QSS Server Migration Project Assessment

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Goal and Objectives

The goal of this project is to ensure we continue to provide a reliable, secure and available ERP system to support school district business functions. To support this goal we must update the current ERP system, QSS, to server version L using new hardware and software. This project is necessary because the old hardware, HP3000, has been retired from the HP product line since 2007 and replacement parts and maintenance vendors are becoming increasingly scarce. The overall project was divided into two separate projects. The first project moved the users from a terminal interface using terminal emulation software to a Windows based client/server technology with a graphical user interface. The user-interface project was completed successfully and all customers use the client-server graphical user interface (GUI) while continuing to connect to the old server.

Benefits

Completing this project addresses 2 driving forces; customer demand for improved performance and maintaining system reliability and availability. As described above, moving to version L offers more functionality and better reliability with new hardware and software. In addition, the old hardware is monolithic and cannot be integrated into the rest of our IT infrastructure. Having the old hardware set apart as an island creates additional costs in maintenance and process. The outcome of this project will be QSS operating on new hardware, blade servers, integrated into our homogenous server farm using Microsoft SQL for the data base engine and Linux for the operating system.

Project Objectives

Objective	Success Measure
Ensure equal functionality with version L as was available in version H	No service requests of customers unable to complete a business process due to missing functionality that was available prior to migration
Ensure data integrity when migrated from Turbo Image database to Microsoft SQL	Data integrity comparison post migration is 100%. All data is present and yields identical results; old system to new
Integrate QSS operating environment into the data center.	QSS resides on blade server and is managed as central resource. HP3000 is decommissioned and not used in any process

Project Sponsor

The Chief Technology Officer, Dr. Kelly Calhoun, is the sponsor for this project. She drives the overall architecture of systems at SCCOE with a focus on business continuity, data integration, and best in class functionality and return on investment.

Stakeholders

Stakeholder	Interest Focus
SCCOE Leadership	The ERP system provides crucial and very visible services to the districts we support. System failure would be at a huge political cost.
Districts	Districts rely on the ERP for key business processes.
District Employees	The ERP is responsible for executing pay for 35K employees each month

Alignment with Organizational Goals

The SCCOE goals are

- Improve student equity and reduce access discrepancies to high quality education
- Provide support to districts, communities, schools and students

- Be a premier employer
- Improve organizational effectiveness and efficiency

By completing this project we are supporting goal 2, providing support to districts, communities, schools and students. The ERP system provided by SCCOE is used by districts, JPAs, community colleges and other entities in the education community.

Timeline

The project began December 2013, after the client Migration. High level milestones included:

Modules tested for equal functionality:	December 2014
Data Migration Complete	February 2014
Parallel Payrolls with no variance	February – March 2014
QSS customized programming complete	March 2014
Cut-Over	April 2014

The customized programming proved to be our critical milestone that could not be met. The timeline has been moved forward 5 times and currently we have not reset the schedule until all customized programming is in place. Each time the migration date was moved there was significant work required in scheduling all resources. Currently we do not have any estimate from QSS when they will deliver the software for testing. We have begun to look for contingencies. We may replace the native QSS checkwriter software, a critical milestone in the project, with 3rd party software. The difference in price is approximately 15K.

Resources

Resource	Function
Manager Application Support	Overall project and budget management
Manager Network and Systems	Manage hardware and operating system. Testing of data migration protocols. Testing of operation procedures and nightly maintenance cycle. Ensure back-ups and roll back options
Technology Resource Advisors	Each Application Systems Analyst is assigned a specific area within the system to manage. They will be responsible for documentation, testing, and training of new features
Help Desk	Capture anomalies and escalate in a timely manner. Provide just in time training.
District Personnel	Test local business processes in test system. Sample data for validation
Operations Personnel	Test all batch processes
QSS- Vendor	Provide system enhancements, customized programming and consulting

Budget

The budget for this project has been funded by setting aside a portion of the fees paid to TSB for use of

the ERP system over the last 5 years.

