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*GPS Special Report:*

# New Apps for GPS in Phones: Benefit or Big Brother?

Enterprises nationwide are turning to novel uses for mobile phones equipped with GPS technology. And if your enterprise has road warriors, chances are you can make use of it, too.

DoodyCalls is using a tracking application to head off customer complaints. Pacer International is streamlining dispatching using GPS. Team Excel Service Management compares location and time data to ensure jobs are completed on schedule.

The latest host of GPS offerings available from Sprint Nextel is beginning to prove the value of the two providers' 2005 merger. The move to add GPS applications from Sprint was a natural one for Thompson Grading, CFO Shanna Fields reports, because the company already was hooked on Nextel's push-to-talk phones.

But protect your enterprise from privacy complaints by using the information only for business purposes, inform employees how it will be used and create a way to restrict the collection of information while employees are in "sensitive areas," warns attorney Marc Lindsey with Washington, D.C.-based law firm Levine, Blaszak, Block & Boothby.

## How to Put GPS to Work for Your Enterprise

Jacob D'Aniello, a former telecom consultant, credits a GPS (global positioning system) application for saving his business as much as $20,000 in each of the two years since his pet waste removal franchise DoodyCalls began employing the technology. He says the savings come from automated timesheets and not giving away free service or replacing employees, the typical responses when customers say, "Your pet waste technician never showed."

The application empowers the Maryland, Massachusetts, Oregon, Virginia and Washington, D.C., offices of DoodyCalls to track whereabouts and plot future destinations for their 10 combined pet waste technicians as they journey from backyard to backyard,

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This extensive report on GPS, which includes a list of 13 GPS product options offered by three carriers [see pages 7&8], first appeared in the May 15, 2006 edition of *The Voice Report*. *The Voice Report* regularly provides extensive research on such timely topics, conversing with telecom managers, network administrators and highly sought after industry experts. For subscription information go to www.thevoicereport.com or call 1-888-275-2264. ☎

### 6 Ways Your Enterprise Can Make Use of GPS

Can't conceive of any practical applications for GPS at your enterprise? Consider this list garnered from vendors promoting GPS as well as telecom managers at enterprises making use of the technology:

✓ **Improve dispatching efficiency.** Drivers can plot their pickups so they don't double back for a second load of items that could have been picked up with the first load.

✓ **Get more accurate mileage reimbursement and timesheets**. Road warriors don't have to calculate mileage, and GPS can eliminate paper timesheets.

✓ **Prevent mishaps**. The "GeoFencing" feature on some Sprint applications sends alerts when employees leave designated boundaries, preventing vehicles and workers from entering hazardous areas.

✓ **Perform safety checks.** If an accident occurs, emergency personnel and employers have an accurate and fast way to locate the employee.

✓ **Employ the "prevention-of-screw-off" application**, so named by wireless technology consultant Michael Finneran. "How much are you paying the guy a month, and he's sleeping out by the river?" he asks.

✓ **Keep better track of damages**. Sprint Nextel spokeswoman Amy Schiska-Lombard reports that a garbage hauling company avoided liability for an alleged car accident by proving via GPS tracking that none of its trucks had been in the area of the accident for weeks surrounding the event. ☎

cleaning up dog waste, D'Aniello says. DoodyCalls, with headquarters in Palmyra, Va., has loaded each of its workers' Nextel i58 or i305 phones with eTrace, a GPS application made by Sprint Nextel partner Gearworks, says D'Aniello, founder and president of the 6-year-old franchise company.

Not only do the DoodyCalls franchisees avoid the typical $400 price tag for portable GPS devices to mount in cars, but they are tracking the people instead of the vehicles. Managers simply call up an Internet page where a map identifies the recent stops, job duration and route of their employees, D'Aniello says. That's an advantage for the franchise, which often sends out part-time employees or employees in personal vehicles.

