



CRUNCH TIME

THE \$20 MILLION ad campaign starts today. The Web site will be swamped. So IT staffers at online gift merchant Send.com have been working 15- and 20-hour days — bulletproofing servers, scrambling for bandwidth, polishing the home page. Last week, *Computerworld's* Steve Ulfelder observed Send.com's final, frantic preparations for a very public debut. Page 25

COMPUTERWORLD

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SAP GETS STUCK IN THE SPIN CYCLE

Whirlpool's fast R/3 rollout defied 'red flags'

BY STACY COLLETT

Whirlpool Corp. made a risky and ultimately damaging business decision by going live with its SAP R/3 implementation over the Labor Day weekend knowing that "red flags" had been raised, according to SAP AG officials.

Fixing the problem would have delayed Whirlpool's go-live date by a week, SAP said. But pressure to take advantage of the long holiday weekend — and to get off of its legacy system well before 2000 —

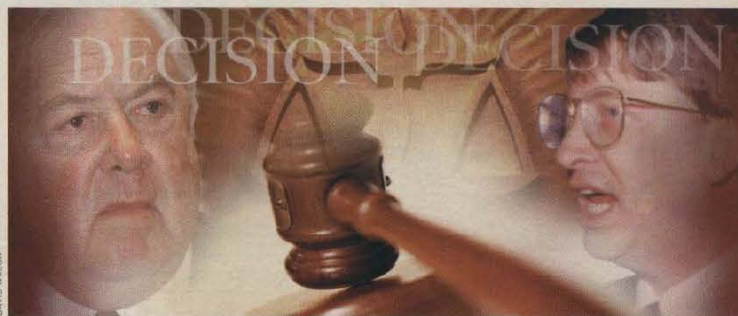
pushed Whirlpool ahead.

The decision resulted in a botched shipping system that, until it was fixed Nov. 1, left appliances sitting in warehouses. Some stores experienced six- to eight-week delays before receiving their orders.

"We suspected there would be problems, but the customer made a decision to go live" despite warning signals, said Jeff Zimmerman, senior vice president of customer support services at SAP.

Officials at Benton Harbor, Mich.-based Whirlpool wouldn't discuss details of the snafu. "We have had some delays," SAP, page 85

ERP STUMBLE



JUDGE SLAMS MICROSOFT

MICROSOFT CORP. IS A MONOPOLY that is free to charge what it wants for its operating systems and isn't threatened by rival platforms, such as Linux, said antitrust trial Judge Thomas Penfield Jackson Friday in hard-hitting and long-awaited findings in a landmark antitrust case.

In a sweeping rebuttal of the company's defense, Jackson said Microsoft, "enjoys so much power in the market for" *Judge Slams Microsoft, page 4*

DOT-COM FILLS ONLINE FINANCING VOID

Network to link lenders, merchants, customers

BY THOMAS HOFFMAN

Although consumers can buy a toy or a book on the Web with a credit card and a click, there hasn't been an easy way for a manufacturing company to get short-term financing to buy \$100,000 worth of supplies online. Even though the business-to-business market is expected to be where the big e-commerce action is — \$1.3 trillion by 2002, according to Forrester Research Inc. — analysts said obtaining financing and credit

online has been an obstacle to its growth.

That's about to change.

Next week, a Westwood, Mass.-based maker of Web-based automated credit software is launching an online network that will link merchants, customers and lenders together under the same hood. The secured Internet system, hosted by eCredit.com Inc., was designed to benefit sellers, buyers and lenders by opening up financing to a bigger pool of corporate customers. The idea is to drive more business-to-business transactions by making it

Dot-com Finance, page 85

RACE HEATS UP FOR E-SUPPLY CHAINS

Ford, GM tout dueling automated purchasing

BY CRAIG STEDMAN

Ford Motor Co. and General Motors Corp. ratcheted up their contest for the auto industry's e-commerce pole position last week, announcing plans to set up rival online marketplaces aimed at automating purchasing activities in their supply chains.

The importance of the e-commerce race for the two automakers was illustrated by GM's decision to rush out its

announcement just hours after Ford went public with its initiative. GM officials see their

Driven to the Web

■ Ford, majority owner of its venture with Oracle, will focus initially on signing up its top 100 suppliers. Supply-chain planning software will also be made available on its exchange.

■ GM could take 20% of Commerce One's stock. Its exchange will be linked to others run by Commerce One in different industries and to a companion system GM will use for its purchasing.

plans were sped up by several days in response to Ford's move.

GM also quickly changed the name of its marketplace from GM MarketSite to GM TradeX-change after a survey showed potential users preferred the second choice. "Welcome to the Internet world," a company spokesman said.

The dueling exchanges, which will provide Web-based forums for automotive suppliers to buy and sell parts and materials, are both due to go live by March. Ford is setting up a joint venture with Oracle Corp. to run its marketplace, while GM is teaming up with Commerce One Inc.

