Choosing a location-based application for your business

A step-by-step guide

Executive Summary

The following guide provides some simple steps that will help you understand how a location-based application can help companies with remote workers, remote assets or fleets of vehicles cut costs, improve productivity, become more efficient, and grow. The guide will help you:

- Identify your company's business priorities

- Match some key business processes to those priorities

- Determine the immediacy of your company's need for a location-based application

- Choose the location-based application that meets your company's business requirements

- Select a location-based application provider

- Leverage industry best practices to ensure that your implementation is a success

Thousands of companies are already reaping the benefits of location-based applications. This guide provides the information you'll need to determine how a location-based application can help your business become more productive and profitable.

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Introduction

Fuel price increases, idling laws, looming electronic on board recorder requirements, overtime, remote payroll accuracy and the cost of accidents are just a few of the challenges companies that manage a remote workforce or fleet of vehicles face today. To meet those challenges, successful companies are turning to location-based applications.

Location-based applications (including remote workforce management, vehicle dispatching, routing and tracking and asset tracking) are an important part of the mobile applications that Gartner has identified as one of "The Top 10 Strategic Technologies for 20111" and beyond. Designed for companies of all sizes, and in nearly every industry, location-based applications can help companies improve productivity, increase revenues, reduce fuel costs, control overtime costs, simplify regulatory compliance, and enrich the bottom line.

Implementing location-based applications as part of their supply chain management, sales and marketing, or field customer service processes can provide immediate, positive impact on the key business priorities that Gartner has identified through interviews with more than 2,014 CIOs representing more than $160 billion in spending across 50 countries and 38 industries2:

- Increasing enterprise growth

- Attracting and retaining new customers

- Reducing enterprise costs

- Creating new products and services (innovation)

- Improving business processes

- Implementing and updating business applications

- Improving technical infrastructure

- Improving enterprise efficiency

- Improving operations

- Improving business continuity, risk and security

Mobilizing key processes can result in: reduced overtime expenses; improved customer service; elimination of manual, paper-based processes; reduced fuel and maintenance expenses; and reduced losses due to accidents theft and malfeasance. Additionally, location-based applications can help companies differentiate their products and services based on key metrics like on time performance and elimination of errors.

If your company has not yet implemented a location-based application, or is currently looking at available options for implementing a location-based application, the following guide provides simple steps that will help you:

- Identify your company's business priorities

- Match some key business processes to those priorities

- Determine the immediacy of your company's need for a location-based application

- Choose the location-based application that meets your company's business requirements

- Select a location-based application provider

- Leverage industry best practices to ensure that your implementation is a success.

Step 1: Establish Your Business Priorities

Companies are always looking for ways to improve. Large enterprise or small business, manufacturer or plumbing and heating contractor, finding ways to beat the competition and increase company profitability are always goals. But, to reach those goals, companies must determine what the priorities are for their businesses in the short and long term. Economic conditions, fuel prices, new competitors, regulatory change, labor costs and market environments are just some of the factors companies should consider when establishing their business priorities.

Figure 1 illustrates ten potential business priorities for companies of all sizes and in all vertical markets. The business priorities are mapped to processes, economic influences and other factors that have a direct relationship with location-based applications.

Increasing enterprise growth is a top priority for most companies, and location-based applications have a significant, positive impact on this priority. Mobile device subscriptions are now 400 percent higher than Internet subscriptions3 and companies must find ways to expand by leveraging that growth. Location-based applications that automate tasks, provide real-time status information, reduce errors and ensure the accuracy of status, vehicle diagnostics and payroll information can help companies expand and reach new markets quickly and cost effectively.

After reading through the list, consider if your company has similar priorities. You can use Table 1 to rank your business' priorities; we'll use this ranking in the next step to help determine the business processes that impact those priorities.

