



## Microsoft Virtual Earth™ Platform Customer Solution Case Study



### Overview

**Country or Region:** United States

**Industry:** Construction

### Customer Profile

West Coast Sand and Gravel is based in Los Angeles, California and serves most of that state with a fleet of 350 trucks. It has 570 employees, including 20 dispatchers.

### Business Situation

West Coast's hosted SP vehicle tracking solution did not provide reliable data for dispatchers, and managers did not own the job-tracking information they needed for reporting purposes.

### Solution

West Coast now uses a Microsoft® MapPoint® 2006 Fleet Edition solution that's integrated into its dispatch/order entry/accounts receivable system and a Microsoft SQL Server™ 2005 database to generate reports.

### Benefits

- Retaining control over business data
- Increasing dispatch efficiency
- Reducing operating costs
- Improving customer service
- Increasing visibility into the business

## Gravel Company More Profitable with New Fleet Management Solution

“We preferred MapPoint 2006 because we knew it could handle a whole spectrum of business processes...it's a complete business platform that's going to deliver long-term benefits.”

*Kirk Bowman, Technology Manager, West Coast Sand and Gravel*

West Coast Sand and Gravel supplies landscaping and construction material to customers across California. Based in Los Angeles, the company prides itself on fast, efficient delivery with a fleet of 350 vehicles. So when dispatchers began to boycott their unreliable automated vehicle tracking solution, West Coast decision makers replaced it with a customized fleet management solution based on Microsoft® MapPoint® 2006 Fleet Edition. Today dispatchers are working more productively with accurate location data that is displayed on their screens and updated every three minutes. West Coast is cutting fuel costs by reducing truck idling time and optimizing routes. The company is providing better customer service, and managers now own a wealth of location data to visualize business conditions, analyze company operations, and make better decisions.



**Microsoft®**

“We needed a bulletproof system, and MapPoint 2006 Fleet Edition provided it.”

Kirk Bowman, Technology Manager, West Coast Sand and Gravel

## Situation

West Coast Sand and Gravel has been a leading supplier of quality sand and gravel since 1968. With six locations in California—Buena Park, Chino, San Diego, Thermal, Oakdale, and Sacramento—and more than 350 trucks, West Coast has established relationships with more than 100 quarries. The wide geographic coverage provided by its network of offices and truck terminals means West Coast is able to provide quick response times and excellent service, no matter where a job is located.

To maintain its reputation for strong customer service, West Coast's 20 dispatchers—each responsible for between 20 and 30 trucks—need to manage a great deal of information about the fleet's position so they can orchestrate the most efficient routing and delivery/pickup schedules. Efficient fleet management means minimized idle time, reduced fuel expenses, and high customer satisfaction. Says Chris Van Veldhuizen, Chief Operating Officer at West Coast Sand and Gravel, “We differentiate ourselves through providing efficient pricing for a job and next-day, or sometimes even same-day, service. We also have one of the lowest ratios of dispatchers to trucks on the road.”

One of the reasons for West Coast's efficient operations is its judicious investment in technology that provides business value. “Embracing technology helps keep our overhead low and attracts customers and employees to our business, because it means we are using tools to provide better service and working conditions,” says Kirk Bowman, Technology Manager at West Coast Sand and Gravel. “We try to avoid single, standalone IT solutions. Whenever we look at making a technology investment, it has to provide business value by integrating into our environment and improving the way our employees work. That's why we have a 100

percent Microsoft IT infrastructure here at West Coast.”

## Unreliable Data

Despite West Coast's dispatchers' best efforts, they were hampered in their ability to maximize their fleet's performance by an unreliable third-party Application Service Provider (ASP) tracking solution that delivered trucks' locations to a map-based interface on the dispatchers' personal computers. The system utilized Global Positioning Systems in hand-held cellular phones. However, the drivers often forgot to set the phones to the tracking function, rendering themselves invisible to the dispatchers. “We had dispatchers wasting one or two hours a day phoning drivers,” recalls Van Veldhuizen.

