have asked how the current companywide Y2K effort will be affected. Being a good sport, I thought I'd look into the issue.

According to Bernard de Valence, HP's Y2K general manager, the split

won't radically change the company-wide preparation for Y2K. He's quick to remind us that Y2K still applies to both the computing-and-imaging company and "NewCo" (the new measurement-and-components company), and that there's still work to be done.

"I'm pleased with the progress we've been making on two key fronts: with our own internal readiness and with our products' and customers' readiness," said Bernard. "We're also hearing from consultants and journalists that our Y2K efforts are far ahead of those of most of our competitors.

"But we can't afford to foul this one up," he said. "We have so many customers who are counting on us and so many people who will be judging our Y2K performance. We've made progress, but we still have lots of work in the months ahead to test our readiness."

Bernard also pointed out that employees should be concerned about whipping their home and work systems into shape, which brings me to this issue's topic—are you Y2K fit?

For your system at work, you're probably in good shape—if you've got a 486 or newer PC and if you're running standard PC-COE software. But follow the steps below and make sure you don't have some special application that might not be Y2K ready.

And since so many of you have home offices with a home-loan machine or HP computing gear you've purchased, you'll want to make sure you're OK there, too.

I hate to tell ya, but there's no such thing as a magic pill that'll transform your box into a lean, mean, processing machine. So let the good doctor be your personal trainer and try my three-step workout today.

1. Warm up

Take inventory of your hardware, operating system, software and applications. List the vendor name, product name, product number, date purchased and support status of your products.

Helpful hints: Don't know the version of your software? You can usually find it under "Help" and then select the "About" option. Not sure what programs are even on your system? If you're a Windows user, you can click on the "Start" button, go to "Find" and choose "Files or Folders" then search in your C drive for "*.exe" files (.exe is shorthand for an executable or runnable program or software application).

2. Get pumpin'

Contact the vendors. The fastest way to do this is to check out the vendor's Web site to check on the compliance status for each product. Keep track of the compliance information on your inventory list.

3. Come on, you can do it!

Take action now! If all your products are compliant, you're well on your way to being Y2K fit. If not, you have to reset, update, upgrade or replace your products.

All righty, looks like you're on your way to total Y2K fitness.

Do you have any tips on how to give Y2K a power-packed punch? Know of any great online resources? Drop me a line at **doctorc@corp. hp.com**. I'll share your tips on HP.Now. **M**

Analyzing the split

In recent years, I've learned to expect the unexpected from our CEO and his V.P. team, but I have to admit that this split-up was a real shocker.

I wish those of us in the measurement business could have kept the HP name—where it originated—but I do understand the reasoning for the name staying with the consumer-products side.

After our management team here fielded some initial concerns in Sonoma County, I found myself somewhat excited by the challenges that face us in the next couple of years. I work with some of the brightest folks in the business. We will make this new company a successful venture; the alternative is neither palatable nor acceptable.

DAVID SNOW
Rohnert Park, California

A Princely idea

Regarding HP splitting in two, I suggest that we name the portion not known as Hewlett-Packard with a symbol so it can be referred to as "the company formerly known as Hewlett-Packard."

AL REUTER
Spokane, Washington

MEASURE

Banking on the future of the formerly poor
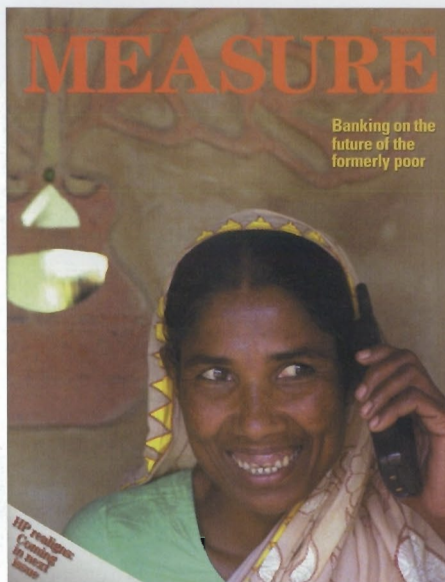
KEN KOBRE

Tales from the coach section

It is without doubt that Singapore Airlines is the best (March–April 1999). But what are you trying to do? Torture me further? I am 188 centimeters (6 feet 2 inches) tall, wide at the shoulders, long in the legs.

I am only allowed coach fare. In coach, my knees hit the seat in front of me and my shoulders touch my fellow sufferers. I travel to Singapore about four times a year. From the time I leave my house to the time I get to my hotel room it is 22 hours. It is not a pleasurable experience.

Then you taunt me with how nice it is to fly first class. Who at HP flys first class? Sorry, but this article hit my funny bone.

GREGG FERRY
Santa Clara, California

How about some reality?

Thank you for the amusing fantasy article about Singapore Airlines.

Perhaps you could reprint the article and show what it's like to fly in "cattle" (economy) class. You could show a gentleman sitting with his knees around his neck and a seatback in his face. Be sure to get a shot of the holidaymakers next to him with their kids jumping over the seats and a baby crying in the background. You could show the cabin crew serving inedible food on plastic plates with plastic knives and forks. To finish, you could show the same gentleman after 10 hours of sitting cramped with no sleep, hobbling off the plane, looking absolutely whacked.

