Mobile Solutions On-the-Go and Ready for Action

WELCOME TO THE NEW WORLD OF WORK

TOC

Improving productivity of employees who work outside of the four walls of the enterprise is a challenge.
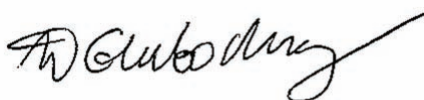
Today, leading companies are using mobile resource solutions that take advantage of real-time data and technician/vehicle location to improve their decision making abilities and gain profitability and efficiency. Wireless technology provides access to critical information in real-time, eliminating friction from the processes, and driving productivity.

In recent years, many of the barriers to adding real-time mobility to field business processes have been removed. Cost-effective, easy-to-implement solutions are now available with off-the-shelf software, dramatically improved networks and a broad selection of business devices — for every worker and every type of work.

AT&T has assembled an unprecedented set of assets and resources to make the promise of real-time a reality. Our goals are to deliver tangible, measurable business value from mobilizing field service business processes, and to make every implementation a success with comprehensive support at every step of the way.

By partnering with industry leaders, your organization can reap the benefits of mobility today, as many successful companies across industries have done. Wireless is an effective tool for business process improvement — and in field service, a way to create sustainable competitive advantage.

This report provides a practical overview of the power and potential of enterprise-class mobile resource management solutions. In it, you'll find real-world examples from enterprise end users as well as the latest news on technology trends and features. We trust that these will serve as a launching pad for ideas and best practices that you can put into use at your organization today and in the future to achieve your own success story.

Igor Glubochansky
Director, Industry Solutions
Mobility Product Management
AT&T Business Solutions

at&t
Your world. Delivered.

UNLOCKING THE POWER OF MOBILE RESOURCE MANAGEMENT

LOCATION-BASED SERVICES ARE KEY FOR ENABLING TODAY'S MOBILE WORKFORCE.

Mobile Resource Management (MRM) technology has evolved from a limited set of proprietary tools that only large organizations with extensive IT support could afford, to a repeatable and scalable set of application solutions. Providers such as AT&T can deliver these solutions end-to-end, from concept to deployment, in collaboration with leading applications providers, including TeleNav, Xora, Webtech Wireless, Trimble Navigation Limited or Antenna Software.

Location-based services are key for enabling today's mobile workforce. These provide functions such as simple time-stamping, which allows users to track when products are delivered, or allows management to document when a worker arrived at or left a job site. Field organizations can drive additional value and extend deployments to provide enhanced dispatch services, real-time employee and asset tracking, extensive

reporting capabilities, and other remote management and transaction processing tools.

To help organizations embrace mobility solutions for field service automation and fleet management, over the past several years, AT&T has created an *industry solutions mobility applications practice* that is focused on delivering enhanced productivity through real-time information and location-based services to enterprises in select vertical industries. Through its large ecosystem of alliances with leading vendors, AT&T's suite of mobile resource management solutions covers the flow of goods and services across the entire supply chain.

One example of a successful MRM deployment is C.R. England — one of the largest refrigerated transportation carriers in the industry, with more than 2,600 trucks and 5,000 drivers serving the 48 contiguous states. The company's deployment earned it an Honorable Mention in the Supply Chain category in the 2008 *Mobile Enterprise* Mobilizer Awards.

In January 2008, C.R. England decided to deploy TeleNav Track on AT&T smartphones. TeleNav Track improves communication for C.R. England by combining the tracking capability of a GPS system with the two-way voice communication of push-to-talk.

The AT&T/TeleNav Track solution also improves communica-

tion by enabling C.R. England to:

· Send messages to drivers' phones

· Receive canned responses from drivers so as not to distract them from the road

· Send messages to select groups of drivers

· Reroute drivers around weather and traffic to maintain on-time service

The company's ability to monitor its drivers and shipments has improved with TeleNav Track's GPS capabilities. The system's Breadcrumb Report provides a history of drivers' movements with the time, location, speeds and GPS coordinates for every truck in its fleet. Alerts notify the company when drivers stop, go off route or exceed speed limits. TeleNav Track's GPS data also enables the company to verify arrivals and departures at the hub station. This data allows the company to manage its shipments, improve driver accountability and compliance, and eliminate potential disputes.

C.R. England has easily recovered a return on its investment. "After deployment, our service went through the roof," says Tom Slaughter, Senior Operations Manager. "This has more than given us our ROI. Even with such strong numbers, we have only scratched the surface of our ROI potential."