Furthermore, when the dispatchers did have a visual lead on a truck, often the location information would be incorrect. “The application served up unreliable location data and made it difficult for dispatchers to locate drivers, or verify their positions for customers,” continues Van Veldhuizen. “This reflected poorly on the integrity of our data and impacted customer service because dispatchers couldn't schedule deliveries with confidence. Eventually dispatchers weren't even using the system.”

## No Access to Data

Because the application's data resided on a remote host server and belonged to the ASP tracking solution provider, West Coast did not have any access to important business information about its trucks' positions, delivery times, customer service, fleet routes, geographical coverage, trend analysis, and a host of other topics.

“We wanted to own our data and store it locally to use for reporting services,” says Bowman. “Company executives and fleet managers at each of our trucking yards didn't have a clear understanding of the business

as a whole because we couldn't get to the data."

West Coast knew it needed to replace the ASP system to provide employees with a mapping and location solution for its fleet management and business intelligence needs. "We wanted a reliable solution that would integrate with our business applications, including our dispatch/order entry/accounts receivable system, and our financial system as well as the rest of our Microsoft infrastructure," says Bowman. "We wanted a solution that could pull together a hard-mounted unit in the trucks, transmit location data without driver intervention, and enable us to store that data in our [Microsoft®] SQL Server™ database."

## Solution

"We met with three or four vendors with locating devices that delivered location data to the desktop, but none of them allowed the company to store the information in its own database," says Steve Abrahams, Director of Communications at West Coast Sand and Gravel. Bowman had experimented with a copy of Microsoft MapPoint® 2004, and was pleasantly surprised at how quickly he could get results. So when West Coast looked at that product's next iteration, Microsoft MapPoint 2006, it was easy to see how the company could benefit from it. "We liked the fact that it would integrate with our Microsoft environment and that we could own the data to control and manipulate for reporting," Bowman recalls.

Microsoft MapPoint 2006 is business mapping software that combines powerful mapping and analysis tools that West Coast can use to build a flexible and cost-effective fleet management solution. "Microsoft is allocating a lot of resources toward MapPoint software, which gave us comfort that investing in this technology would be like

investing in a product road map with ongoing evolution and business value," adds Bowman.

## Building a Team

It was while West Coast was researching Automated Vehicle Locator (AVL) boxes from Enfora for use in their trucks that it engaged Microsoft Partner OnTerra to deploy an automated fleet management solution built with Microsoft MapPoint 2006 Fleet Edition.

"OnTerra did a great job developing the fleet tracking software and integrating the solution with West Coast's systems," says Van Veldhuizen. "They are a smart and professional team and well connected with Microsoft, and that made us feel comfortable with their capabilities."

## Building a Custom Solution

OnTerra used MapPoint 2006 Fleet Edition to create a customized fleet solution that integrates seamlessly with West Coast's Microsoft IT infrastructure and maps to its unique business processes. "We installed MapPoint 2006 Fleet Edition on the dispatchers' machines, and we created a number of solution components that integrated all the pieces together," explains Steve Milroy, Chief Emerging Solutions Architect at OnTerra. "There are a lot of new components that have not been used in this scenario before, but West Coast had the vision to work toward a unique and powerful solution built using the Microsoft .NET Framework 2.0."

Standard application deployment technology available in the .NET Framework, called Click Once Deployment, allowed OnTerra and West Coast to work together virtually. "We simplified deployment using Click Once functionality so that dispatchers simply downloaded new iterations of the application as our developers finished them," explains Milroy. "We are also using Microsoft Office

“We took the position that leveraging the latest Microsoft mapping technologies and the expertise of a Microsoft partner who can build exactly what we want made more business sense in the long term.”

Chris Van Veldhuizen, Chief Operating Officer,  
West Coast Sand and Gravel

Live Meeting to complete this project without ever having to meet face to face.”

