

AirToolz cuts weeks off construction jobs with open, responsive IBM solution.

Overview

■ Challenge

Transform outdated construction industry job scheduling process to allow rapid response to change, as well as significant time and cost savings

■ Solution

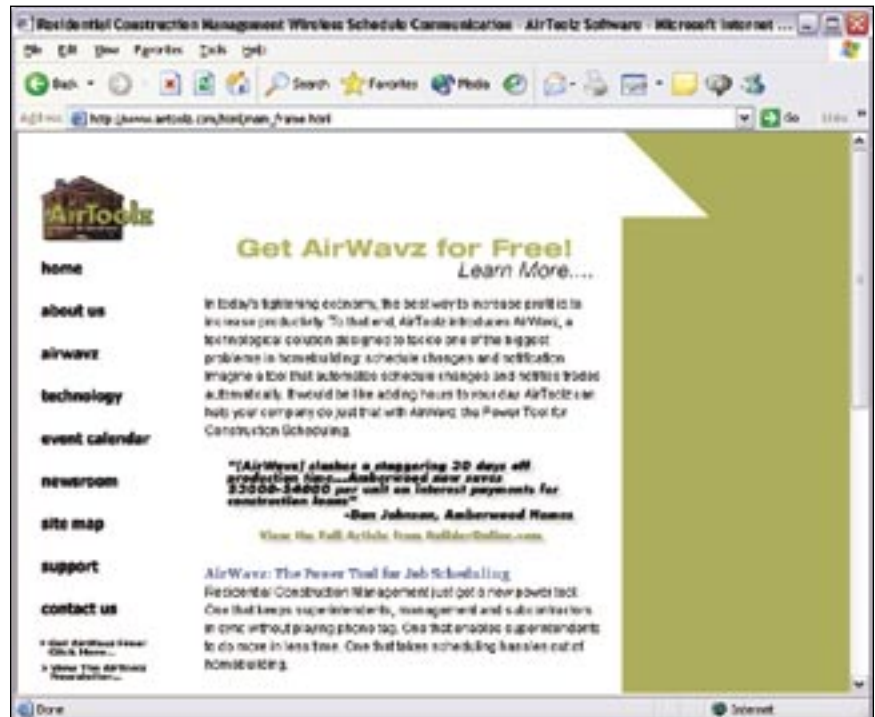
Pervasive business-to-business (B2B) communications and scheduling solution for construction superintendents

■ Why IBM?

AirToolz viewed IBM DB2® Universal Database™ and IBM WebSphere® Application Server as best of breed

■ Key Benefits

Two-week reduction in 80-day construction cycles; up to \$4,000 savings on larger homes; substantial projected growth for AirToolz



Founded in 2000, AirToolz offers a unique software tool which enables realtime centralized scheduling specifically for the home-building construction market.

Not everyone in the home-building industry has the proper tools for the job. What about construction superintendents, who are responsible for all the subcontractors involved in a project? When a delivery plan changes, they have to alert a wide variety of subcontractors and suppliers, but with overstuffed binders, spreadsheets and cell phones as tools, that's often hard to do.

“Construction superintendents are plagued by constant scheduling changes. If a delivery date changes, that affects others who install the product, and the next product, and so on down the line.”

—David Dean, Director of Marketing, AirToolz

Rapidly deploying on demand applications in an open environment

Key Components

Software

- IBM WebSphere Application Server Advanced Edition, Version 4.0
- IBM DB2 Universal Database for AIX®
- IBM WebSphere Studio Application Developer
- IBM DB2 Everyplace™

Servers

- IBM @server pSeries™

IBM Business Partner

- Unity Software Systems

“Sometimes we used Oracle and Sybase at the request of our customers. But we chose DB2 Universal Database because we knew we could count on its reliability and scalability.”

—David Dean

To Arizona-based AirToolz Software (www.airtoolz.com)—a joint venture between LMC Construction (LMC) and IBM Business Partner Unity Software Systems (Unity)—it was clear that the construction industry needed to change the way it was scheduling work. “Construction superintendents are plagued by constant scheduling changes,” says David Dean, AirToolz director of marketing. “Worried about tight schedules, they hike around job sites carrying binders stuffed with contracts and spreadsheets. For each house being built, they need information on every countertop, pipe and doorframe—and its delivery date. If a delivery date changes, that affects others who install the product, and the next product, and so on down the line. When these changes occur, the supervisor grabs a cell phone to make calls—or tries to, until an interruption comes along.”

Responding to needs of construction industry

From its extensive experience in the construction industry, LMC knew that the construction superintendents were working inefficiently. The entire communications process was outdated and not responsive to the needs of a fast-moving industry dependent on high-priced components like wood flooring and tile. Veterans at developing automated business processes for the banking and telecom industries, LMC’s partner Unity realized that automating the construction scheduling process would save time and money, as well as improve tempers on the job. Swapping the old manual process for an automated process would allow realtime communication to affected subcontractors and suppliers, providing maximum flexibility and responsiveness to change.

