

Statewide Mainframe Consolidation Project

Enterprise IT Management Initiatives



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Office of Management and Enterprise Services
Information Services
State of Oklahoma



Project Initiation: August 2012
Project Completion: February 2014

Executive Summary

The Office of Management and Enterprise Services has been identifying and prioritizing information technology consolidation projects for the State of Oklahoma. The mainframe plays a crucial role in delivering services to Oklahomans and handling government business.

The state previously used multiple mainframe computers for its administrative and business functions, resulting in higher operating and maintenance costs. As a solution, IBM partnered with the state on developing new mainframe target architecture, establishing a high-level roadmap, performing a detailed analysis of the IT infrastructure and opportunities to consolidate mainframe computing capacity, storage, network and backup capabilities. This ensured the delivery of technology services would be more effective and consistent in the new environment.

The return on investment estimate was based on the state's costs for the zSeries platform going back five years. This cost was isolated to hardware investments (upgrades, new boxes, storage and memory) and software investments (upgrade charges for new versions and operating licenses for larger platforms). It cost \$14.9 million in 2011 — or \$89.4 million over six years — for the hardware, software, personnel, consulting and other means to provide services.

Costs that would have been incurred without the consolidation of mainframes are an estimated \$3.3 million annually, or approximately \$20 million over the next six years. Since the final agency was added to the new platform, it now costs approximately \$11.5 million annually, or \$69 million for the next six years. The state continues to look for ways to reduce cost by software consolidation.

Business Problem and Solution

The State of Oklahoma used multiple mainframe computers for its administrative functions, which resulted in high operating and maintenance costs. The consolidation of the mainframe platforms into one ultimately yielded significant savings in support costs, a reduction in software licensing costs from over-provisioned and redundant software licensing and lower lease costs.

In August 2012, OMES Information Services embarked on a journey with the Oklahoma Department of Human Services, the Oklahoma Department of Transportation, the Department of Public Safety and the Oklahoma Tax Commission to consolidate the state's five mainframes onto one by combining multiple mainframes, service centers, resources support and associated hardware and software. The agencies decided on an EC12 mainframe and storage solution that could provide scalability, reliability, availability and serviceability, and data-at-rest encryption capabilities. Planning for transformation for each of the participating agencies consisted of developing a detailed agency implementation plan, providing a timeframe for verification and validation testing of agency specific mainframe applications and interfaces, and a conversion plan for transformation to steady state.

In January 2013, the IBM EC12 mainframe was activated. The project was 60 percent complete by June 30, 2013. OMES, human services and transportation mainframes and secure interfaces were sharing hardware, centralized support and software services. Public safety was migrated July 20, 2013, making the project 80 percent complete. The tax commission's move was completed in February 2014, finalizing the mainframe consolidation project.

Another part of the solution was identifying the level of involvement of support staff and how to reduce its costs. OMES Human Capital Management developed the transition plan, providing the project team a phased approach to continue mainframe support for each agency while retaining state intellectual capital. At the onset of the project, 93 people were identified as mainframe skilled personnel. The phased organization design transition plan achieved a reduction of about 50 percent in mainframe support staff.

Significance

The mainframe still plays a crucial role delivering applications to Oklahomans and handling other government business. With the completion of this project, state agencies share cost for one mainframe. Over the next six years, the state will save about \$20 million. The state's savings are in mainframe hardware maintenance, centralized

support reduction and software licensing costs supporting specific business functions in state agencies.

This project aligns with the NASCIO State CIO priorities by providing the consolidation of five mainframes into one while improving the mainframe computing capacity, storage, network and backup capabilities. The consolidation also allows for OMES Information Services to provide service rates and metrics of the IT infrastructure to state agencies. Rates are based on actual usage and direct rate charged. The usage and direct rates are broken out by a chargeback solution that includes operating costs allocated to each agency and support costs for federally funded programs. The data are provided to the agencies so that they can budget for mainframe costs per fiscal year.

Benefits

By analyzing business processes and combining multiple mainframes, service centers, resources, hardware and software contracts, Oklahoma gained significant savings in software licensing and technology maintenance costs.

There are several other benefits to the mainframe consolidation:

1. Sustainable technology environment to support business drivers.
 - Supported operating system levels, hardware and software.
 - Standardized software.
 - Enhanced data security.
 - Channel-to-channel communication provides secure data transfers among the participating agencies.
 - At-rest data on the EC12 is now encrypted.
 - Tier-three data center.
2. Reduces the state cost of ownership for mainframe technology and support.
 - Hardware costs reduced by 44 percent in fiscal year 2014.
 - Software costs reduced by 10 percent in fiscal year 2014.
 - Intellectual capital cost reduced by approximately 50 percent in fiscal year 2014.
3. Provides opportunities for post consolidation optimization and further cost reductions.
 - Virtual tape storage that provides tape encryption.
 - Workload scheduler that provides automated jobs scheduling for all agencies.
 - Software optimization.
4. Shared costs of the mainframe are allocated by million service units (msu) to each agency.
 - Nonshared mainframe costs are allocated directly to the agency that is benefited. Specific third party software and accompanying maintenance range from \$19,000 to \$1.6 million in fiscal year 2014.

5. Mainframe optimization further reduces costs for providing mainframe services to state agencies by providing opportunities for post consolidation optimization and further cost reductions with process improvement and software standardization.

Consolidation of five mainframe platforms to one yielded significant savings in support costs and a reduction in software licensing costs from over-provisioned and redundant software. The savings from the statewide mainframe consolidation project is approximately \$20 million.