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Figure 1 – Business Priorities and Key Issues

Increasing Enterprise Growth
- Efficient use of corporate assets
- Revenue growth
- Mobile workforce management
- Product and service differentiation

Attracting and Retaining New Customers
- Real-time access to customer information
- Supply chain operations
- Customer service
- Competitive pricing
- Business flexibility

Reducing Enterprise Costs
- Fuel expense
- Employee productivity
- Overtime expense
- Error reduction
- Process automation
- Regulatory compliance
- Losses due to accident and theft

Creating New Products and Services
- Product and service differentiation
- Business flexibility
- Time to market
- Customer service
- Supply chain operation
- Pricing
- Regulatory compliance

Improving Business Processes
- Employee productivity
- Overtime expense
- Customer service
- Error reduction
- Regulatory compliance
- Remote workforce, vehicle asset management

Implementing and Updating Business Applications
- Error reduction
- Real-time mobile access to data
- Business flexibility
- Fleet, asset and remote worker management

Improving Technical Infrastructure
- Error reduction
- Employee productivity
- Automation of processes
- Mobile workforce, fleet and asset management
- Business flexibility
- Regulatory compliance

Improving Enterprise Efficiency
- Supply chain operations
- Automation of processes
- Overtime expense
- Error reduction
- Losses due to theft, accident
- Business flexibility
- Customer service

Improving Operations
- Employee productivity
- Overtime expense
- Customer service
- Error reduction
- Regulatory compliance
- Remote workforce, vehicle and asset management

Improving Business Continuity, Risk and Security
- Losses due to accident or theft
- Regulatory compliance
- Real time mobile access to data
- Error reduction
- Supply chain operation
- Employee activity tracking

What are your company's business priorities? Rank them below.

Table 1 – Your Company's Business Priorities

Business Priorities	Your Company's Business Priority Ranking
Increasing Enterprise Growth	
Attracting and Retaining New Customers	
Reducing Enterprise Costs	
Creating New Products and Services	
Improving Business Processes	
Implementing and Updating Business Applications	
Improving Technical Infrastructure	
Improving Enterprise Efficiency	
Improving Operations	
Improving Business Continuity, Risk and Security	

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Step 2: Match Your Company's Business Processes to Business Priorities

Improving business processes is one of the methods companies use to affect their business priorities. Location-based applications can improve three cross-industry processes as well as multiple industry specific processes. Figure 2 illustrates how five key business processes may be improved. It also includes some key location-based application trends that are accelerating the need for location-based applications in those processes.

Figure 2 – Five Key Business Processes Improved by Location-based Applications

Business Priorities

Increasing Enterprise Growth; Attracting and Retaining New Customers; Reducing Enterprise Costs; Creating New Products and Services; Improving Business Processes; Implementing and Updating Business Applications; Improving Technical Infrastructure; Improving Enterprise Efficiency; Improving Operations; Improving Business Continuity, Risk and Security

Supply Chain Management – cross-industry Priorities Effected

- Increasing enterprise growth
- Attracting and retaining new customers
- Reducing enterprise costs
- Creating new products and services
- Improving business processes
- Improving technical infrastructure
- Improving enterprise efficiency
- Improving operations
- Improving business Continuity, risk and security

Trends

- GPS key technology in adoption of electronic manifesting
- Major initiatives include: tracking of vehicles, loss prevention, logistics, toll payment, traffic management and control
- Regulatory compliance is a growing issue: state idling laws, looming electronic on board requirements for heavy vehicles that cross state lines. Fines are in the thousands of dollars per incident

Sales and Marketing – cross-industry Priorities Effected

- Increasing enterprise growth
- Attracting and retaining new customers
- Reducing enterprise costs
- Creating new products and services
- Improving business processes
- Improving enterprise efficiency
- Improving operations

Trends

- Smartphones and the "consumerization" of mobile devices is driving adoption in sales force automation implementations
- Speech-driven, mobile, SFA applications will drive continuing adoption
- In 2010, 1.2 billion people carried handsets capable or rich, mobile commerce, Gartner expects that by 2013 1/3 of business intelligence will be access on smartphones or tablets

Field Customer Service – cross-industry Priorities Effected

- Increasing enterprise growth
- Attracting and retaining new customers
- Reducing enterprise costs
- Creating new products and services
- Improving business processes
- Implementing and updating business applications
- Improving technical infrastructure
- Improving operations

Trends

- The percentage of technicians with wireless access to a formal packaged field service management solution will increase to 50 percent of 2012
- Mapping, service, fleet routing and fleet management will be essential capabilities by 2012
- Mobile applications can aid companies where technicians are highly trained or where workers are reaching retirement age

Employee and Vehicle Tracking and Tracing – transportation, others Priorities Effected

- Attracting and retaining new customers
- Reducing enterprise costs
- Improving business processes
- Improving technical infrastructure
- Improving enterprise efficiency
- Improving operations
- Improving business continuity, risk and security