West Coast began with a pilot project that saw Enfora boxes mounted in 10 trucks that use Global System for Mobile Communications/General Packet Radio Service technologies. Using Cingular as the carrier, these technologies form the wireless data connections that every three minutes relay satellite-based latitude and longitude information to the company's SQL Server 2005 database running on the Microsoft Windows Server™ 2003 operating system.

“We are using a SQL [Server] 2005 database as the central repository for fleet information” continues Milroy. “For the dispatchers, we created a Windows® Forms application that interfaces with MapPoint to leverage maps and other features for data visualization. This smart client application uses SQL Server Web Services to connect to the database. Every three minutes, a truck sends its location data to SQL Server where it's processed and accessed by the dispatchers running the smart client fleet solution on Windows XP Professional [operating system].”

In the next phase, West Coast mounted the Enfora boxes in all 350 trucks. Today, 10 dispatchers throughout the state are working with the new solution to enter job and truck assignments, while fleet managers and the chief operating officer are using it to monitor their company's operations as a whole.

“While we are only in the early stages, we have already verified the validity of the data,” says Bowman. “Right now the solution has been integrated with our dispatch/order entry/accounts receivable system to the point where it publishes job-site locations, supplier locations, and vehicle locations onto the MapPoint maps. The advanced geo-coding engine in the Virtual Earth SOAP APIs (MapPoint Web Service) is used to accurately geo-code job-site and supplier locations.”

OnTerra used this technology to build advanced time-tracking and geo-fencing elements into the solution so that it can alert the dispatchers when a truck crosses a boundary within a quarter mile of any job site, so they can see that the truck will be ready to pick up another load soon. Next steps will be to refine the reporting aspect of the solution and work to integrate it with West Coast's financial solution, Microsoft Dynamics™ GP.

“It came down to making a decision. Do we spend hundreds of thousands of dollars on a tracking AVL system, do we go with an application services provider model where we pay between U.S.\$40 and \$60 a month per truck and don't own the data, or do we take a cost-effective Microsoft solution that's more of a business platform we can control and integrate to meet our needs?” says Van Veldhuizen. “We took the position that leveraging the latest Microsoft mapping technologies and the expertise of a Microsoft partner who can build exactly what we want made more business sense in the long term.”

## Benefits

Using its new MapPoint 2006 Fleet Edition solution, West Coast is increasing the efficiency of its dispatch operations, cutting operating costs, providing better customer service, and improving its understanding of the business.

“Dispatchers are using MapPoint 2006 Fleet Edition to improve their ability to effectively route the trucks and quickly dispatch vehicles to the next job. And because the solution is integrated into the order entry/dispatch/accounts receivable system, dispatchers don't have to leave that interface to manage the fleet, so they are working more productively,” says Bowman. “We have eliminated time wasted confirming locations with drivers. The system is live from the

moment the ignition is turned on until the driver shuts down at the end of the day.”

The Map Point solution also allows the dispatchers to see the suppliers and control how many trucks they dispatch to each supplier allowing West Coast to decrease over crowding at the plants. “The use of the Map Point Web service is a feature that allows us to not only validate addresses and find longitude and latitude for our geofences, but also saves dispatchers from sending drivers to wrong addresses,” adds Bowman.

“We needed a bulletproof system, and MapPoint 2006 Fleet Edition provided it,” he continues. “Now we have rock solid location data to back up any discrepancies between the drivers’ or customers’ version of events and what actually happened. We can look at where the truck is on the map instead of calling the driver to find out their location. This allows our drivers to focus on driving, which is a bonus in the safety department. Our dispatchers have faith in the data in front of them, and they can work with confidence.”

#### **Cutting Costs**

Part of that confidence comes from the ability to see what is happening in the field, where a vehicle is located, what direction and what speed it’s traveling, and to be able to use that information to reduce costs. For example, West Coast has a clause in its agreement with contractors that ensures the truck gets unloaded and on its way in 20 minutes. With the new built-in alerts that notify dispatchers if the truck is idling for longer than the allotted time, West Coast can bill the customer with assurance for the extra stop time. “Now we can recover those costs. We are saving money on fuel wasted by over idling and reevaluating our routes to conserve fuel that way,” adds Van Veldhuizen. “Of course, when we route our trucks more efficiently and get them on their way to the

next job more quickly, we are also providing better customer service.”

