



## FAST FACTS

### Company

Clear Channel Outdoor is the world's largest outdoor advertising organization.

### Industry

Advertising  
- Construction  
- Field Services

### Geography

Worldwide

### Challenges

- Maintain its industry leadership position
- Increase customer satisfaction by reducing advertising posting times
- Decrease fuel cost by increasing efficiencies
- Improve and standardize deployment and maintenance processes.

### Solution

- AirMobility.Net™
- Motorola i580
- Baracoda Road Runner
- GPS Tracking
- Photo Capture Support
- Back Office Integration

### Results

- Previous 72 hour posting reporting requirement is now real-time.
- Increased efficiency and improved control are providing exponential returns on the existing investment.

### WESTLAKE SOFTWARE, INC.

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## COMPANY

Clear Channel Outdoor is the worldwide leading provider of outdoor advertising products and services. It owns and operates billboards, street furniture displays, wallsapes, neons, transit displays, spectaculars, and mall displays. The company serves retail, business services, automotive, banking and financial services, food and food products, telecommunications, and media and entertainment industries. As of August 20, 2007, it operated approximately 1,000,000 displays in 60 countries.

## CHALLENGES

Advertising has become an extremely competitive industry. With new services, lower cost providers entering into the market almost daily, and advertising dollars expected to go further with most clients, established leaders seek to maintain their competitive edge. To increase its efficiencies, Clear Channel Outdoor set out to transform the way in which their field force managed, posted and reporting on changing ad copy from all advertising options.

### Maintain its industry leadership position

Like many large companies, Clear Channel Outdoor grew from a series of acquisitions and strategic service introductions. The company now supports both a centralized and decentralized strategy in managing over 30 different locations across the United States.

### Increase customer satisfaction by reducing advertising posting times

In order to increase sales and customer satisfaction, the company knew it needed to substantially improve how their highly distributed field force was managing the reporting of jobs completed/delayed of advertisement postings. Existing models were paper-based, prone to manual database entry error and a challenge to update all 30+ databases on a timely bases; do so consistently, even with a mandated 72 hour corporate requirement.

### Decrease fuel costs by increasing efficiencies

Rising fuel costs worldwide is of noted concern for any organization that supports a mobile field force, especially organizations who use mobile heavy machinery. Clear Channel Outdoor supports thousands of trucks and mobile cranes in the removal and replacement of ad copy on bill boards of every size. Even slight improvement in route management will have an immediate impact on cost controls.

### Improve and standardize deployment and maintenance processes

As like many organizations that grow quickly and by acquisition, implementation of corporate wide standards is a challenge. The company desired a solution that would further drive additional standards to their national field force.

## SOLUTION

Westlake Software, Inc. proposed a comprehensive wireless integrated solution that would help Clear Channel Outdoor overcome these challenges. The solution combined custom software, GPS tracking, photo capture support, field bar code scanning and back-office integration into their



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existing infrastructure software KB World; a leading back-office product for the outdoor advertising industry.

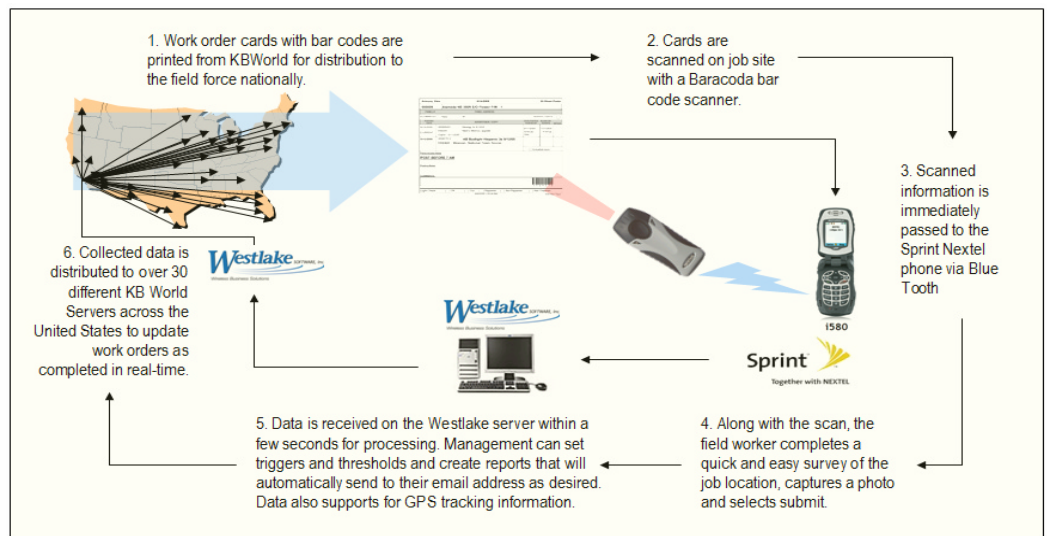
## ARCHITECTURE

A core function of the new field force automation solution was to eliminate the possibility of data entry errors. The initial thought was to place a bar code on the ad copy or on the bill board itself to allow the field worker to mark their location and a job completed. The problem here was that neither the ad copy nor the location itself represented the *job*. The same ad copy may be required to be posted at 20 different locations; marking a location does not denote what ad copy was posted.