Trends

- Remote payroll applications are emerging as method of ensuring accuracy
- Major initiatives include: tracking of vehicles, loss prevention, logistics, toll payment, traffic management and control
- Regulatory compliance is a growing issue: state idling laws, looming electronic on board requirements for heavy vehicles that cross state lines. Fines are in the thousands of dollars per incident

Routing, Scheduling and Dispatching – transportation, others Priorities Effected

- Attracting and retaining new customers
- Reducing enterprise costs
- Improving business processes
- Improving technical infrastructure
- Improving enterprise efficiency
- Improving operations
- Improving business continuity, risk and security

Trends

- Cloud-based systems are allowing smaller companies to utilize these systems
- Wireless support is now a firm requirement
- Dispatchers require real-time access to drivers' legal available drive time
- Mobile applications can aid companies where technicians are highly trained or where workers are reaching retirement age

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Are there some processes specific to your business that could benefit from a location-based solution? If so, list them in Table 2.

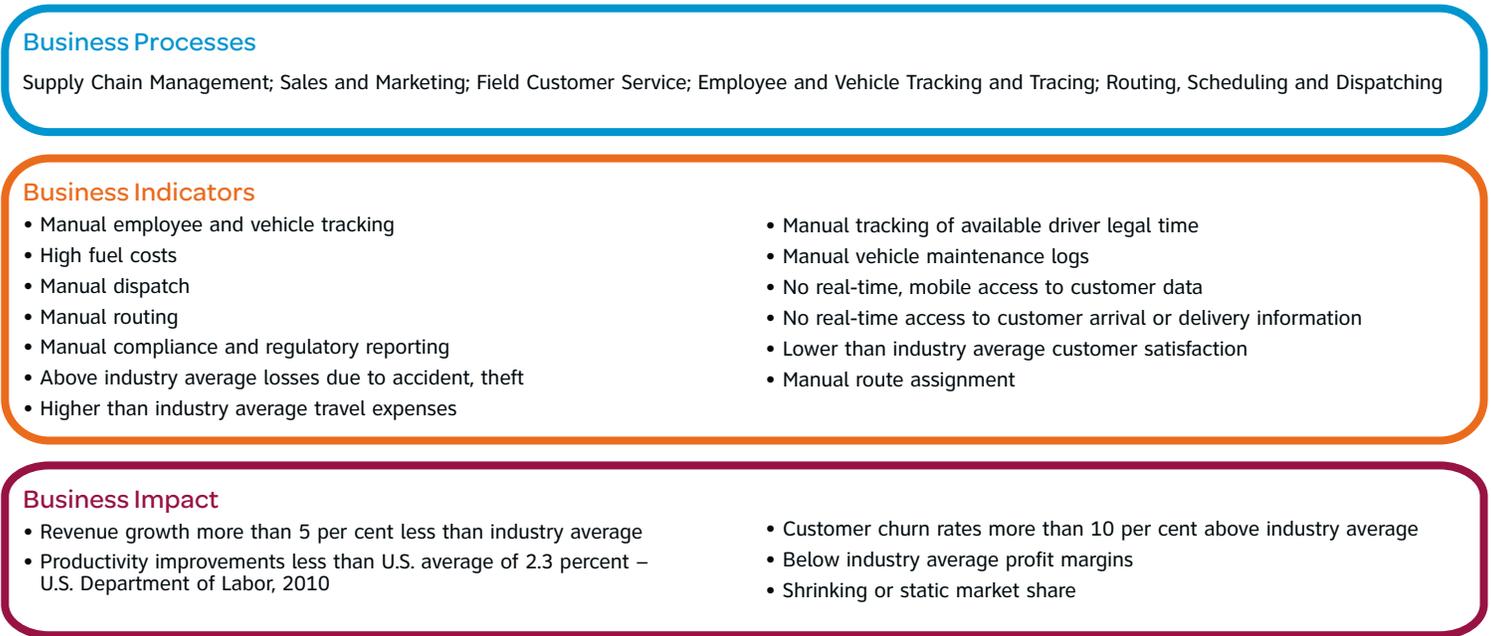## Table 2 – Your Company's Business Processes

Your Company's Business Process	Business Priorities It Affects

Step 3: Recognize the Indicators That Your Company Needs a Location-based Application Today

In Step 3, we look at indicators that suggest a location-based application might be an immediate necessity for your business. Figure 3 supplies some indications that a location-based application is needed. It also demonstrates how the lack of a location-based application might negatively impact your business.