MAINTAINING CLOSE CONNECTIONS
Advances in wireless-enabled devices and the emergence of increasingly sophisticated smartphones have clearly highlighted

MRM TECHNOLOGY TRENDS:
Moving from a Sometime World
To A Real-Time World

Next-generation Mobile Resource Management (MRM) solutions can be used to automatically track employee and asset location, enhance and automate dispatch capabilities, capture and share field data, and improve customer relations by extending front- and back-office resources directly to the point of customer contact. These capabilities not only have the potential to reduce operating costs (by minimizing errors, eliminating duplication, and speeding the transaction process), but can also streamline activities across the entire supply chain by providing real-time access and accountability.

MRM solutions generally focus on three key applications segments: Field Force Management, Field Force Automation, and Enterprise Asset and Resource Management. However, these applications can be utilized across a range of different industries, including transportation, healthcare, construction, financial services, manufacturing, retail and others. Specific mobile tasks that are common to each of these industries include:

- Tracking, monitoring and location
- Scheduling and dispatch
- Schedule and event confirmation
- Workforce management
- Turn-by-turn navigation
- Alerts and messaging
- Business intelligence reporting
- Forms management and processing
- Capacity control and planning
- Driver and mobile worker safety

The impact that MRM solutions can have on an entire business operation are substantial, due to the real-time dynamics of the collected and dispersed information, and the ability to have each and every mobile worker acting as a connected and collaborative team member.

Even the simplest MRM solution can:

- improve the accuracy of job and location directions (thereby maximizing performance and productivity);
- increase the interaction between customer data and back-end supply systems (accelerating transactions and account receivables); and
- leverage forms capabilities (reducing paperwork and errors in the field and point of execution).

The overall result is a streamlining of the entire business process and an improvement in the accuracy of auditing and forecasting abilities, both of which serve to create a proactive and competitive work structure.

While selecting the right mobile technology and applications solutions is important to a successful mobile management system, it is even more critical to map out the current and future needs of the system as it applies to the individual requirements of a business. This is why it is recommended to work with a solutions provider that is not only familiar with the capabilities of wireless mobile

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the enterprise benefits of enabling employees to do their jobs in a pervasively connected environment and managing customers, products and assets on a real-time basis.

MRM devices that rely on both cellular and GPS communications can be used to maintain close connections with remote workers in the field and intelligently dispatch them based on their locations. This real-time tracking and asset management capability can provide a number of 'hard dollar' benefits, including:

- Reducing overall costs and response times;
- Improving reporting capabilities between field activities and back-end information systems
- Managing fuel costs and limiting delays by finding the most efficient route in terms of mileage and then remapping routes in response to frequently updated road condition information;
- Eliminating or reducing costly and unnecessary paperwork (in the field and at the point of customer interaction);
- Reducing errors and duplication of effort in the field, and thereby making optimum use of worker time.
- Providing more complete and timely services in the field, thereby accelerating billing and accounts receivable.

An interactive and cohesive MRM system can also deliver some very tangible 'soft dollar' benefits, especially when combined with customizable forms and automatic

devices and wireless networks in general, but also has experience working with companies and technology providers of all sizes to plan and deploy mobile management tools.

Mobility application solution providers, such as AT&T, are uniquely positioned to work with users to define and execute mobile management solutions because they have experience providing backbone wireless communications services for all types of applications, as well as a history of working with all type of customers on productivity improvement applications.

It is also beneficial to have a single, experienced solutions expert to manage the planning and launch of a mobile management project and manage relationships with technology providers, resellers and applications developers — all of whom may contribute to building an effective wireless mobile management system.

APPLICATIONS CAN BE EASILY CUSTOMIZED TO DELIVER RESULTS THAT ZERO IN ON THE DEMANDS OF EACH PARTICULAR INDUSTRY AND JOB FUNCTION.

In selecting a solutions provider, enterprise users should look for those with:

• Middleware technology and development tools that can efficiently extend ERP, CRM and custom back-end applications to a variety of mobile devices;

• Consulting services that are sensitive to individual business dynamics and can provide cost-effective applications planning, development, testing, deployments and support;

• A range of application management services that offer flexible deployment options, a solid return on investment (ROI), and low cost of ownership in a hosted environment.

MOBILE RESOURCE MANAGEMENT SOLUTIONS IN MOTION

Mobile Resource Management solutions, such as TeleNav Track and Xora GPS TimeTrack — both available through AT&T and supported by AT&T mobile handheld mobile devices — provide basic services like GPS location tracking, wireless dispatching and the ability to create and manage wireless forms.

However, each of these applications can be easily customized for specific industries, as well as individual user preferences, to deliver results that zero in on the demands of each particular industry and job function.

For example, in the transportation & logistics industry, wireless location-based services can help reduce costs through real-time tracking; increase efficiency through data capture and reduced paperwork, improve compliance with driver's logs requirements, fuel tax reporting and idling restrictions; reduce fuel costs through more efficient vehicle routing; accelerate the sales cycle; and improve customer satisfaction.