To accommodate both the ad copy and location, Westlake and the makers of KB World worked together having KB World export a unique bar code combining "add copy and a location identifier" on their existing job posting cards. Having the worker scan the card when in the field would now route the *specific job information* back to KB World.

Field force workers will scan cards with a mobile bar code scanner. The blue tooth scanner will pass the data to a Motorola blue tooth enabled, JAVA enabled, GPS and photo enables handset. The handset software will also allow the user to add additional information to a wireless form, take a photo and submit this data to the **AirMobility.Net™** server. The server supports multiple functions for Clear Channel including:

- Routing the completed jobs with photos to 30+ servers nationally
- Full online mapping of jobs (street level), worker tracking, direction, speed, etc.
- Escalation and reports on maintenance issues
- Dynamic form creation and distribution to all handsets



## FEATURES AND BENEFITS

Substantial efforts were placed into error handling to help ensure each worker was to achieve the most optimal work flow possible. Job completion forms are cashed locally on each hand held but can be dynamically updated on-the-fly from the server. When the field worker submits a record, they can be in and out of coverage per a store-and-forward model. Functioning like an Outbox, the user submits each record to a background process. This process will continue to attempt to send the record to the service via the wireless network until it is successfully received. This enables the

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worker to work in and out of coverage and seamlessly account for any wireless network, Internet or server related outages; both short term or prolonged. These functions allow the field force to be more productive and spend more time focusing on the job at hand versus managing wireless data.

Once the data is collected on the AirMobility.Net server, the main function is to route this information to KB World so records can be updated instantly. Prior to deployment, updated records were required to be placed into KB World within 72 hours. The average time work orders are now updated is within a few seconds; now real-time. With the support of critical information within the scan as well as photo support for proof of performance, customer's of Clear Channel are now benefiting from real-time knowledge of their outdoor advertising campaign. This has significantly improved customer satisfaction nationally.

"Westlake Software has helped us actualize a real-time system for our field operations staff that will not only have internal benefits but also benefit our customers. They quickly grasped our business needs and used their technical expertise to arrive at a cost-effective, user friendly solution that can adapt and grow with us."

**Mike Porter**  
SVP-Outdoor IS  
Clear Channel Outdoor

AirMobility.Net server functions also allows management to set triggers and thresholds on data being collected. Management can create monthly reports on demand around graffiti damage for example or to escalate locked and blocked issues to operations in real-time.

AirMobility.Net supports full online GPS mapping and tracking. Management is able to view field worker routes down to the street level to ensure they are taking the most efficient route possible when conducting their work.

**Clear Channel Portland, OR worker shows strong efficiency in route selection.**



The benefits here are cost savings related to fuel. For example: \$3.50/gallon multiplied by 500 field force crews saving 1 gallon per work day amounts to over \$400,000.00 in saved fuel costs annually.

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**Alan Gould**  
President and CEO  
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www.westlake.com

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GPS functions include route display, direction and speed statistics and location of current employee if an employee (potentially hurt) has not moved for more than a pre-determined time. Map functions support date and time display, color plotting, name of field worker display, view out to US or down to the street level, and more.

Taking full advantage of the Sprint Nextel Motorola i580, photo support was incorporated to help provide a real-time visual of the completed work. Although Clear Channel Outdoor has a national photography department designed for professional representation, the 2 Mega Pixel support on the Motorola phone was strong enough to create an internal visual "proof of performance" function for the company.

Photos can be accessed two ways. First, they are visible and available in real-time on the AirMobility.Net server (shown below); second, they are being routed to each version of KB World across the United States for back office support.