High Level Budget

Hardware and Software	150,000
Consulting for data migration 48 hours at $125	6,000
Onsight consulting 5 days at $1,950	9,750
Potential Staff Overtime - 10% over 2 years	186,368
Customized programming Check Writer	10,000
Customized programming AP Float	5,000
Customized programming Bank interface	5,000
Board Report	5,000
Total	**377,118**

The budget was created using the hardware and software recommendations from the vendor, QSS. The customizations were identified and a quote was provided for each item that required customized programming to match the functionality from QSS version H to QSS version L. The project budget also included several levels of consulting. A Systems Engineer was retained to meet with the project team weekly for one hour each week for a year at a cost of $6,000. Full days of consulting were included for all day project reviews and on site resources at the time of cut over. Additional resources were not available for functional testing and documentation. Overtime for staff was estimated to cover regular assignments as well as the testing and documentation of the new processes. The original budget was not adequate as more full-day consulting was required for knowledge transfer. This was due to lack of documentation from the vendor. Rather than referring to a manual the staff listened to the consultant, took notes and asked questions.

Assumptions

A key factor in the migration planning was that other QSS customers were operating on QSS version L and more would migrate before SCCOE migrated. This lead to the assumption that most common functions would need minimal testing and that the focus would be on the customized programs and data unique to SCCOE. This assumption was faulty because with 43 districts using QSS in Santa Clara and San Benito Counties we cover many different permutations of QSS and have at least 6 districts using every module in the ERP Suite. There was also a variance in the way the software was used from one client to another. More time and resources were needed for testing and validation however we had no way of adding resources to the project. Existing staff was relied upon to cover the gap with over time. This caused a decrease in customer satisfaction and may have caused an increase in absenteeism within the Analyst group – causing even more of a backlog.

Another assumption made in the early stage of the planning is that QSS would deliver product on time. The Technology Services Branch purchased and installed hardware and software according to the original project timeline. QSS delivered several years later than originally promised. The loss of investment on the hardware and software purchased was mitigated by using the equipment for other projects and then purchasing and deploying new software when the project was ready to be tested.

Risks

A key risk that had to be mitigated by good communication was customer expectations. Customers may have had a tendency to assume that because we were getting new hardware and software, something new, that it was going to be dramatically different. TSB emphasized that this was an evolution rather than a revolution. The benefits of an evolution were also highlighted; less re-training, less down time.

Resource constraints at the vendor, QSS, were another risk to the project. QSS is a relatively small company with approximately 50 employees. The software has several modules and QSS may only have 1-2 programmers per module. Other priorities may take precedence for these resources. This was the case when PERS announced program changes. The programmers normally assigned to Payroll and Retirement were fully engaged with addressing those program changes and were unable to work on migration issues.

The largest risk is the age of the equipment. TSB/SCCOE is investing in this project with the assumption that QSS will be able to deliver product and the migration will be completed before the aging hardware; HP3000 and XEROX printer fail, leaving SCCOE unable to produce payroll.

Reporting

Status reports are provided monthly to the CTO and Directors monthly at the Tech Exec meeting.

Outcome

The project timeline was extended several times due to required enhancements not being delivered by the vendor. In July 2015 we had a neighborhood power outage, the UPS kept the system stable however the diesel generators did not engage. The system went down without the proper process and damaged several hardware components. After several failed attempts to revive the old hardware to standard operating levels SCCOE turned their attention to moving to the new hardware. The work invested in revising the detailed project plan paid off as we quickly executed. Within 2 weeks we had worked through issues and were back to full functionality with a significant improvement in system response time. Compromises had to be made. A key function, the checkwriter software, was not delivered by the vendor. A work around was created and we anticipate completing that part of the project this month.

The detailed project plan created served several purposes over the years. It built confidence from the customer base that the project was being managed appropriately. The project plan helped the many different people involved communicate the big picture down the small details. And in the end it was the blueprint to move quickly and mitigate a near disaster. Everyone got their paychecks on time.