At least five of the 13 GPS mobile phone applications researched by *Voice Report* come with set-up fees ranging from $10 to $25 per user. Monthly fees range from $10 to $55 per user.

## Pacer Ponders Potential 3,000 Device Implementation

DoodyCalls may be one of the more interesting companies using GPS cell phone applications, but there are larger deployments.

Team Excel Service Management recently rolled out 23 BlackBerry devices and cell phones equipped with CorrigoConnect, says Mike Kirchmann, partner at the Houston-based facilities maintenance company. Mobile devices are given to managers, field supervisors and technicians who use them for verifying that jobs are completed on schedule and compiling timesheets. Kirchmann says the firm expects to become "more efficient and accurate" with the help of the devices.

Pacer International is another company with its eye on GPS-phone applications, reveals Ray Garcia, director of telecommunications for the Concord, Calif.-based transportation company. Because the owner-operators don't always drive the same vehicle, associating a driver with a single phone instead of several possible trucks should streamline the dispatching process, he says. Pacer expects to save on fuel and time by minimizing cross-town trips to pick up supplies.

Pacer is piloting 100 Nextel i730, i731 and i735 devices equipped with a MobileCom GPS application. It's up to the owner-operators to pay extra for the devices to be enabled as mobile phones. If the pilot goes well, it could morph into a 3,000-device implementation in the coming weeks, Garcia says.

Similarly, RotoRooter is on the verge of rolling out 1,800 devices utilizing GPS to track the whereabouts of service technicians, according to Minneapolis, Minn.-based Gearworks.

## Sprint Builds on E911, Takes Lead in Enterprise Apps

You too may be considering enterprise-related GPS applications, motivated by recent promotions by Sprint for its consumer-oriented Family Locator product. But the technology actually has been available for several years.

Thanks to actions by the FCC, nearly every cell phone now has the capability to be used as a GPS tracking device. FCC E911 mandates required carriers, by April 1, 1998, to be able to report a 911 caller's phone number and the location of the antenna that transmitted the call. By Oct. 1, 2001, they were required to report more accurate information, usually to within 125 meters. GPS technology was made available to consumers in May 2000 when President Clinton announced that the U.S. would cease the intentional degradation of GPS signals available to the public.

In most cell phones, the GPS chip serves only required E911 functions. However, Sprint clearly has recognized a greater opportunity and taken the lead among wireless carriers in advancing business applications for the technology, says Andrew Roscoe, a partner with Washington, D.C.-based ForceNine Consulting.

Sprint has launched its own GPS product, known as Precision Locator, and collaborated with nearly 40 GPS software vendor partners to make available multiple offerings that consolidate the functions of a data-only GPS device (such as navigation and location tracking) with voice applications, says Gavin Throckmorton, group

### 4 Tips to Ensure Privacy

Beware of violating an employee's privacy if you plan to employ GPS technology, warns Marc Lindsey, an attorney with Washington, D.C.-based law firm Levine, Blaszak, Block & Boothby. Lindsey, who recently helped a large municipality set GPS-related policies for its taxi cab authority, suggests the following:

- **Identify the legitimate business objectives** the Location-Based Services will serve, such as increasing productivity, promoting security, preventing breaches of company policies, or protecting corporate assets.
- **Clearly articulate these business objectives** – along with an LBS-specific privacy policy – to all employees. Notify employees that their location information will be collected (some states' wage and hour laws require it), and explain how information will be used.
- **Be advised that individuals and groups can raise LBS privacy concerns** to hide their illicit activities; have a plan for addressing this possibility.
- **Ask your service provider the following questions**:

Is there a way to disable the transmission, collection and disclosure of location information when employees travel to "sensitive" locations (*e.g.*, any place when he or she is off the clock may be a sensitive area)?

Can employees selectively designate sensitive areas to create customized privacy policies without defeating the fundamental purpose or adversely affecting the quality of the LBS?