E-Supply Chains, page 16

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WAITING IT OUT

Forget the New Year's Eve party! Many Y2K professionals want to be at the office at midnight to see how their efforts turn out. Page 46



AFTER THE WALL

Ten years after the collapse of the Berlin Wall, IT in Central Europe is catching up to the ways of the West. Page 42

COMPUTERWORLD THIS WEEK

NOVEMBER 8, 1999

NEWS

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- 6 MEGAMERGER POSES** huge SAP R/3 integration challenge for Warner-Lambert, American Home Products.
- 8 LEVI BACKS OFF** online clothing sales, citing channel conflict; plans to sell through J. C. Penney and Macy's sites.
- 10 DIGITAL SIGNATURES** approach legal status as Congress tries to add provisions allowing them, while protecting consumers.
- 12 MICROSOFT REVEALS** complex pricing for Win 2000, with price breaks for competitive upgrades. Remains mum on cost of high-end version.
- 14 CAPACITY-ON-DEMAND** plan from Sun and others may let users buy big servers, but pay only for power they use.
- 16 WHITE HOUSE** gears up for Y2K with command center to contain panic.
- OPINION**
- 30 LOGISTICS POSE** the biggest problem for e-commerce, not technology, John Gantz warns.
- 32 WEB BUSINESSES RISK** federal ire and regulation if they don't act on privacy, other issues, Bill Laberis charges.

MORE

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BUSINESS

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- 38 BOEING REPLACES** clipboards with Palm IIIx handhelds to improve quality of military planes.
- 38 TESTS FAIL** to find ERP weaknesses if they're too cursory or if they check only a few modules.
- 40 DOT-COMS TURN** to Internet maintenance companies that can actively monitor e-commerce sites to make sure they stay fast and available.
- OPINION**
- 41 IT MANAGERS** lack communication skills in some organizations even though their job is to align IT with the business, gripes Peter G. W. Keen.
- 44 JOB-SEEKERS** demand the most ridiculous things. In a hot job market, even individual contributors sometimes ask for perks a top exec might not rate.
- 48 TWENTY COMPANIES** snap up 60% of all H-1B visa professionals; how do you get your share?
- QUICKSTUDY**
- 52 INVENTORY ALLOCATION** saves money, reducing product delays and the need for overstocked product discounts — and IT is a primary factor in how to make it work.
- 54 READ THE FINE PRINT** in licenses, especially if your vendor was recently acquired, cautions Joe Auer, who helped one client dodge a bullet on a faulty Y2K warranty.

TECHNOLOGY

57

- 58 LESS EXPENSIVE**, easier-to-use product data management software is helping more customers link to their business partners.
- 58 TURNING AN INTRANET** into an extranet means beefing up security and prettying up the user interface.
- 61 NETWORK INTEGRITY** and Imation team up to offer real-time backup and storage services over IP connections as low as 56K bit/sec.
- EMERGING COMPANIES**
- 62 START-UP NEXPRISE'S** ipTeam claims to expedite Web-based collaborative engineering and design.
- EXEC TECH**
- 63 WHICH WIRELESS** e-mail device is right for you? We check out new models from Sprint PCS, Palm and Research in Motion.
- QUICKSTUDY**
- 65 HOW SPEECH** recognition works — and why sometimes it doesn't.
- FLASHBACK**
- 68 IN 1993**, personal digital assistants were Pretty Darn Annoying, which is why Apple's Newton crashed and burned in the marketplace.
- 70 TWO TRANSPLANTS** to Atlanta share their experiences scouting out, negotiating and landing jobs in this lucrative IT market. Both say it's the quality of life that got them hooked on Southern charm.

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NOW YOU'RE
TALKING HEART,
LIVER AND LUNG
TRANSPLANT.

CHRIS SELLAND, AN ANALYST AT THE YANKEE GROUP IN BOSTON, ON WHY HERSHEY HIT SNAGS AFTER SQUEEZING A FOUR-YEAR SAP IMPLEMENTATION INTO 30 MONTHS. SEE PAGE 1.

www.computerworld.com

Facebook's Exhibit No. 1015

**DOCKET
ALARM**

Find authenticated court documents without watermarks at docketalarm.com.

Three New Wireless E-Mail Devices

BY DAVID STROM

TRAVELING EXECUTIVES looking to cut the cord on their e-mail habit have lots of choices these days. I looked at three of the latest wireless e-mail devices — the Palm VII, the Touchpoint phone with a built-in Web browser from Sprint PCS and an updated two-way pager from Research in Motion Ltd. All three do more than wireless e-mail, of course: You can jot down notes, keep track of your schedule and, in the case of Touchpoint, make cellular phone calls.

Although each unit has its frustrations and problems, all are improvements over the trio of devices I reviewed Feb. 15.

I've used one form or another of wireless e-mail for more than eight years and suggest that you consider the following:

- Can you get e-mail on these devices with the same corporate e-mail account that you use on your desktop? Most devices require some effort and some combination of software and services to do this.

- How much

skill is required to type a typical reply message? None of the devices is as handy as a full-size keyboard. You should try one out before buying to make sure you're comfortable with its controls and key layouts.

- Do these devices work indoors and in out-of-the-way places? All three I tested work best outdoors and in major metropolitan areas. The farther inside buildings and away from the city you take them, the worse the radio reception gets. This is just physics.