User	Received	Latitude	Longitude	SCAN BAR CODE	SCHEDULED PANEL?	PANEL NUMBER	MAINTENANCE REQUEST(S)	Photos	Start Time	End Time	Duration
sgner., Jim	Wed, Nov 21, 2007 01:18:57 PM	N 45° 28' 41.2800"	S 122° 34' 7.35360"	18491112	No	84895			13:18:40	13:18:53	00:13
sgner., Jim								Photo	13:02:53	13:03:18	00:25
sgner., Jim								Photo	13:02:14	13:02:33	00:19
sgner., Jim								Photo	12:46:51	12:47:11	00:20
sgner., Jim								Photo	12:30:52	12:31:21	00:29
sgner., Jim								Photo	12:22:58	12:23:18	00:20
sgner., Jim								Photo	12:19:50	12:20:57	01:07
sgner., Jim								Photo	12:19:34	12:19:59	00:25
sgner., Jim								Photo	12:05:16	12:05:37	00:21
sgner., Jim								Photo	11:55:57	11:57:02	01:05
sgner., Jim								Photo	11:49:51	11:50:17	00:26
sgner., Jim								Photo	11:48:13	11:49:43	00:30
sgner., Jim								Photo	11:48:26	11:49:04	00:38
sgner., Jim								Photo	11:48:22	11:48:54	00:32
sgner., Jim								Photo	11:47:02	11:48:17	01:15
sgner., Jim								Photo	11:27:36	11:28:41	01:05
sgner., Jim								Photo	11:28:19	11:28:42	00:23
sgner., Jim								Photo	11:09:19	11:10:33	01:14
sgner., Jim								Photo	11:05:18	11:05:30	00:12
sgner., Jim								Photo	11:04:46	11:05:07	00:21
sgner., Jim								Photo	10:57:13	10:57:34	00:21
sgner., Jim								Photo	10:51:59	10:52:56	00:57
sgner., Jim								Photo	10:33:01	10:33:35	00:34
sgner., Jim								Photo	10:28:56	10:29:24	00:28
sgner., Jim								Photo	10:23:57	10:25:01	01:04
sgner., Jim								Photo	10:10:29	10:10:43	00:14
sgner., Jim								Photo	10:06:22	10:06:45	00:23
sgner., Jim								Photo	10:01:53	10:02:41	00:48
sgner., Jim								Photo	09:53:53	09:54:04	00:11
sgner., Jim								Photo	09:45:23	09:45:45	00:22
sgner., Nick	Wed, Nov 21, 2007 09:40:02 AM	N 45° 31' 9.9360"	S 122° 33' 42.0160"	18491118	No	88700			09:36:35	09:38:54	02:19

Photos can be used for before and after photos of work, important maintenance issues like graffiti. Tree trimming, locked and blocked issues and more.

"Westlake is a highly professional organization in which fundamentally understood Clear Channel Outdoor's challenges on multiple levels. They anticipated both their existing needs and have also positioned their technology for the future."

**Brian Morton**  
Senior National Account Manager  
Sprint Nextel

**RESULTS**

The benefits to a nationally deployed wireless solution are often obvious. However, *how* they are deployed and the steps in which the users of this wireless solution are required to do is an important factor in achieving maximum productivity. For example, if the data collection software requires two extra steps to complete a job versus a well thought out solution that can eliminate these two steps, this can create a substantial lost in productivity. For example, if two extra steps in a wireless solution were required by Clear Channel Outdoor per each job, this could detract value from the overall solution. 5 extra seconds multiplied by 500 workers multiplied again by time 20 jobs a day

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in a five day work week totals over 3300 hours annually. High attention to detail was made to ensure as much data about the job would be included in the bar code read to substantially decrease the amount of data each worker would need to enter in the field. The estimated time in which has been saved by all workers annually is estimated to be over 30,000 hours. Westlake's automation with KB World has eliminated time required by each office to enter in jobs completed manually. This step, estimated nationally at each office at about 1 hour a day has brought over 8000 hours saved by automating the back office data entry process.

In addition to this detail, Westlake established for Clear Channel a private extranet which includes detailed instructions from purchasing, contact information, setup and configuration and usage of all aspects of their solution.

Clear Channel Outdoor is the first outdoor advertising company to release this level of automation in North America. The solution has been positioned as an asset to help the direct sales team to further differentiate Clear Channel from its competitors. Customers can now track from a local campaign to a national campaign their advertisements being posted in real time.

Substantial value has been added to work flow and efficiencies related to a virtual elimination of data collection and data entry errors. Cards from the field being returned late or not at all (if lost) have been eliminated. This, combined with a proof of performance photo, has further decreased costs related to fuel by decreasing *management's* ongoing requirements of spot checking completed work in the field.

GPS tracking services have reduced costs associated with more expensive GPS tracking options deployed sporadically throughout the organization. Management has been able to assist workers down to the individual level to help improve fuel efficiencies (quantification not available at this time). In addition, monitoring and tracking vehicle speed has improved both fuel efficiency and safety throughout the field force nationally.

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The way in which jobs are distributed to an individual worker and how the data is managed has been standardized nationally. The standardization has greatly helped a centralized IT department better manage, track and analyze production from the field force without having to conduct field work as often, further saving additional costs in reduced travel expenses.

### CONCLUSION

Clear Channel Outdoor has surpassed their automation and return on investment objectives within six months of deployment and will continue to benefit from exponential returns. Westlake continues to development, manage and host this data solution and supports all aspects of the deployment including data and wireless services from Sprint Nextel, hardware support for both the Motorola handsets and Baracoda barcode readers and all data transfers and GPS tracking and mapping support.

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