Will employees' position information pertaining to non-sensitive locations be collected and organized in a way that can be used to analytically determine position information associated with trips to sensitive locations? ☎

manager of Sprint's product marketing team. Throckmorton, who boasts that Sprint's GPS products can poinpoint a target to within a few meters in fewer than 10 seconds, says the carrier holds between 30% and 50% of the market share for enterprise GPS mobile phone applications.

Competition is building, however. Cingular Wireless got in the GPS-solutions-for-enterprises game in October 2005 when it made available on HP iPAQ hw6500 phones the GEOTAB field force and fleet management application, NAVTEQ navigation maps software and Microsoft's Pocket Streets. Verizon Wireless joined the fray in January 2006, when it announced its Navigator application, and stepped it up in March 2006, when it unveiled Field Force Manager.

Sprint's myriad offerings work on nearly a dozen devices, while Cingular's few apps are limited to the HP iPAQ hw6500, and Verizon's are restricted to the Motorola V325 and the LG 9800. Verizon spokesman John Johnson hints that more GPS apps are in the works, however. Cingular spokesman John Kampfe says to expect the release of other Cingular GPS devices and applications in 2006. T-Mobile is the only US service provider without GPS functions beyond E911, *Voice Report* found.

And Verizon has an advantage in that its GPS services might be cheaper because they don't require additional data plans. All of Cingular's apps require the purchase of a data plan, as do some of Sprint's systems, according to spokesmen for the companies. Verizon's Navigator uses voice plan minutes while downloading, says spokesman John Johnson, while the cost of Field Force Manager includes the price of a data plan.

## Four Fired for Fibbing; Teamsters Take on Technology

The costs of GPS mobile phone applications might pay for themselves in short order though, as they did for Thompson Grading. After deploying 15 BlackBerry devices on Nextel's network with Comet Tracker installed, Fields reports a savings of $1,500 to $3,000 per month over what the company used to pay in overtime. Comet Tracker is a GPS tool made by Sprint Nextel partner ActSoft.

The CFO also credits productivity boosts from Comet Tracker's ability to determine whether its transponders are standing still or moving at two miles per hour. Employees "are working a lot more now than they were in the past," Fields says. "It's very nice."

The application also proved that four employees of the Dallas, Ga.-based building contractor had fibbed by an average of 10 hours per week on their timesheets, a revelation that led to their termination, Fields says. As for the inevitable claims that Thompson Grading is playing Big Brother,

### A New & Improved GPS

A traditional global positioning system (GPS) can find you if you're equipped with a GPS receiver and within view of at least three satellites. But its abilities are limited when it comes to finding people indoors, and it doesn't work underground, explains wireless technology expert Michael Finneran, president of Woodmere, N.Y.-based consulting firm dBrn Associates.

The more recently developed assisted-GPS (AGPS) technology used in handheld navigation and tracking applications, however, employs as many as four satellites, a processor and a ground-reference base to report your location, and it works even if you are indoors (but again, not underground). All mobile phone applications referenced in *Voice Report* employ AGPS technology. ☎

Fields says "the employees that we met resistance with were the employees we couldn't trust to begin with."

But what's happening at Thompson Grading is why you might have trouble convincing your enterprise's workforce to carry GPS applications on their cell phones, especially your unionized workers. The International Brotherhood of Teamsters, the major union in the trucking and warehousing industries, specifies in its National Master Freight Agreement that computerized tracking devices cannot be used to discipline workers unless an employee violates federal regulations, maliciously damages or unsafely operates equipment.

Teamsters spokesman Galen Munroe says the union anticipates the use of computerized tracking devices to become a bigger issue in future contract negotiations. "We want to make sure this technology is not abused or used to exploit or wrongly discipline our drivers," Munroe says.

