

LIQUIDITY SERVICES, INC.

A CUSTOM .NET-BASED MOBILE APPLICATION AND REDESIGNED INFRASTRUCTURE ELIMINATE LATENCY ISSUES AND IMPROVE WAREHOUSE PRODUCTIVITY AND EFFICIENCY.

LIQUIDITY SERVICES, INC.

Liquidity Services, Inc. (LSI) is a leading online auction marketplace for wholesale, surplus, and salvage assets. Through its seller relationships, LSI's marketplaces provide more than one million registered professional buyers access to a global, organized supply of assets in more than 500 product categories. Since 2002, LSI has conducted more than 1.3 million online transactions.

ELIMINATING LATENCY TO BOOST PRODUCTIVITY.

Liquidity Services, Inc., employees used a handheld, web browser-based application to scan barcodes and track and locate pallets, shipments, and auctions as these assets move throughout their network of warehouses. This application interfaced with a back-end inventory management system (IMS) via web-browser requests. Because the back-end IMS was centrally hosted in a U.S. data center, the company experienced periodic latency issues. In addition, LSI did not have 100-percent wireless coverage in its warehouse; some areas had no coverage at all. Together, these issues caused the handheld web application to experience performance and reliability problems when interfacing with the back-end system—resulting in decreased employee productivity in the warehouse. The latency problem was compounded significantly and even more apparent at LSI's international warehouse locations.

The company sought to mitigate latency and performance issues, while retaining the same level of functionality available in the existing application. The company wanted its warehouse employees to be able to enter data efficiently and reliably, unhindered by underlying network issues.

Liquidity Services, Inc., turned to West Monroe Partners for assistance with addressing both application and network infrastructure issues.

Liquidity Services, Inc., was familiar with the quality of West

Monroe Partners' work through previous engagements, including content management software selection and IT infrastructure assessment projects. In addition, West Monroe Partners offered substantial experience in architecture and rapid .NET solution development, as well as the resources to complete the project within LSI's one-month time frame.

Specifically, the company asked West Monroe Partners to:

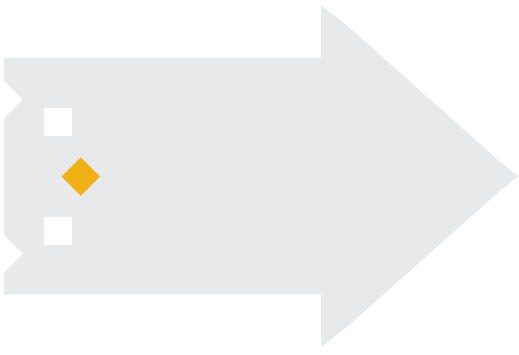
- ◆ Define a new architecture.
- ◆ Develop a new mobile application that would meet business needs and improve employee productivity.
- ◆ Implement an infrastructure redesign to provide reliable and stable wireless connectivity.

BUILDING THE NETWORK.

West Monroe Partners worked with LSI's IT team to create a network design that met the company's business needs. This included utilizing Cisco 3560 switches, Cisco 1240 series Access Points, and the stand-alone Cisco Wireless LAN Controller 2100 series. These devices worked together to create a stable and reliable network for running the application. West Monroe Partners implemented this design in conjunction at the same time it deployed the new application.

TECHNOLOGIES EMPLOYED:

- ◆ Microsoft .NET Compact Framework
- ◆ Windows Mobile 6.0
- ◆ Microsoft WCF
- ◆ JSON.NET
- ◆ Cisco Switching
- ◆ Cisco Wireless



DEVELOPING THE APPLICATION.

West Monroe Partners quickly assessed LSI's requirements and then designed and developed a .NET Compact-Framework-based mobile application. The project team designed the application around a custom framework for queuing data updates and caching data relevant to the user's warehouse location. The data-caching system enabled the application to work behind the scenes to retrieve a smaller subset of applicable data than end users would likely work with, allowing the application to retrieve and display data simultaneously, without any network delay. The data-queuing system enabled the system to queue data updates in the event that the network was unavailable, in order to submit the changes at a later point in time. The data queuing mechanism also allowed warehouse users to track asset locations without any hindrances caused by the wireless network. The team was also able to reduce the overall development effort by reusing LSI's existing back-end JSON web services by leveraging JSON.NET and Microsoft mobile WCF technologies.

IMPROVED PRODUCTIVITY AND RELIABILITY.

The new application's data caching and queuing subsystems now allow LSI's warehouse employees to complete their work, without being affected by network latency or loss of connectivity. West Monroe Partners completed the project on time and under budget, allowing additional time to improve existing functionality and implement new functionality not previously available in the application. These additional steps have enabled LSI to further improve the efficiency of warehouse processes.

West Monroe Partners is an international, full-service business and technology consulting firm focused on guiding organizations through projects that fundamentally transform their business. With the experience to create the most ambitious visions as well as the skills to implement the smallest details of our clients' most critical projects, West Monroe Partners is a proven provider of growth and efficiency to large enterprises, as well as more nimble middle-market organizations. Our more than 300 consulting professionals drive better business results by harnessing our collective experience across a range of industries, serving clients out of offices across the United States and Canada.