Is the price reasonable and predictable? All the devices come with an array of monthly service plans and fees. Make sure you understand the pricing plan you need up front.

In an ideal world, each device would come with everything you need to extract e-mail from your existing corporate account. However, these devices aren't there yet. Each comes with its own e-mail account, separate from your existing corporate e-mail account. If your corporate e-mail system has message-forwarding features, you can turn that on when you leave town and have your mail forwarded to your device.

I took all three devices with me on several business trips and also carried them all over town to determine coverage capabilities and battery life. I also connected them to a Windows NT desktop and tested their synchronization software

and other utilities. Of the three, the Palm offers the most promise: It has the largest and most active developer community and the best software. However, to be a really effective Palm user, you will need to learn its Graffiti scripting language to compose messages. ▶

Strom is a freelance reviewer in Port Washington, N.Y.



Palm VII

Palm Computing Inc., a subsidiary of 3Com Corp.
www.palm.com

Wireless service: BellSouth Wireless Data

Price: \$499, plus various plans (\$10 to \$40 per month, depending on volume) and \$10 activation fee

Keyboard/screen: Touch screen with Graffiti script; 3.5-in. diagonal Palm screen

Batteries: Two AAA batteries last for two or more weeks

Available: In New York since May; nationwide since October

The Palm VII has a variety of ways to read and respond to e-mail. It comes with its own built-in e-mail software, called iMessenger. However, it doesn't have as many features as I'd like, such as filtering, scheduled forwarding and mass message deletes. For example, you have to log in to the Palm.Net Service Web site to delete multiple messages at once. To obtain these features and to read

your existing e-mail account, you will need to make use of either Visto Corp., Yahoo Mail or MonkeyMail services. Another choice is to use ThinAirApps.com's ThinAirMail client software, a free product that is my favorite of the current alternatives available for wireless e-mail.

No matter which service or software you use, you have to use Graffiti to compose messages. It will take a while to learn this language, but it's easier than typing responses on the Touchpoint phone's keypad.

Blackberry Interactive Pager

Research in Motion Ltd.
www.blackberry.net

Wireless service: BellSouth Wireless Data (850 model uses Ardis)

Price: \$399, plus \$40 per month for unlimited usage

Keyboard/screen: Full QWERTY keyboard but very small keys; screen has up to eight-line display

Battery: One AA lasts up to three days

Available: Now

The Blackberry has the best keyboard of the three, with a full typewriter layout of keys, albeit only 3 in. wide. Given its size, I could type fairly easily and compose longer messages than on the other devices. It comes with relatively weak desktop synchronization software, because you can't synchronize your e-mails yet between the device and your desktop. It also has the most confusing set of models. There's one that works only with Microsoft Exchange servers, another that works with Internet e-mail and a third that runs over American Mobile's Ardis wireless networks. This



latter model has a \$60-per-month usage plan and works with e-mail accounts through American Mobile's eLink Agent.

GoAmerica Communications Corp. (www.goamerica.net) offers e-mail access for varying fees and will sell you a reduced-price Blackberry as well.

Touchpoint Phone With Wireless Web

Sprint PCS (manufactured by Denso Corp.)
www.sprintpcs.com

Wireless service: Sprint PCS with service from Phone.com Inc.

Price: Various pricing plans for both voice and data start at \$10 per month, plus price of phone

Keyboard/screen: Seven lines, with 12-button phone keys with Tegic script

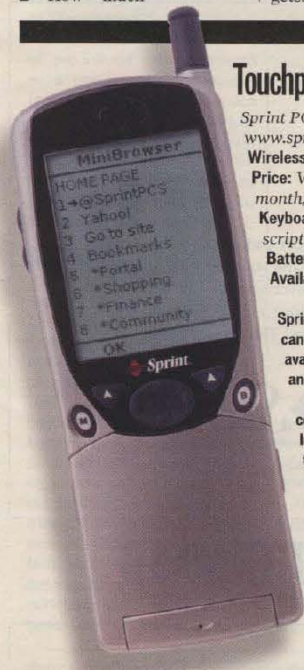
Batteries: Rechargeable; lasts up to two days

Available: Now

Sprint PCS has introduced its Wireless Web service, through which you can browse some Web sites using your cellular phone. Several phones are available for this service, including ones from Motorola Inc., Nokia Corp. and Qualcomm Inc.

I tested a phone from Denso called Touchpoint. Any of these phones come ready to read e-mail: You can set up a free account with Yahoo Inc. and have it collect your corporate e-mail. And if you don't need to reply to your messages, you can forward or copy mail to Sprint's short messaging feature (every Sprint phone is equipped to receive e-mail at phonenumber@messaging.sprintpcs.com). I wanted to use the phone to read my mail at Infinite Technologies Inc.'s Mail-AndNews.com site, but Infinite is still working out the bugs with Sprint.

Built in to the phone is software from Tegic Communications Inc. called T9. Because you have only 12 buttons to key in any text, Tegic has developed a way to predict what you're going to type and to facilitate the process. Although it's no substitute for a QWERTY keyboard, it does a credible job.



most active developer community and the best software. However, to be a really effective Palm user, you will need to learn its Graffiti scripting language to compose messages. ▀

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