And when dispatchers answer the phone to a customer enquiring about a delivery, they can respond immediately with reliable location data that’s at most three minutes old. The same holds true for suppliers, who don’t have to wait as long for a West Coast truck to arrive for a load, because the dispatchers now have assurance that they are indeed sending the vehicle that’s nearest the location.

#### **Making Better Decisions**

West Coast managers are also viewing their MapPoint 2006 Fleet Edition solution as a way to accumulate valuable business data to make better business decisions. Instead of monitoring eight different business units by phoning or visiting fleet managers, executives are looking forward to being able to use the reporting tools that OnTerra is building into the solution to answer those questions from a central location.

“We are growing so fast by acquisition it’s hard to keep a handle on the business units and what they are doing,” says Van Veldhuizen. “MapPoint 2006 Fleet Edition will help us keep our finger on the pulse of our dispatch operations. When a new company comes on board, we find that there’s often an overlap of service area and [by] using the MapPoint solution to highlight different fleets in different colors, we can see where the overlap occurs. For the first time, we have a visual tool that gives us a global overview of operations, and we can work with the managers to reduce the chances of fleets competing against each other.”

When the MapPoint 2006 Fleet Management solution is integrated into West Coast’s financial system, managers will have the added benefit of a virtual timecard system, replacing the current manual process, in

## For More Information

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For more information about OnTerra products and services, call 651-270-0354 or visit the Web site at: [www.OnTerrasys.com](http://www.OnTerrasys.com)

For more information about West Coast Sand and Gravel, call (800) 522-0282 or visit the Web site at: [www.wcsg.com](http://www.wcsg.com)

which a driver signs on at the beginning of a shift and signs off when he or she returns at the end of the day.

“We want to avoid discrepancies between when a driver signs in and when he actually leaves the yard to begin revenue-generating activities,” says Bowman. “The ability to integrate with our existing business processes is one of the main benefits of going with a Microsoft product that we can customize. With MapPoint 2006 Fleet Edition, we can aim at total integration from the point of taking the order, dispatching the delivery, and entering the order in accounts receivable, right through to producing financial reports for the board of directors. We preferred MapPoint 2006 because we knew it could handle a whole spectrum of business processes. Our fleet solution based on MapPoint 2006 Fleet Edition is already proving itself by providing much more than an ASP fleet solution; it’s a complete business platform that’s going to deliver long-term benefits.”

The Virtual Earth platform is Microsoft’s next generation mapping and location service. It combines the MapPoint Web Service with exciting new innovations around bird's eye, satellite and aerial imagery, dynamic map styles and enhanced local search. Using the Virtual Earth platform, companies and government organizations can create an immersive online mapping and search experience that enables their customers to easily discover, search, explore, share and visualize business location data and locally relevant information.

For developers, the Virtual Earth supports a variety of programming environments and can be easily integrated into business applications, like customer relationship management and supply chain management. For more information about Microsoft Virtual Earth, go to: [www.microsoft.com/virtualearth](http://www.microsoft.com/virtualearth)

## Microsoft Virtual Earth

### Software and Services

- Microsoft Servers
  - Microsoft Windows Server 2003
  - Microsoft SQL Server 2005
- Microsoft Office System
  - Microsoft Office Live Meeting
- Microsoft Dynamics
  - Microsoft Dynamics GP
- Microsoft Virtual Earth
  - Microsoft MapPoint 2006 Fleet Edition

- Microsoft Windows XP Professional
- Technologies
  - Click Once Deployment
  - Microsoft .NET Framework 2.0
  - Microsoft Virtual Earth SOAP APIs
  - SQL Server 2005 Web Services
  - Windows Forms

### Partners

- OnTerra

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