In addition, removing these paperwork bottlenecks would shave time and costs from construction jobs, giving companies who used the new process a significant cost advantage in a highly competitive, labor-intensive industry. Although the construction industry has been slow to adopt automated processes, Unity believed it had spotted a lucrative niche for itself with a user-friendly solution that would allow superintendents to keep work flowing smoothly and quickly—and avoid penalties for late completion of work.

“As our trump card, we wanted this new process to be capable of detecting the impact of one change on all other jobs down the line, and communicating that impact immediately to everyone with a need to know,” Dean says. “We knew if we could accomplish this, we would have a winning solution capable of transforming construction industry processes and delivering a solid contribution to a company’s bottom line. It was time to proceed with our plan.”

To fulfill its innovative vision, Unity began to construct a wireless and Web-based scheduling solution for the construction industry. Now using an intuitive, realtime application on handheld wireless devices or standard Web-browsers, construction superintendents can manage scores of subcontractors and jobs, communicating schedule changes with only a couple of clicks.

Saving time and money on complex jobs

Unity formed AirToolz as a joint venture with LMC to market the new solution, which was named AirWavz. The solution transforms scheduling procedures to monitor and communicate changes in realtime. AirWavz automatically detects the impact of one change on other tasks and communicates changes to subcontractors through e-mail or fax. Contractors can connect with the central server at any time in the wireless mode. They can also “hot sync,” or synchronize data, using the Internet. Wired or wirelessly, they can download all the data they need for the day or submit data changes.

IBM DB2 Everyplace provides AirToolz with a robust mobile database on a handheld device that can be used in disconnected mode to manage information about users, subdivisions, lots, task names, relationships between tasks, reasons for changes and dates. To use applications in the disconnected mode, contractors access lots by number. Then, they can view the jobs scheduled for a particular lot—such as digging the foundation, framing windows and doors—and details of plans, such as extended garage or bay windows. The information can include tasks that are due that day or within a given timeframe. “There is no other mobile database that compares with the scalability of DB2 Everyplace,” says Dean. “And with DB2 and WebSphere on the central server, we know we can count on the reliability of our infrastructure.”

The logical choice

Seeking a technology vendor that could provide an open, integrated solution to help construction companies focus on building houses, Unity selected IBM and DB2 and WebSphere software from IBM. “We had worked with DB2 and WebSphere for several years and there was no doubt in our minds that we would build AirWavz around them,” says Dean. “Sometimes we used Oracle and Sybase at the request of our customers. But we chose DB2 Universal Database because we knew we could count on its reliability and scalability.”

On Demand Business Benefits

- Two-week reduction in 80-day construction cycles, and \$3,000 to \$4,000 savings on larger homes
 - Substantial projected growth for AirToolz, due to innovative solution responsive to industry needs
 - Speeds payments to subcontractors
 - Easy-to-use, robust communication tool able to work in wireless connected or disconnected modes, eliminating the need for paper-filled binders and multiple phone calls
 - Open standards-based software for easy integration across platforms and flexible, low total cost of ownership (TCO) solution
 - Support for customized discounting allows for flexible pricing structures
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Since companies must integrate AirWavz with their existing backend systems, an important criterion in selecting software was support for both open standards and multiple platforms. "We used Microsoft® Windows NT® for development but deployed AirWavz on AIX and Sun Solaris. In our industry, IBM @server iSeries™ is also widely used," Dean says. "We can deploy AirWavz on various customer platforms because IBM on demand software supports open standards and multiple platforms, which is what makes it so universally applicable. WebSphere Application Server was especially attractive because it is J2EE technology-compliant and provides a very flexible development environment."

The application was developed using IBM WebSphere Studio Application Developer, and it runs on IBM WebSphere Application Server, which functions both as a runtime environment for Java classes and as a transaction manager. AirToolz runs the central database, as well as JavaServer Pages and servlets for the application, on IBM @server pSeries systems.

Using AirWavz, a typical construction company reports two-week reductions in 80-day construction cycles and \$3,000 to \$4,000 savings on larger homes. "We don't try to tell construction professionals how to do their jobs," says Dean. "We just give them an automated tool for expediting their paperwork. With this easy-to-use solution they can transform their processes for scheduling work and keep their projects on time and on budget with a minimum of effort."

Integration with backend accounting

AirWavz speeds payments to subcontractors because once a job is completed, the system automatically communicates with backend accounting for invoicing. "Previously, subcontractors sent representatives to each superintendent to approve invoices, routing the papers to the head office for payment," explains Dean. "This would take weeks in some cases, whereas now it takes just a few hours each day. AirWavz has set a new standard for scheduling communications in the construction industry. And IBM has helped by providing the building blocks of an innovative and successful on demand solution."

For more information

Please contact your IBM sales representative or IBM Business Partner.

Visit us at:

ibm.com/ondemand

For more information about Unity Software Systems, visit: www.unity-software.com



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