## Enterprises Confront Privacy Concerns

Pacer's owner-operators initially were excited about improved dispatching enabled by GPS, Garcia says. But their enthusiasm waned as they considered how the phones can be used. If Pacer decides to roll out all 3,000 devices, they will be used to communicate dispatching instructions to the drivers, but the transportation company will hold off on tracking truckers, he adds. The end users wanted to be notified when they were being tracked, Garcia reports, "and they made it known that they wouldn't like it."

Telecom manager Ken Steinhoff says he met similar resistance when he proposed GPS tracking to enhance the efficiency of photographers at Palm Beach (Fla.) Newspapers when he worked in that department. He describes it as "a hard sell" because the paper's publisher raised privacy concerns. Imagining what it would take to implement GPS, Steinhoff cautions against introducing it without first securing user buy-in.

### 23% of Large Enterprises Already Use GPS

Though they may not be investing in GPS applications specifically for mobile phones, nearly a quarter of all large enterprises already have some experience with GPS technology, reveals a survey by Washington, D.C.-based ForceNine Consulting and Rochester, N.Y.-based Harris Interactive [*VR 11/28/05*]. Of the studied 643 enterprises – all of which brought in at least $1 billion in sales – 23% said they employed GPS, the researchers reported.

Not surprisingly, GPS use was largest in field services within large enterprises. The biggest GPS adopters – and those anticipating the most future deployment – were transportation, telecommunication and utility enterprises.

Forty-one percent of respondents in these industries reported using GPS.

Within the transportation, telecom and utility sector, field services account for 34% of GPS use by respondents, the researchers found. Use by executives ranked second, possibly because executives are testing new gadgets before deploying them to the workforce, speculates Andrew Roscoe, a partner at ForceNine. Sales, security, distribution and warehouse workers account for the third-largest group of users. ☎

"It depends on how employees perceive your company," he says. "If my general impression of my company is that they're out to screw me, I'm going to hate this thing." Even Steinhoff – who describes his handheld GPS device as "neater than all get-out" – admits, "I would be more concerned … about having my cell phone tracking where I am."

Users of cell phones equipped with Sprint's GPS technology have control over their ability to be tracked. Turning on the GPS tracking functionality requires an initial opt-in command by the end user, and alerts also are sent to notify the user when he or she is being tracked. Sprint's Throckmorton says he has yet to hear of privacy concerns by enterprise clients.

"We have not had a privacy issue on the enterprise side," he says. "None that I've heard of. And I've been doing this for years."

Wireless technology expert Michael Finneran, president of Woodmere, N.Y.-based consulting firm dBrn Associates Inc., goes a step further to assert that even if end users do have privacy concerns, GPS is here to stay. "Do they want a paycheck?" he asks. "It's part of the job. If they don't like it, tough." ☎ -- *Jessica Gdowski [jgdowski@thevoicereport.com]*

## 13 Assisted-GPS Enterprise Products Offered by 3 Carriers

| | Features | Set-up Fee | Monthly Fee | Devices |
|---|---|---|---|---|
| **CINGULAR WIRELESS** | | | | |
| **GEOTAB field force and fleet management** | Real-time GPS tracking. Send messages, route using Microsoft MapPoint Web Service, generate activity reports. Application continues to run and records information during regular voice and e-mail use. | Contact vendor | Contact vendor | HP iPAQ hw6500 |
| **HP iPAQ Navigation Maps and Software, powered by NAVTEQ** | Voice-guided navigation to any address nationwide. | Contact vendor | Contact vendor | HP iPAQ hw6500 |
| **Microsoft Pocket Streets** | Zoom in or out of maps, find nearby locations, locate your position on the map. | HP iPAQ hw6500 owners in the US and Canada are eligible to obtain free download | Contact vendor | HP iPAQ hw6500 |

Source: Carrier and software vendor Web sites, press releases and sales agents.