In the consumer goods industry, wireless mobile tools can provide a vital information link to sales staff, merchandisers and delivery people, help eliminate bottlenecks that occur through shipping and delivery errors, reduce excess inventory through just-in-time interaction with customers and suppliers, locate and dispatch field personnel, and provide managers with more timely order and inventory information.

A key benefit of the mobile management tools developed with AT&T and its third party alliances are the ability to quickly make use of highly-effective applications that produce a positive ROI, and then grow these applications to fit the pace and structure of any mobile work force.

Another potential benefit of MRM is reduced carbon footprint and increased environmental sustainability. In a recent environmental initiative, AT&T and WebTech Wireless Inc., a leading provider of location-based and fleet telematics services, have teamed up to help the Port of Los Angeles and the Port of Long Beach improve air quality. The solution will provide a wireless vehicle tracking and monitoring solution that supports the Ports' Clean Trucks Program, a major air-quality improvement program. The devices send vehicle location and diagnostics data over AT&T's wireless network to WebTech's Web-based Quadrant™ fleet-management system. Quadrant monitors miles driven within specified geographic boundaries (geo-fences) and data such as idling time and fuel consumption, which enables the Ports to quantify the pollution avoided and determine the cost-effectiveness of the program.

The solution will help facilitate having lower-emitting drayage trucks serve the Ports and track whether truck owners and operators are complying with the requirements of the Clean Trucks Program. Additionally, the monitoring system facilitates truck and employee compliance with port security and public safety standards.

"This initiative reinforces our commitment to provide innovative solutions that enable our customers to increase efficiency and productivity while also reducing carbon emissions," says Denita Willoughby, VP, AT&T External Affairs of the Greater Los Angeles area. "AT&T is proud to work with the cities of Los Angeles and Long Beach on this effort to help reduce emissions and improve air quality in the region."●

report generation. Key among these benefits is improved customer satisfaction by providing more complete services and timely access to data at the point of customer contact. Such solutions also can have a positive impact on the total business process through new applications such as real-time mapping and mobile transaction processing.

MRM's potential impact on the mobile operations and core business processes of most any company is driving the market for applications and services from a little more than $723 million in 2005 to more than $1.4 billion by 2010, according to a 2008 Frost & Sullivan Report[1]. Fueling this growth will be an increasing number of MRM users, estimated to be more than 3 million by 2010, and an expanding base of mobile users. Indeed, the number of mobile workers worldwide is expected to reach 1 billion by 2011, with nearly 75% of the U.S. workforce mobile by the end of that year, according to IDC Research [2].

Driving this growth is the increasing sophistication and expanded features of mobile resource management applications. For example, in recent months, AT&T announced that it is broadening its fleet and mobile asset management portfolio with the latest version of Trimble's GeoManager™ solution. This enhanced solution enables fleet operators to significantly reduce

operating costs by managing their vehicle assets more efficiently, which can help lower fuel and maintenance costs.

Trimble GeoManager offers companies with light-, medium-, and heavy-duty transportation and field service fleets the ability to track their mobile workers and assets by utilizing the latest version of Trimble GeoManager software and GPS modems running on AT&T's wireless network. GeoManager provides an on-demand, Field Productivity & Management (FPM) solution that integrates GPS, wireless data communications, and a standard web browser software interface into a solution that helps supervi-

sors manage mobile workers, enhances efficiency for mobile workers, and improves tracking of mobile worker assets.

"Trimble GeoManager and AT&T's wireless network proved to be instrumental in strengthening our customer service delivery and improving our operational efficiency," says Randy Derricott, Director of Services at SimplexGrinnell, a leading provider of fire and life-safety systems and services. "Since our implementation of Trimble GeoManager we have experienced significant cost savings in operating expenses of our 4,000 field technicians, including fuel and mileage. We are pleased with the

1 North American Mobile Resource Management (MRM) Markets - Handset-based Field Productivity Solutions, Frost & Sullivan 2008.
2 Worldwide Mobile Worker 2007-2011 Forecast and Analysis (IDC #209813), January 2008.

results being provided by this reliable mobile resource management solution."

AT&T has been working with Trimble for several years to provide companies with comprehensive fleet tracking solutions. Trimble GeoManager now offers customers an enhanced user interface with improved map and status views, allowing for more information at the customer's fingertips. Additionally, new Landmark Uploads, WLAN Usage, Schedule Report enhancements, Driver Logs, and Organizational Hierarchy improvements allow for simplified administration.

