



SCS Case Study

SCS Creates a Secure, Robust, Efficient, Automated File Management System

Solution Snapshot

Business Situation: The Client partnered with SCS to finish building its new File Fetcher software. They wanted to save their support staff time and improve the performance of the current file management operations of their financial business with counterparties.

Multi-Point Solution: With their diligence and combined software development expertise, the SCS and client teams transformed File Fetcher into a simpler format and gave it a more straightforward user interface.

Technologies Used: Previous file management was run as 16-bit DOS 'batch files' through using command line automation. This was replaced by programmed internal handling of file movement as well as interaction with a third party solution for FTP tasks in the new version of the File Fetcher application. File Fetcher was developed with C# and ASP.NET. This software solution uses Microsoft's Entity Framework for database access and generates the software deployment package with Visual Studio 2013.

Benefits: The completed File Fetcher now handles the movement, deletion, creation, and renaming of files autonomously within the client's business network. Should errors occur, they can now be easily identified by the client's support staff and can be eradicated by using simple techniques.

The new File Fetcher solution will provide a significant ROI to the client by preventing recurring errors that had to be manually addressed under the current system.

The Client

The client is a global investment advisor.

The Challenge

The client's existing platform managed data input from many different file formats received from counterparties daily through its investment business.

All tasks such as file deletion, moving, and renaming were performed through 16-bit DOS 'batch' files processed through outdated workflow management software. The maintenance of these tasks was time-consuming and prone to errors. Some of these errors were difficult to detect as the software could not identify them while processing the batch file commands. As a result, the client's support staff spent an inordinate amount of time tracking down misplaced files and determining why they weren't being sent to the proper locations for further processing. The

support staff had to manually send out email notifications to the affected parties when these files were late or missing.

To reduce these errors and manage files more efficiently, the client needed outside resources to finish the construction of File Fetcher, which was their new file management product. This new system retrieves files—searching for them through various security attributes and naming conventions—and lands them in the proper locations throughout the company's domain in an accurate and timely manner. The new File Fetcher product is capable of effective file retrieval time management, calculates how long the system should wait for files, and warns users of late or missing files when necessary. To save a significant amount of time, File Fetcher also handles executing mundane tasks such as file renaming, unzipping, deletion, copy-pasting files and/or moving files to different locations, decoding PGP and DES encrypted files, and communicates with a third-party engine to conduct FTP retrieval tasks.

The Solution

SCS implemented a number of strategies to achieve a custom solution for the client's existing file management processes. During the completion of the new File Fetcher, SCS discovered that File Fetcher uses a third-party software called FTP_Pro™ that is provided by a company called Ipswitch. Since FTP_Pro™ has no user interface, all interaction with it had to be conducted in the Command Shell, which made error reporting and gathering to be very difficult. It also posed problems when the software was utilized as a multi-threaded application. With a considerable amount of time and diligence, SCS and the software team at the client worked together to overcome this problem and develop more robust system.

Solution Details

File Fetcher was created as a Web service that is deployed under IIS on a Windows 2012 server and was developed using C# and ASP.NET. The new products use Microsoft's Entity Framework for the data access layer in order to eliminate most of the data-access coding that would otherwise be required. This solution generates the software deployment package using Visual Studio 2013 to provide improved application installation performance. Visual Studio's SQL Schema utility can be used to create configuration file 'transform' scripts to prepare the solution for moving from the testing environment to a production platform. Depending on the environment in which this new product is used, the scripts may need some 'hand' tailoring, but not to the extent as was previously required. This moderate level of manual commands allows for custom solutions to be implemented as needed while creating a greater ease of use for the support staff.

File Fetcher was completed with a dedicated database designed and implemented by SCS and the client's development staff. This solution allows the client to perform a variety of actions in a more efficient manner due to the fact the application is designed to perform activities in an autonomous manner. These activities include, but aren't limited to:

- Retrieving files of different types, naming conventions, and security attributes and land these files in their correct locations within the business network.
- Managing the timing of when these files are retrieved and the length of time the system should wait to perform these actions, as well as warn users of any late or missing files.
- Performing various steps in file handling, including file renaming, unzipping, deletion, copy-pasting files and/or moving files to different locations, decoding PGP and DES encrypted files, and communicating with a third-party engine to conduct FTP retrieval tasks.

The Result

This new solution provides an efficient, secure, and robust platform for automating day-to-day file management operations and support.

Prior to the creation of File Fetcher, the client's support staff handled all files that originated from an FTP source using command shell batch files that were awkward and extremely difficult to work with. The timing of the commands through these batch files was determined by the workflow automation software program whose lack of user interface made interactions difficult and errors hard to troubleshoot. With the development of the new File Fetcher, there is no longer a need to manually handle the FTP files, as the management of all files is automated within the program. The file retrieval timing for any given counterparty is contained within a 'job profile' housing all the steps required.

This new solution helps assist the client in the success of their present and future business investments in a number of ways and delivers a remedy to previous problems by doing the following:

File Fetcher:

- Replace antiquated DOS batch files with integrated software that houses a user interface for simpler access without the need for most development coding to perform basic functions.
- Replace the outdated workflow automation software with new tables designed from scratch for File Fetcher to reduce file transfer errors and to make error detection of and recovery from errors more seamless.
- Create a more fluid file management system that produces fewer errors, maintains a good reputation, and interacts with counterparties in a timely and efficient manner.
- Frees up time previously spent by company support staff performing tasks and correcting mistakes. This time savings translates into significant savings of capital funds and opportunities for new investments in business markets for investors.

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