Figure 3 – Indicators that a Location-based Application Could Benefit Your Business

Business Processes

Supply Chain Management; Sales and Marketing; Field Customer Service; Employee and Vehicle Tracking and Tracing; Routing, Scheduling and Dispatching

Business Indicators

- Manual employee and vehicle tracking
- High fuel costs
- Manual dispatch
- Manual routing
- Manual compliance and regulatory reporting
- Above industry average losses due to accident, theft
- Higher than industry average travel expenses
- Manual tracking of available driver legal time
- Manual vehicle maintenance logs
- No real-time, mobile access to customer data
- No real-time access to customer arrival or delivery information
- Lower than industry average customer satisfaction
- Manual route assignment

Business Impact

- Revenue growth more than 5 per cent less than industry average
- Productivity improvements less than U.S. average of 2.3 percent – U.S. Department of Labor, 2010
- Customer churn rates more than 10 per cent above industry average
- Below industry average profit margins
- Shrinking or static market share

Every industry has specific benchmarks and indicators for performance and customer satisfaction. For example, in the transportation industry, specifically in the shipping segment, company performance is based on the company's ability to deliver shipments quickly, cost-effectively, and reliably. Location-based applications help by allowing transportation companies to automate vehicle and personnel dispatch, routing, tracking and tracing; automate workflows and forms (including remote payroll); enable real-time messaging with remote personnel; and provide automated vehicle maintenance, performance, and regulatory compliance reports.

What are the benchmarks in your business? Is your company ahead of the curve when it comes to productivity, cost control, customer churn, profit, market share, revenue growth, and customer satisfaction? Now that you've identified your business' benchmarks, use the template in Table 3 to identify where your company stands in relation to your industry and the competition.

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Table 3 – Example Template

Business Process	Indicators

By now you might have decided that a location-based application could provide significant benefits for your company. In the next step we'll help determine which application is best for your business.

Step 4: Select a Location-based Application Solution

Location-based applications can help companies cut fuel costs, avoid fines due to regulatory non-compliance, improve worker productivity and reduce overtime expense. They can be broadly divided into three areas based on what they track/manage (worker, vehicle, asset) and what is used to track/manage the worker, vehicle or asset (GPS-enabled phone, smartphone, in vehicle devices, on asset device). The three major location-based application areas to track are Workers, Vehicles, or Assets and may generally be described as follows:

Workers
- Basic Remote Workforce Management
  Generally basic, web-based solutions that can be used on all GPS enabled phones and Internet devices. There is usually no additional software needed on the remote device. These solutions typically provide location information only.

- Enhanced Remote Workforce Management
  These solutions generally use smartphones with software clients to provide robust tracking, tracing, workflow automation, dispatching, comprehensive reporting, and integration with third party applications (i.e. payroll, enterprise management systems).

Vehicles
- Automated Vehicle Dispatch, Routing, Tracking and Management
  In these solutions, the device is typically installed in the vehicle. In-vehicle solutions often include terminals (for GPS mapping and routing and communication with the driver) and interfaces to engine diagnostics and other information. Extensive tracking and management capabilities are also included as are comprehensive reporting, regulatory compliance information and integration with third party applications (i.e. payroll, enterprise management systems).

Assets
- Asset Management
  A battery-powered device is typically installed on the asset. These solutions include extensive tracking and management capabilities as well as comprehensive reporting and integration with third party applications (i.e. payroll, enterprise management systems).