"Fleet managers are challenged to reduce operating costs and maximize return on assets," says Igor Glubochansky, Director, Industry Solutions, AT&T Business Solutions. "Trimble GeoManager helps remove the complexity by providing a single point of contact to help deliver the latest tools and technology to manage service fleets, ultimately resulting in helping to improve customer satisfaction."

TAKING MOBILE WORKFORCES TO THE NEXT LEVEL

The rapid emergence and adoption of smartphones — capable of voice and a wide range of data services — is also a catalyst for the growth of mobile application enablement as a business initiative and competitive mandate. In 1Q 2009, smartphone sales surpassed 36.4 million units, a 12.7% increase over the same period in 2008, according to market researcher Gartner, Inc.[3]

Even though use of smartphones is growing rapidly, many enterprises have yet to realize the full potential of these devices that can be unleashed through efficient mobile software applications. Such tools can quickly take a current or evolving mobile workforce to the next level by providing tools that can result in faster and more accurate transaction process, and can deliver a more intuitive and collaborative mobile resource work environment.

A successful example of business transformation using mobile technology is Acosta, one of North America's most technologically advanced sales and marketing agencies.

To surmount today's high performance bar, Acosta's state-of-the–art proprietary North American Retail Systems (NARS) enterprise platform connects field workers to headquarters for real-time reporting and fast analysis of field conditions, fact-based decision-making, and improved cohesiveness between sales, marketing and operations. Acosta's recent decision to equip all retail coverage merchandisers in the United States with a smartphone, the HTC Fuze™ from AT&T — for use as its exclusive business intelligence tool — brings

▲ **HTC FUZE**

those benefits to life.

"We are in the business of providing meaningful solutions for our customers and clients," says Brad Smith, SVP Retail Operations, Acosta. "Our relationship with AT&T and the HTC Fuze™ has moved us to a higher level of execution, with total measured productivity improving by 6% in test markets. Being able to bring cutting-edge capabilities and efficiencies to the field has produced incredible energy with the teams."

Despite the wide range of data collection tools and solutions in the market, most enterprises prefer to deal with a single source to provide solutions that relate to the specifics of their markets and core business needs. These companies want solutions that are simple and effective, yet designed to fit smoothly into their current and evolving business practices without a great deal of disruption.

Dataquest Insight: Market Share for Mobile Devices, Gartner Research,1Q '09.

Small- to medium-sized companies may also be reluctant to consider MRM solutions because of the perceived complexities of installing and deploying the hardware and software, as well as difficulties in identifying the real business value in the face of restricted budgets. This provides a very strong opportunity for reliable and seasoned providers to enter the game to help customers define their needs, simplify deployment and get systems up and running. This is a particularly attractive option for small businesses that have little or no organized IT support structure.

This report will provide a practical overview of the power and potential of enterprise-class MRM solutions by addressing the following areas:

· What are the latest trends in MRM tools and technology and what kind of an impact will developments have on business operations?
· What are some of the specific benefits enterprises can expect to achieve by deploying MRM tools for their field service operations?
· What are the benefits of working with a company that includes an experienced professional services organization as well as the experience and partner network to put these tools and solutions in place?
· What do enterprises need to know when selecting MRM solutions and deploying systems that will be successful?
· How will MRM solutions impact businesses in today's challenging economy, and prepare the eventual turn-

around from a technical and strategic standpoint?

As companies and mobile workers become increasingly familiar and comfortable with wireless and mobile tools, the challenge is to expand the use of these devices and applications further down the supply chain and to channel their benefits directly to the point of customer contact.

While MRM can effectively streamline and speed the business process, it is also a valuable asset to manage and build collaborative bridges with field and service workers at the customer frontlines. MRM — and teaming with the right solutions provider — is an effective formula that helps businesses of all sizes move from an occasionally connected workforce to a highly productive real-time world. ●

▶▶ **CASE STUDY**

XORA GPS TIMETRACK® FROM AT&T IS KEY TO PRC'S PRODUCTIVITY GAME PLAN

Since 1971, PRC Maintenance has quite literally covered New York and parts of New Jersey with its services. The company provides 24-hour turnkey maintenance, including painting, for residential apartment buildings and commercial properties throughout these areas, with 95% of its customers located in the five boroughs of New York City.

Many of PRC's customers live and work in the concrete canyons of Manhattan, which is a particular challenge given the daily traffic congestion and non-stop activity in one of the nation's busiest cities. Although the company's crew of 50 or so painters, plumbers, carpenters and electricians are dispatched each day with a list of customer names and job descriptions, schedules can change in a New York minute if jobs are wrapped up ahead of time or there is a sudden emergency call.

Until 2007, PRC relied on wireless phones and primarily a paper-based system to keep in touch with its mobile workforce and deal with scheduling changes. Today, however, those phones are equipped with Xora GPS TimeTrack from AT&T to provide real-time data on where a worker is, when jobs are started or finished, and the location of the next job site.