I have flown coach class with Singapore Airlines and I can tell you from experience that it's just as bad as any other airline. Let's have some reality.

EMMET HAYES
Bracknell, United Kingdom
Traveling 10 hours in coach class on any airline is no picnic. Still, of all the airlines serving Asia Pacific, Singapore Airlines consistently has been voted the best by most major travel magazines.—Editor

Distribution this

I read the article "Meeting the Triple 5 challenge" in the March–April *MEASURE* with much interest. One thing that struck me quite readily in how to meet this challenge is the use of Public Distribution Lists (PDLs) for e-mail services.

I work for the "NewCo" PCA organization that builds printed-circuit boards at the Spokane Division. I'd say that fully 25 percent or more of the e-mail I receive is junk mail. I am on one or more sitewide distribution lists and the target audience is usually only one of the two entities located at our site. E-mail costs money to send. I believe that if people would take a little time to compile a private mailing list, or obtain a more message-specific list money would be saved and mail would go only to the target audience instead of randomly going sitewide.

ANDREW BRUSTKERN
Liberty Lake, Washington

Extra MEASURE

News from around the HP world

By Muoi Tran

Shooting for a goal

HP shoots—and scores—as an official sponsor of the 1999 Women's World Cup (WWC).

From June 19 to July 10, 16 soccer teams from around the world will play in eight venues across the United States, where HP hopes to get world-class recognition and reach new consumer markets.

HP PCs, servers, notebook computers, and inkjet and laser printers will support the 32-game tournament. "Hewlett-Packard brings tremendous experience to the Women's World Cup after their work with the 1998 men's World Cup in France," says Marla Messing, WWC president.

For the latest stats on teams, schedules and results, bounce to the Woman's World Cup Web site at http://wwc99.fifa.com/.

In the News

People

The executive staff of "NewCo" (the new measurement-and-components company) will include **Bob Walker**, V.P. and CFO; **Jean Halloran,** V.P. Human Resources; **Bill Hahn**, V.P. Strategic Planning; **Craig Nordlund**, V.P., general counsel and secretary; and **Tom Saponas**, chief technology officer. Each will report to **Ned Barnholt**, CEO of the new company.

Dotty Hayes has been named overall transition manager for the realignment of HP into two companies. **Shiela Robertson** is serving as the transition manager for "NewCo."

Ed Karrer, HP Labs co-director, will lead the new company's central research lab. **Dick Lampman**, HPL's other co-director, has been named HPL director for the computing-and-imaging company.

Lee Ting has been named chairman of HP Canada's board of directors.

Within Enterprise Computing Solutions, **Maureen Conway** will become chief information officer, reporting to **Ann Livermore**, ECS president and CEO. **Howard Bain** will succeed Conway as E:BIS manager.

The new G.M. of HP South Africa is **Franz Lorber**. Lorber has been G.M. of both HP Czech Republic and HP Hungary.

Istvan Pesti, CCO manager in Hungary, has taken on additional responsibility as HP Hungary G.M.

Sherry Hirsch is the new G.M. of the North American Financial Services Business Unit.

Publications

HP remained in 14th place overall in *Fortune* magazine's 1998 ranking of the 500 largest companies in the United States.

For more information, search for key words in Newsgrams— on HP.Now at http://hpnow.hp.com/news/newshome.htm.

URLs inside HP

This issue's related Web addresses:

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Apparently So columns on Y2K

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Lucent Technologies Web site

http://linux.agsm.ucla.edu/ipo/ipopage.html#9
IPO Resource Page

http://www.ipo-fund.com/glossary.htm
Glossary of IPO terms

http://www.hp.com/year2000
HP Y2K Web site

http://www.redcross.org/disaster/safety/y2k.html/
American Red Cross Y2K site

http://wwc99.fifa.com/
Women's World Cup Web site

RHONDA KIRK

A special feeling

While most of this edition of *MEASURE* focuses on looking forward, it only seems appropriate that the last view should go to the men who started it all—Bill Hewlett and Dave Packard.

This photo was taken by former HP Labs employee Rhonda Kirk during Labs' October 26, 1995, Celebration of Creativity Day. It was the last time the co-founders visited Labs together. Dave died five months later—on March 26, 1996.
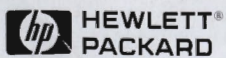
"I was using a long lens— probably a 135 millimeter —so I wouldn't be intrusive," Rhonda remembers. "Bill and Dave were getting on in years and I didn't know how often employees would be able to see them again, so I took as many photos of the two of them together as possible.

"As I was shooting, a momentary feeling came over me about what it must have been like to work for Bill and Dave in the early years. It was a special feeling and kind of sad at the same time." **M**
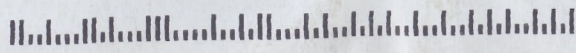
For U.S. address changes, use Change of Address form in Personnel on the Web at http://persweb.corp.hp.com.