Using the information provided above, Figure 4 will help you choose the best location-based application for your business requirements.
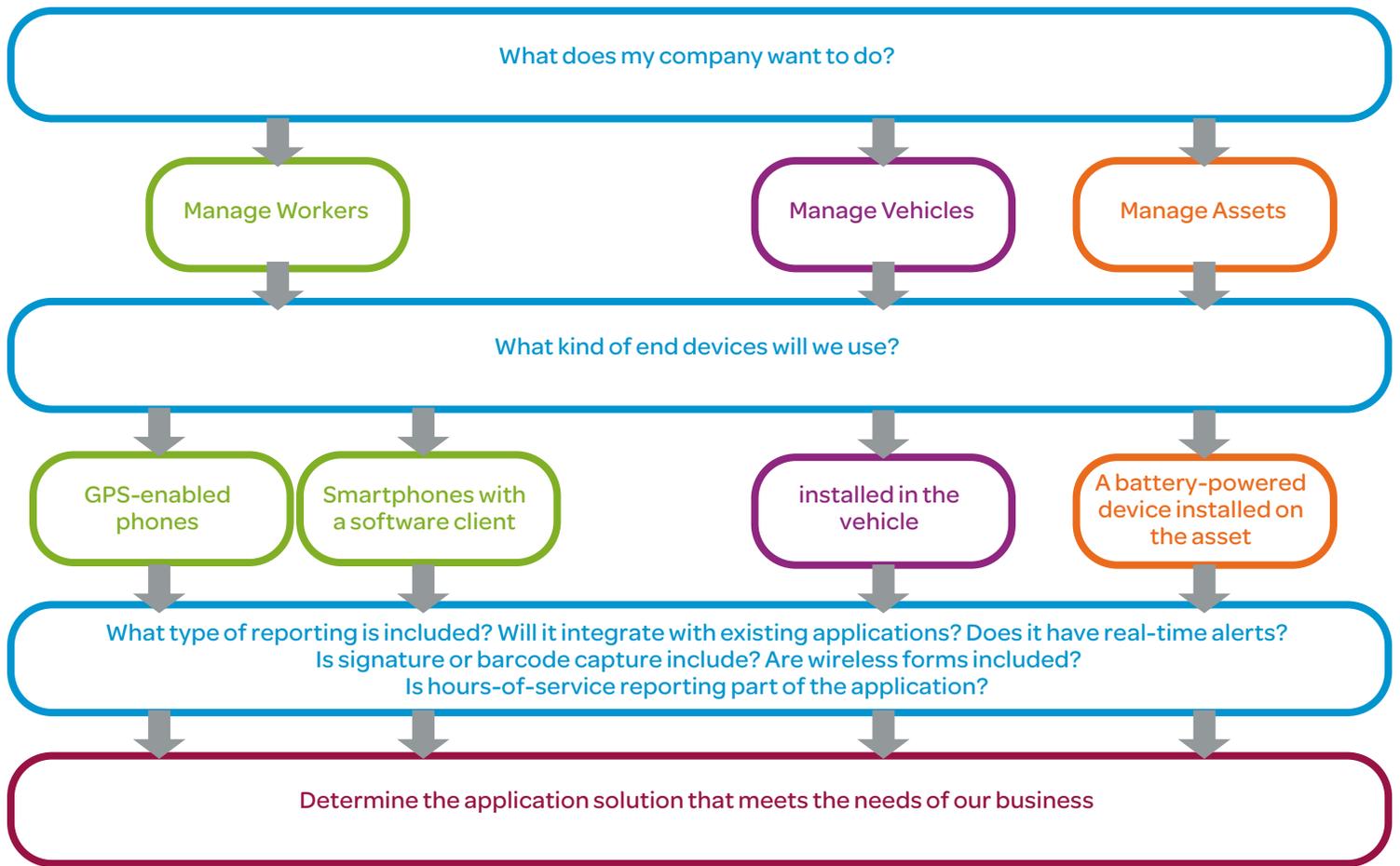
How Can A Location-based Application Help Your Business?

- Fuel costs: If a truck uses one gallon of diesel fuel per hour when idling, and idles one hour less per day, the savings over one year are $910 per truck (assuming $3.50/gallon of diesel and a 5 day workweek) or $1,277.50 (7 day workweek). For twenty trucks the savings would be $18,200 and $25,500 respectively.

- Monitored drivers are safer drivers: If only a single accident is avoided every year, the average cost reduction could be $217,000 or $3.4 million per incident (source: NHTSA) if the accident would have resulted in a fatality.

- Fines: Idle time violation fines can range in cost from $150 to $25,000 (source: Fleet Equipment Magazine). The effective use of location-based applications can help reduce these fines.

- Paper process elimination: Drivers can spend 20 to 40 minutes per day filling out logs. Elimination of this process (at $15.00/hour pay rate) saves $5.00 to $10.00/day or $1,300 to $2,600 per year in driver productivity.

- Payroll savings: Reducing a worker's overtime by only 30 minutes a day can save $11.10/day (at $15.00/hour) or $2,886 per year in payroll expense.