The system can be used to alert managers when a job finishes early and the maintenance staff is free to squeeze in another task, or get a jump on an upcoming appointment.

"We have our days all scheduled, but what is nice about the system is that if workers do finish early I can send them to another job in real-time. In the past, we generally could do that but you always had that time lapse," says Joel Sklar, PRC's CEO.

Taking Productivity to the Streets

Since its deployment, the AT&T-Xora solution has resulted in a 25% across-the-board improvement in productivity, which is a significant bottom-line boost in tough economic times, notes Sklar. The mobile resource management (MRM) solution also provides a significant competitive advantage in the competitive New York City market.

Sklar admits that many on his team were at first reluctant to embrace the time-tracking solution, mainly because of its core ability to track their exact whereabouts and activities. Workers quickly were won over, however, when they used the system in the field and realized its positive impact. "It's not really a tracking device, but a productivity device," says Sklar, who has been with PRC about a year and was previously a top executive in the pest control industry.

For example, one major area where the AT&T-Xora solution has had a positive impact is on customer service. Field workers can respond in a timely manner to requests and can tackle more jobs in the same period of time. The system also helps address security concerns for PRC personnel who may be called in to provide middle-of-the-night services in less glamorous parts of the city. "Safety is something we care about very much as an added but important feature of using the system," says Sklar.

PRC is also committed to the sustainability movement and is using the AT&T-Xora solution to spearhead its continued move away from a paper-based system. "We are looking to try to do as much green work as possible and eventually become paperless," explains Sklar. "Deploying and using the system is definitely a first and important step in being green." ●

MOBILE TRACKING DELIVERS HIGH PRODUCTIVITY AND PEACE OF MIND FOR FALCON

More than 40 years ago, Falcon Communications was launched in a tiny rural community in Arkansas by a handful of people who spotted an opportunity to provide affordable telecommunications equipment to small telephone companies.

Since that time, the company has grown to become a major provider of products and engineering services to a variety of clients and businesses. It has established new headquarters in Malden, MO, with branch offices in West Plains, Reno, NV, and Abilene, TX.

Today, the company provides solutions such as digital key systems, PBX and paging systems, voice mail, and local area networks to such major customers as Wal-Mart, Target, and the federal government.

In fact, one of Falcon's most notable successes was converting the St. Paul hockey arena into a facility for the Republican National Convention, which involved running 20 miles of telecommunications wiring and cable.

One of the major reasons for Falcon's success is its highly mobile workforce, which is expected to keep pace with customer demands and drive revenue by providing fast and effective response to new opportunities and business challenges.

KEEPING THINGS ON TRACK

Keeping track of its remote workforce through GPS-equipped devices is a crucial component of the company's mobile strategy, although it was faced with the challenge of being able to quickly respond to emergency requests and improve the accountability and safety of its employees.

Even seemingly mundane tasks such as mileage tracking are important to Falcon's competitive position, since this information can be used to provide rapid expense reimbursements to its mobile workers. In addition, the solution can help in controlling the rising costs associated with fuel, tolls and other roadway changes. Such costs can be controlled by using devices to alert for road hazards and delays, remap routes, and find the least expensive route in terms of mileage, tolls, etc. Managers can have visibility into all of these variables and then can suggest routing changes to field fleets on the fly.

In 2008, Falcon turned to AT&T and TeleNav, Inc. to provide a reliable system to keep tabs on mobile workers, generate accurate mileage reports, and help staff respond speedily to last-minute customer requests. TeleNav Track™ from AT&T helps locate and monitor Falcon's technicians, provide efficient service to customers, and quickly solve problems in the field.

"TeleNav Track is easy to use, is user-friendly, and offers that peace of mind that you can't find with many other systems," notes Jim Frisco, Falcon Communications President.

The AT&T-TeleNav solution also offers a reliable safety net in the event that a field worker runs into trouble in the course of a day. "We once had an employee whose vehicle broke down," says Frisco. "We were in the middle of a snowstorm and this employee was confused about his location. We were able to accurately pinpoint the location and get help quickly." ●

> "TELENAV TRACK...OFFERS THAT PEACE OF MIND YOU CAN'T FIND WITH MANY OTHER SYSTEMS."

▶▶ **ANALYST**

FUTURE IS BRIGHT FOR MRM SOLUTIONS, BUT NOT WITHOUT CHALLENGES

Mobile resource management solutions can deliver a number of benefits to companies of all sizes and across multiple industry segments. Benefits may include increased worker productivity, the extension of automation and business processes out into the field, and improved customer satisfaction. All have the potential for a significant impact on a company's bottom line.