## 13 Assisted-GPS Enterprise Products Offered by 3 Carriers, Continued

| | Features | Set-up Fee | Monthly Fee | Devices |
|---|---|---|---|---|
| **VERIZON WIRELESS** | | | | |
| **VZ Navigator** | Navigation interface on phone, national access. | None | $9.99/mo. per user, plus airtime used during downloads | Motorola V325; LG 9800 aka "The V" |
| **Field Force Manager** | Map jobs and workers' locations in near real-time, schedule and dispatch jobs; receive fleet, job and worker reports. Allows field workers to submit timecards, plus customer and job data. Driving directions. | None | $29.99/mo. per user for unlimited use, advanced unlimited use $49.99/mo per user | Motorola V325 |
| **SPRINT NEXTEL** | | | | |
| **ActSoft Comet Tracker** | Delivers real-time dashboard and mileage information, plus location and direction of user. "GeoFencing" delivers alerts when users travel beyond a defined home area. | $20 per user | $19.95/mo. for CometTracker Lite | Blackberry 7250; Treo 650; PPC 6601; Samsung A900; Sanyo 200, 2300, 4930, 7500, 8300 |
| **Corrigo Connect** | Connects dispatch, field staff and management. Manages asset and equipment histories; covers service delivery process until invoicing; provides industry-specific templates. Reporting capabilities can gauge personnel performance. | None | $14/mo. per user, up to $55/mo for additional features, Blackberry data plan required | Blackberry 7520 |
| **Gearworks eTrace** | Web-based application to track worker locations, automate timesheets, complete transactions and manage communications with dispatched workers. | $25 per user | $19.95/mo. per user for Worksight Lite, $24.95/mo per user for Worksight | Sanyo 200, 2300, 4930, 7500, 8300; Blackberry 7250; Samsung A900, A920 |
| **Handheld Contact for ACT!** | Extends ACT! management automation software so users can access contacts, calendars, tasks, notes and history. Changes made to the database in the office or on the device are synchronized. | None | $19.95/mo. per user, Blackberry data plan required | Blackberry 7520 |

Source: Carrier and software vendor Web sites, press releases and sales agents.

## 13 Assisted-GPS Enterprise Products Offered by 3 Carriers, Continued

| | Features | Set-up Fee | Monthly Fee | Devices |
|---|---|---|---|---|
| **SPRINT NEXTEL** | | | | |
| **Sprint's Precision Locator** | Dispatch and respond to customer service calls. Locate a worker without interrupting his or her mobile device activity. Set schedules and ensure drivers stay on track. Be notified when drivers leave a designated area. | $10 per user | $20/mo. per user | Blackberry 7250; Treo 650; PPC 6601; Samsung A900, A920; Sanyo 200, 2300, 4930, 7500, 8300 |
| **TeleNav** | Provides visual and audio driving directions. | None | $10/mo. per user | LG 535; Sanyo 5600, 7400, 8300, 9000, MM-7500 |
| **TeleNav*tr ack*** | GPS tracking, history, dispatching, management and navigation. Free 24-7 customer support. | $19.99 per user | $19.99/mo. per user for TeleNav Track Lite | Blackberry 7250; Treo 650; PPC 6601; Samsung A900, A920; Sanyo 200, 2300, 4930, 7500, 8300 |
| **Xora Time Track** | Dispatches job, employee and location information, tracks hours, monitors driver speed and stop time, provides driving directions, locate employees, automates landmark-based timesheet reporting, supports barcode scanning, sends alerts when users leave designated areas. | $24.99 per user | $19.99/mo. per user for Time Track API $21.99/mo per user for Time Track Basic (with $10 data plan required or Pay as You Go data), $25.98/mo per user for Time Track Basic + Biz Plus (with $10 data plan required or Pay as You Go data) | Time Track API – Blackberry 7250; Treo 650; PPC 6601; Samsung A900, A920; Sanyo 200, 2300, 4930, 7500, 8300<br><br>Time Track Basic and Basic + Biz Plus – Samsung A900, A920; Sanyo 4930, 7500, 8300 |

Source: Carrier and software vendor Web sites, press releases and sales agents.