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Figure 4 – Choosing a Location-based Application

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┌─────────────────────────────────────────────────────────────────────────────────┐
│                        What does my company want to do?                           │
└─────────────────────────────────────────────────────────────────────────────────┘
       │                                    │                      │
       ▼                                    ▼                      ▼
┌──────────────┐                    ┌──────────────┐      ┌──────────────┐
│Manage Workers│                    │Manage Vehicles│      │Manage Assets │
└──────────────┘                    └──────────────┘      └──────────────┘
       │                                    │                      │
       ▼                                    ▼                      ▼
┌─────────────────────────────────────────────────────────────────────────────────┐
│                     What kind of end devices will we use?                          │
└─────────────────────────────────────────────────────────────────────────────────┘
   │          │                             │                      │
   ▼          ▼                             ▼                      ▼
┌────────┐ ┌─────────────┐           ┌────────────┐    ┌────────────────────┐
│GPS-    │ │Smartphones  │           │installed in│    │A battery-powered   │
│enabled │ │with a       │           │the vehicle │    │device installed on │
│phones  │ │software     │           │            │    │the asset           │
│        │ │client       │           │            │    │                    │
└────────┘ └─────────────┘           └────────────┘    └────────────────────┘
   │          │                             │                      │
   ▼          ▼                             ▼                      ▼
┌─────────────────────────────────────────────────────────────────────────────────┐
│ What type of reporting is included? Will it integrate with existing applications? │
│             Does it have real-time alerts?                                         │
│    Is signature or barcode capture include? Are wireless forms included?          │
│          Is hours-of-service reporting part of the application?                    │
└─────────────────────────────────────────────────────────────────────────────────┘
   │          │                             │                      │
   ▼          ▼                             ▼                      ▼
┌─────────────────────────────────────────────────────────────────────────────────┐
│           Determine the application solution that meets the needs of our business  │
└─────────────────────────────────────────────────────────────────────────────────┘
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Step 5: Choosing Your Location-based Application Provider

Location-based applications help companies become more productive and profitable. But to get the most from your location-based application implementation, you'll need to choose a solution provider that can provide a full spectrum of applications and devices as well as the services and support that ensure the durability and reliability of the solution. Every company is unique. Make sure that your solution provider offers all of the capabilities that your business requires.

Following are some questions to ask when choosing a location-based application solution provider.

Applications
- Are applications available from the industry's leading software vendors?

- Are the applications scaled to accommodate small, medium and large implementations?

- Are the applications designed for your specific industry?

- Have the applications been successfully implemented in your specific industry?

- Do the applications provide the reporting features your company requires?

- Can applications be easily integrated with existing business applications (for example: payroll, Customer Relationship Management (CRM), Transportation Management System (TMS)?

Wireless Devices
- Can you choose from wide variety of phones, smartphones, in vehicle and on asset devices utilizing a variety of operating systems?

- Are devices available that include the latest in features and wireless device functionality?

Support and Integration
- Can you choose a solution that includes a variety of devices and applications?

- Has the solution provider implemented solutions for other companies in your industry?

- Have they implemented solutions similar in scale (number of end user devices)?

- Will you receive a single bill for all service components (application, device, wireless network)

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- Are systems integration services available to help link the location-based application with existing payroll, CRM or other existing business applications?

- Is end-user training included? How is it delivered?

- How is the solution supported after the sale?

- How are software or hardware upgrades implemented?

Now that you are armed with questions to help you choose a location-based application solution provider, the next step is to ensure that your company's implementation will be smooth and that any possible "gotchas" are avoided. Taking the time up front to plan how your application is implemented ensures that your company will realize the benefits of your location-based solution faster, and that users will accept the move to mobility more quickly.

Step 6: Ensuring Your Location-based Application Implementation is a Success

Making the transition from manual remote workforce and vehicle management to systems that are automated and use mobile technologies compels your company's employees to change the ways in which they perform many of their daily tasks. If the transition is not a smooth one, employees resist the change and adopt changes slowly and reluctantly. The result is an implementation that never reaches its full potential for helping your company meet its business goals.

Companies of all sizes and in a variety of industries have made this transition smoothly and efficiently.   However, to ensure that your company's move to a location-based application is successful, we offer the following recommendations.

- Choose devices that will last. Once your company has made an investment in devices, they need to last more than just a year or two. Wireless technology is changing from 3G to 4G and beyond. Check with your network service provider to make sure that the purchases you make today will still function on the network in years to come.