There are, however, a number of challenges that exist between the promise of mobile management technology and the actual and effective deployment of solutions, according to a 2008 report from market researcher Frost & Sullivan[1] This includes a general lack of awareness by companies about the true benefits of mobile management solutions, beyond simple time tracking and order entry; difficulties in finding the executive who is responsible for signing off on MRM solutions within an organization, whether it is IT or someone on the business side; and overcoming integration problems with existing back-end systems and legacy software.

Despite these apparent obstacles, the market for mobile handset-based MRM products and services, such as Telenav Track™ and Xora GPS Timetrack® from AT&T, supported by GPS location technology is expected to increase to more than $1.6 billion by 2013, according to the Frost & Sullivan report. The primary reasons: The current MRM market is very under-penetrated and the technology can provide a very hard-dollar return on investment (ROI) and competitive advantage — powerful incentives in a tough and challenging economy.

The expected growth in MRM within the enterprise should pace the growth in handset-hosted location-based services in general, which increased last year to more than 18 million users, most within North America, notes ABI Research in a recent study[2]. Many of these applications center on wireless navigation, which is a key element in such MRM areas as fleet management and field service. The number of paying handset-based turn-by-turn navigation users to also increase to 26 million by the end of 2010, notes ABI Research in another report.[3]

Most smartphones now contain a GPS chip, making them suitable for MRM applications. In addition, ruggedized 3G/GPS phone handsets designed to Military Specification 810 F are now available from AT&T, built to withstand the harshest conditions and most demanding users.

"We are approaching the point where location awareness will be synonymous with smart devices," says ABI Research Senior Analyst George Perros.

While most decisions regarding new software and hardware solutions are traditionally based on the anticipated ROI or cost savings, increasingly companies are evaluating MRM with an eye toward how much the company might lose — in terms of hard dollars or lost customer opportunities — by not adopting mobile management and enablement technologies. The selection of MRM solutions is fast becoming a long-term strategic and competitive decision, rather than one based solely on per-user ROI pricing (which is difficult to track) and initial costs savings, points out Frost & Sullivan in its 2008 MRM report.

"As more businesses reach this level of awareness," the ABI report states, "the mathematics of potential MRM users (millions of mobile workers yet to be armed) promises substantial rewards to customers, vendors, and their channels." ●

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1 *North American Mobile Resource Management (MRM) Markets - Handset-based Field Productivity Solutions, Frost & Sullivan 2008.*
2 *Mobile Locations Based Services report, ABI Research, May 2009.*
3 *Automotive Navigation Forecasts Market Data, July 2009.*

ESSENTIAL TOOLS FOR SUCCESSFUL MOBILE RESOURCE MANAGEMENT

When it comes to mobile management solutions and remote tracking applications, many enterprise users prefer to deal with a single vendor and point of contact, rather than multiple vendors. This is the case even if a solution involves products and technologies from multiple supply chain partners.

Since key people within an organization are increasingly regarded as trackable assets, it is helpful to work on an MRM project with a leading company with experience in wireless communications, GPS technology and applications that target mobile workers and fleet management. Ideally, that company should also offer a global standard, and a flexible and cost-effective range of mobile products and applications, through its own organization or from third parties who are in tune with mobile management solutions and the unique demands of businesses in a variety of industry segments.

AT&T has a long track record in mobile wireless and offers a broad set of mobile management solutions to its business customers. Central to this is the company's wireless network, and location-based services via GPS-enabled phones that can be used for turn-by-turn navigation and mapping (for transportation, delivery, sales and field service applications); and for field force management, asset tracking, field service, fleet asset tracking and data collection in the field across industries such as manufacturing, construction, distribution and transportation.

In addition to the network, AT&T is a solutions enabler in mobile management applications, with a dedicated consulting team that works closely with customers to help define needs, justify the business case based on ROI models, and implement mobile management applications. Once the business value is defined for a user, AT&T provides a range of applications and services that are custom fit with the right tools and support processes for each business.

"As more and more people realize the value of mobile applications, it becomes a lot easier to convince them of the value of processing work orders and tracking assets, since there are so many more smartphones and other highly capable devices available to the enterprise," says Igor Glubochansky, Director of AT&T's Industry Solutions team. "We take a more holistic approach to working with customers, helping them navigate through all the solutions for a particular job, define the ROI, and then work with integrators to provide all of these services."

Mobile resource management solutions are generally divided into on-board and handheld applications.

