

Metex Legacy Application Modernization Solution

Customer Solution Brief – Texas Computer Cooperative / ESC-20



Customer: Education Service Center-20
Texas Computer Cooperative
Web Site: portal.esc20.net
Industry: Government/Education

Organization Profile

With over 4,500,000 students, Texas has the second largest public school system in the United States.

The Texas Computer Cooperative (TCC) is a consortium of 20 regional education service centers in the state of Texas. Education Service Center, Region 20 (ESC-20) in San Antonio is one of these centers, which assists school districts in improving student performance and increasing the efficiency and effectiveness of school operations.

The Texas Computer Cooperative / ESC-20 successfully migrates Student Administration System from PowerBuilder to Java using Metex's Modernization Solution

“The transformation of our suite of 16 PowerBuilder applications to a modern web-based Java architecture was our most important IT project in the past 10 years.”

John McCauley, Associate Director, Information Technology

Background

ESC-20's Regional Service Center Computer Cooperative (RSCCC) application suite is a comprehensive range of powerful business and student administrative applications written specifically for Texas school districts.

RSCCC offers a total in-house solution and is the most widely used school administrative software application in the state of Texas with over 700 school districts and charter schools as clients.

Business Challenges

The RSCCC suite consisted of 16 PowerBuilder programs with a total of over 2,000,000 lines of application code and extensive use of customized PowerBuilder Foundation Class libraries. ESC-20 was concerned that its PowerBuilder code platform was in danger of becoming obsolete and that ongoing software updates and implementation of new functionality would be increasingly difficult to support.

Business Goals

In addition to a desire to update the RSCCC source code to a modern Java language, ESC-20 had several strategic business objectives that contributed to the modernization decision:

Eliminate Redundant Applications: ESC-20 offered a separate suite of mainframe COBOL programs that provided identical functionality and were used by the largest school districts. By moving to a modern platform, ESC-20 planned to standardize on the Java applications and expected to significantly reduce its development and support costs.

Database Centralization: ESC-20 felt that it would be able to manage a centralized database structure by moving to a web server architecture thereby eliminating the multiple distributed databases that were deployed using the Client Server and mainframe solutions.

Platform Upgrades: The RSCCC Client Server architecture required a system administrator to complete a client software installation process for all new users. By moving to a web-based platform, ESC-20 expected to reduce its system administration costs and provide greater access flexibility for its end users.

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User Interface Enhancements: ESC-20 wanted to create a modern, intuitive web-based front-end that would improve the overall user experience and be easier for its users to navigate.

Report Modernization: As part of the modernization effort, ESC-20 wanted to convert its 1800 PowerBuilder reports to a more modern reporting solution.

The project's final critical success factor was to ensure that the 3,000+ PowerBuilder User Interface screens retained the same level of rich functionality in the new browser-based environment.

ESC-20 had specific architecture requirements that had been established as IT standards for other Java applications. Prior to commencing the PowerBuilder modernization project, ESC-20 needed confirmation that the Metex automated transformation process could provide the flexibility to support its choice of Java options.

Solution

Metex worked with ESC-20 to define a pilot project for the transformation of a single 120,000-line program.

After the pilot application was transformed and a thorough User Testing cycle was completed, ESC-20 began a comprehensive code review to validate that the transformed code met its stringent code standards and quality requirements.

After careful review, evaluation and approval of the transformed application by ESC-20's Java experts, Metex was awarded a contract to modernize the remaining 15 applications.

The final project scope covered 15 separate PowerBuilder applications totaling over 2,000,000 lines of code and included over 22,000 test cases. To effectively manage the complexity and logistics of handling the demanding test requirements, Metex worked with ESC-20 to develop a project plan that would optimize allocation of test resources.

By transforming groups of 3 or 4 programs at a time, Metex was able to synchronize its application transformation process with ESC-20's final testing cycles.

While each group of applications was in the User Testing phase, Metex technical engineers were applying a series of automated transformation tools and performing professional services on the next set of programs. By efficiently managing and synchronizing all phases of the project, Metex was able to complete the modernization of all 15 applications in less than 15 months.

The modernized system has been rebranded TxEIS and all 62 ESC-20 client districts and charters will be converted from the RSCCC system in the 2010/11 school year.

Benefits

All strategic and technical objectives were achieved by the completion of the modernization project. In less than 18 months, Metex transformed the entire RSCCC suite of 16 PowerBuilder applications to a modern 3-tier Java web-based architecture while meeting all ESC-20 platform and quality requirements.

The new browser-based Java screens were as rich as the original PowerBuilder client-server screens, which greatly simplified user adoption and was a critical factor in the successful rollout of the new system to the Texas school districts.

Advantages

ESC-20 is now able to move forward with a comprehensive, common integrated Enterprise Information System (EIS) for Texas schools that meets modern standards, minimizes support requirements and simplifies ongoing code maintenance and future development efforts.

The TxEIS solution is Web-based, fully integrated and supports the operational, reporting, analytical, and data access needs and requirements of the Texas educational community.

Reduced state and taxpayer investment in school information systems by increasing uniform use beyond the current 67% district and charter school participation.

"After a thorough review of several companies, it became clear to us that Metex, with its open technology road-map methodology and solid history of delivering modernization solutions, would be the right partner for our project. To verify this, we had Metex complete the transformation of a mid-size application to check their process and services. The resulting code quality of the new Java application fully met our standards so we decided to have Metex transform all of our PowerBuilder applications."

- John McCauley, Associate Director

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