- Inexpensive solutions can turn into expensive ones. Implement the solution that meets your needs today and in the future. The solution needs to adapt as your company changes. Although purchasing the low cost service might be appealing right now, you, your company and your employees may regret that choice as your company grows and needs change. Migrating from a low cost choice to a more robust service will result in upgrades and changes to end user devices and alterations to business processes put in place for the initial solution. That means more cost down the road as well as losses in productivity, and unhappy employees.

- Understand the capabilities and characteristics of end user devices before they are used in the implementation. Devices vary by user interface, operating system, battery life, speed, size, weight, screen size, resolution, cost, and a number of other characteristics. Purchase the devices that will do the best job for your employees and your business – for today and for the next several years. Additionally, location-based applications tend to put a heavy load on smartphone batteries, so choose devices that have longer battery life, or invest in extra batteries or in-vehicle chargers to ensure users have access to the service when they need it.

- Understand the requirements of in-vehicle device installations. In-vehicle device implementations often require connections to antennas, vehicle sensors and in-vehicle peripheral devices. As a result, standard maintenance periods are often good times to schedule in-vehicle installations.

- Understand how location-based applications work. Location-based applications typically rely on "line-of-sight". Users will need a clear line to the sky for a good reading. As a result, pick a device that will work seamlessly with your workforce. Users of workforce management applications are also encouraged to be outside when they start or stop shifts and jobs. Sometimes a smartphone is the correct choice, but, often times a single-use device may suit your specific needs better. (This is not an issue for in vehicle device installation as these devices typically use antennas mounted on the vehicle to acquire GPS location information.)

- Ensure your employees understand the benefits of the location-based application. People tend to resist change. It is therefore critical that employees understand not only how the new service will help your company, but the employees themselves. How will the service make their job easier? Will it enable them to make more money?

- Understand the activation and set-up process. What will you or your staff need to do to initialize the service on a user's smartphone? How long does the process take – including network activation?

> AT&T's Field Operations organization currently uses an in-vehicle tracking and tracing solution to automate dispatch, routing, tracking, tracing, and reporting for its fleet of more than 64,000 vehicles. The solution has already saved AT&T 7 percent in fuel costs and reduced drive time another 7 percent. AT&T expects to save more than $8.4 million annually through deployment of its own location-based applications.

- Have a plan in place for installing software on existing end-user devices. A good time to perform an installation is when employees come in from the field for pay checks or at the end of shifts.

- Ensure that every employee attends training. Most solution providers include user training as part of the solution. Companies whose employees fail to participate in a training program are the companies most likely to experience problems and end-user dissatisfaction.

- Expect to perform some routine maintenance on end user devices. You or the users must expect to power-cycle phones and reload or upgrade applications. Although most maintenance is infrequent, no service is maintenance-free.

These simple, yet important recommendations, companies can help ensure that your location-based application implementation will be a success.

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Why AT&T?

- Single source for location-based application solutions – wide variety of applications and devices and the nation's fastest mobile broadband network

- Single contract and bill from AT&T

- Support provided by AT&T's award winning training and customer support organizations

- Mobility Solution Services for integration of location-based applications with existing enterprise management, customer management, payroll, or other applications

Conclusion

Location-based applications can help companies of all sizes in nearly every industry cut costs, improve worker productivity and simplify regulatory compliance. They improve how remote workforces, vehicles and assets are managed, tracked and monitored. Using a location-based application; companies have reduced fuel costs, eliminated fines from regulators, reduced overtime expenses, eliminated wasteful paper or manual processes, and decreased losses due to accident, theft, and employee malfeasance.

To realize the benefits of a location-based application, companies should purchase the application and devices that are designed to meet the unique needs of their business. Applications and devices are however, just part of the equation. It is just as important to find the best solution for your company – a solution that includes one bill, one support interface, one reporting interface and one company to call should a problem occur. Additionally, that solution should also be backed by stringent testing and certification programs, experienced industry specialists and award winning training and customer service organizations. A solution that incorporates application, devices, support, certification, and experience can deliver a rapid return on investment (ROI) and an almost immediate, positive effect on the balance sheet.

Isn't it time for your business to implement a location-based application to help make a positive impact on your bottom line? For more information contact an AT&T Representative or visit www.att.com/business.

Notes

1. Gartner Identifies the Top 10 Strategic Technologies for 2011, Gartner EXP (January 2011).

2. Ibid.

3. International Telecommunications Union (ITU), March, 2011.

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