On-board vehicle solutions available from AT&T include:

· **WebTech Wireless Quadrant from AT&T**, a solution that integrates WebTech's Internet-based tracking and reporting software, as well as GPS, wireless communications, and the Internet to provide near-real-time information about the location and status of vehicles and mobile resources. The solution is powered by the WebTech Locator Series, a family of GPS devices that provide vehicle location and telematic information in near real-time. The solution also provides comprehensive vehicle diagnostics, near-real-time communication, and support for device options.

· **Trimble GeoManager from AT&T**, provides an on-demand field productivity and management solution that integrates GPS, wireless and a standard web browser into a mobile solution that helps you manage your mobile workers by allowing real-time, two-way communication. The application allows managers to map the vehicles in a fleet, find the nearest vehicle to a job, dispatch text messages to workers, log work hours, or view and print detailed reports. GeoManager can also be used to manage overall mobile workforce per-

formance, thereby potentially reducing costs and maximizing customers' satisfaction with field services.

SOME OF THE HANDHELD DEVICES AVAILABLE AS PART OF AN AT&T MOBILE MANAGEMENT SOLUTIONS INCLUDE:

· The **Motorola Tundra**, a highly ruggedized phone that is designed to withstand the dust, shock, vibration and temperature shifts common to transportation applications and provide superior call quality with CrystalTalk™ 2 even in the noisiest environments.

· The **Samsung Rugby**, another ruggedized and military-spec (MI-STD-810F compliance) device that employs GPS, 3G data and push-to-talk functionality for field service and construction applications.

· The **Samsung a657** is as tough as it gets. Its bar form factor makes it easily mountable to a vehicle dashboard for transportation, construction, maintenance, landscaping, and other on-site businesses

· **Motorola MC35/MC55/MC75 Enterprise Digital Assistants (EDA)**. Specifically designed for field service applications, these systems combine mobile voice and data communications, image capture, bar code scanning and GPS functionality. Paired with AT&T's wireless service, these rugged devices enable field service personnel to send and receive information in real time from the field to the office and access service level agreements (SLAs)

and prior repair history records, as well as capture costs right on-the-spot. The devices are also capable of real-time invoicing, which reduces cash-to-cash cycles.

There are also a number of in-vehicle solutions available from AT&T and its third party alliances that can be used to efficiently manage fleet service activities (maintaining close contact with mobile workers and intelligently dispatching them based on their exact locations); improve information access (quickly providing complete job details to mobile workers, including the job description, type of work to be performed, and important customer data; and enhance customer service (accurately pinpointing arrival times, reducing customer waiting, and reducing return visits).

MOBILE APPLICATIONS FOR MOBILE RESOURCE MANAGEMENT, AVAILABLE FROM AT&T, INCLUDE:

· **TeleNav Track™ from AT&T**. Combines GPS, wireless and Web access to provide tools to help locate mobile workers in real-time, dispatch jobs to the field without paper, collect timecards electronically, capture data from the field at the time of service, and generate more complete reports on mobile field activities. Managers can use the software to pinpoint field personnel locations from their mobile handsets, geofence entries and exits, get alerts when jobs or workers don't

1. **SAMSUNG RUGBY**   2. **MOTOROLA MC35**   3. **MOTOROLA TUNDRA**   4. **SAMSUNG a657**

start or finish on time or when deliveries don't meet expected transit windows, and get to job sites in a timely manner and potentially reduce fuel consumption.

The solution also has a wireless forms capability that reduces data entry and paperwork, helps improve the quality of data entry from the field, and attaches forms to jobs sent to employees and to timesheets. Administrators can use the forms creation feature of the software to reproduce any form with up to 18 field types (including signatures and photos). These wireless forms are accessible via wireless PC, mobile handheld or customer vertical device.

TeleNav Track LITE is an AT&T application that allows business owners and supervisors to see the current location of any employee's AT&T phone, laptop card or wireless notebooks through an interactive Web dashboard. The solution does not require any installation of client software on the mobile device, making it possible to track nearly any mobile wireless device.

· **Xora GPS TimeTrack™ from AT&T.** Tracks in real-time the location and activities of mobile workers, through AT&T phones and the high-speed broad-band network, which can improve productivity and reduce expenses related to worker overtime and fuel costs. Core functions of the solution include GPS tracking, wireless timecards, job tracking, and data capture. Features provided by the software include:

- Tamper-resistant timecards, allowing mobile workers to clock in and out of shifts using a mobile device, and issuing alerts to managers when a worker is about to go into overtime;
- GPS tracking with a Google Maps interface, generating current and historical worker/vehicle locations; tracking speeding and idle time; and providing a FieldAlert panic button for mobile workers in need of assistance;
- Job tracking and dispatching, allowing recording of simple start/stop times, tracking of complex workflows, real-time job status updates, detailed job reports and audits, and a variety of real-time job data that is available via Web-based reports.

GPS TimeTrack can also be integrated with many software applications commonly used by small businesses, such a QuickBooks®, Sage Master Builder, and ADP® accounting programs. ●

XORA GPS LOCATOR FROM AT&T
## Simply Power on Your AT&T Phone and Start Tracking!

Challenge
Managing a mobile workforce without real-time visibility is a bit like driving blindfolded. Productivity can suffer. Accountability is often lacking. And customers don't get the quick answers they need. There has to be a better way.

Solution
Xora GPS Locator provides the locations of employees throughout the day, in real-time. Businesses can confirm that employees are at job sites, and also see how long they stayed. Sending the nearest worker to a job becomes a snap. The end result is more accountability and more productivity, helping your business stay ahead of the competition.

Managing a Mobile Workforce Is a Tough Job
You're in the office, and you're responsible for managing mobile employees. Keeping tabs on what's happening in the field is a difficult task. Hourly workers are on their own, often without direct supervision; and while some are highly productive, others lack accountability. Furthermore, you have to deal with the constant barrage of incoming phone calls as field-based employees update office staff on their status, leaving them very little time for other tasks.
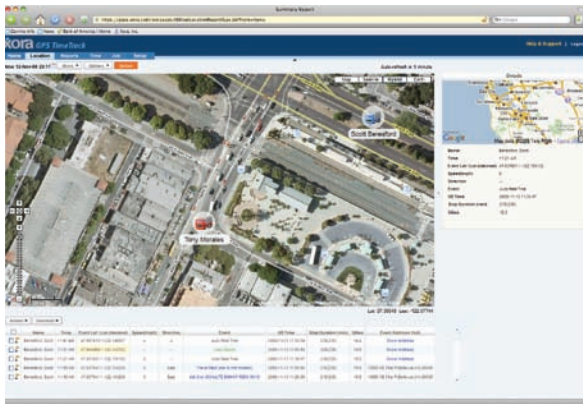
Introducing a Better Way to Manage Mobile Workers

Xora GPS Locator from AT&T is a powerful yet affordable solution that provides real-time visibility into the locations and activities of your mobile workers. Because it's a 100% Web-based solution, it couldn't be easier to deploy. Workers simply carry a supported AT&T mobile phone (GPS and non-GPS devices are supported) and office staff can see where they are using any PC connected to the Internet. There's no special hardware to purchase, no software required other than a standard Web-browser, and Xora offers free world-class support.

Simple Operation

With Xora GPS Locator from AT&T, there is no software to load on the phone. Your employees simply turn on their phone, and it starts tracking.

GPS Location

Xora GPS Locator from AT&T shows the current and historical GPS locations* of workers on Web-based maps and reports. Breadcrumb trails show the route that mobile workers take throughout the day.

Rich Google™ Maps

Xora GPS Locator from AT&T uses Google Maps, complete with regular street map or satellite views. Zoom in and out using the scroll wheel on your mouse, and pan around the map by clicking and dragging. You can even find points of interest on the map simply by typing in their name.

Landmarks

Landmarks can be created on the maps for easy viewing of customer locations, offices, distribution centers and more. You can even choose the icon you want to use to represent a landmark on the map.

Teams and Groups

Organize mobile employees into logical Teams and Groups. Each team of users can be setup with unique landmarks and alerts, and the system can be setup so that supervisors only see data related to their teams.

Stop Alerts and Reports

Stop alerts and reports automatically identify stop locations, making it simple to determine when and where employees stopped for a job, or for lunch. This information can be used to verify time on the job.

Lightning-Fast ROI

Because Xora GPS Locator from AT&T is a Web-based service, it's typically up and running in just a few days; and since the up front costs are minimal, the ROI is almost immediate.

Help When You Need It

If you run into any issues, live technicians are available to assist you on a 24/7 basis. Xora offers free support to its customers.

Potential Benefits for Your Company

- Higher Productivity. Increased efficiency and more accountability means more jobs get done in less time
- Accurate Payroll. Location data can be compared with timesheet data for accuracy, typically leading to lower overtime payments
- Improve Customer Service. Real-time GPS locations can quickly answer customer status questions
- Resolve Customer Disputes. Visibility into worker locations can quickly prove a worker was where they were supposed to be
- Efficient Dispatching. The nearest worker to a job can quickly be dispatched
- Accurate Billing. Location data can be used to confirm time on the job, leading to more accurate customer billing and fewer billing disputes

Notes

*GPS locations are obtained when a GPS signal is available. If a GPS signal is not available, the phone will utilize the AT&T network using Enhanced Cell-ID or Cell-ID location technologies to determine its location. If no cell communications are available, the phone will not report a location.

For more information contact your AT&T Representative at 866-360-7913 or visit us at www.att.com/business.

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