



PROGRESS ON THE COMMUNITY COLLEGES SYSTEM
ERP DESIGN AND IMPLEMENTATION

A Report to the:

Joint Legislative Oversight Committee on Information Technology

Submitted By

NC Community College System Office

January 15, 2017

LEGISLATIVE REQUEST

SL 2016-94 Community Colleges System ERP Design and Implementation

SECTION 7.10A.(a) The North Carolina Community Colleges System Office, in consultation with the Department of Information Technology, shall begin planning and design of a modernized ERP for the State's 58 community colleges. The ERP system shall address, at a minimum, student information system, core financial management, grants, human resource management, and payroll. The planning and design of the ERP system may include either a modernization of the current system or a replacement system. A request for proposal for a replacement system implementation shall be prepared for release no later than October 1, 2017. The North Carolina Community Colleges System Office may use funds from the North Carolina Community College IT Systems Budget Code 26802 to support planning and request for proposal development efforts; provided, that the total amount expended for the project does not exceed one million dollars (\$1,000,000). To the extent that these funds have not been appropriated for the 2016-2017 fiscal year elsewhere, they are hereby appropriated.

SECTION 7.10A.(b) The North Carolina Community Colleges System Office shall submit a report to the Joint Legislative Oversight Committee on Information Technology on or before January 15, 2017. The report shall identify the results of the planning and design effort, including at least all of the following information:

- (1) Proposed sequence of functional and site implementation.
- (2) A phased-in contracting plan with checkpoints to facilitate budgeting and program management.
- (3) The feasibility of a cloud-based component.
- (4) Cost estimate for full implementation.

SUMMARY & PROPOSAL

The NC Community College System Office initiated an Enterprise Resource Planning (ERP) system planning and design project pursuant to Session Law 2016-94, Section 7.10A.(a). In addition to re-examining and improving business processes within and across the community college system, primary project outcomes include those directed under Session Law 2016-94, Section 7.10A.(b). Specifically:

- A phased contracting plan with checkpoints to facilitate budgeting and program management
- A proposed sequence of functional and site implementations
- A cost estimate for full implementation

The project team has already determined the feasibility of a cloud-based component for the next Enterprise Resource Planning (ERP) solution as highly probable and expects a significant, if not entirely cloud-based solution as a result.

A key assumption of the planning and design project is the development of a competitive solicitation for a new ERP solution and replace the aging, on premise system architecture currently in use. The approach will enable the System Office and its 58 constituent colleges to leverage the significant advancements in how integrated business management software for higher education is deployed, operated, maintained, and managed. These advancements include:

- Mature, cloud-based service models for infrastructure, platforms and applications
- Solutions capable of meeting the North Carolina Community College System unique and diverse student, curriculum, continuing education and customized training needs
- Accessibility to broadband services at the 58 community colleges capable of providing the internet connectivity required to sustain a cloud-based ERP solution
- Data handling and management to drastically improve our ability to secure, mine, process and use information to support decision-making and continuity of operations

The current state and direction of ERP technology provide the opportunity to improve ERP application accessibility, availability, reliability, redundancy, and security as well as resolve the current challenge of operating and maintaining the ERP systems across the 58 community colleges and System Office.

This report provides the progress made by the System Office on the ERP solution design and implementation request for proposal (RFP).

BACKGROUND

The mission of the North Carolina Community College System (NCCCS) is to open the door to high-quality, accessible educational opportunities, minimize barriers to post-secondary education, maximize student success, develop a globally and multi-culturally competent workforce, and improve the lives and well-being of individuals by providing:

- Education, training and retraining for the workforce, including basic skills and literacy education, occupational and pre-baccalaureate programs
- Support for economic development through services to and in partnership with business and industry and in collaboration with the University of North Carolina System and private colleges and universities
- Services to communities and individuals which improve the quality of life

The ERP system provided by the System Office to the 58 community colleges contributes significantly to the enablement of this mission. The current ERP solution, known as the College Information System Template, is comprised of Ellucian Inc.'s Colleague Release 18 with customized application modules developed by the System Office. Customized application modules are required due to business requirements specific to North Carolina that are not contained in Colleague Release 18. Ellucian Inc. is unable to provide support or maintenance for these customizations. This constraint presents significant challenges as the System Office attempts to meet the college's current, developing and future business requirements. Appendix A contains a list of the ERP customizations required by the NCCCS and not supported by Ellucian.

In response to the challenges presented by the current ERP solution, the System Office Technology Solutions and Distance Learning Division held Technology Information Sessions at Asheville-Buncombe Technical, Brunswick, Central Piedmont, Wake Technical, Western Piedmont, Pitt, and Surry Community Colleges. Output from these meetings identified how current operations and maintenance process requirements reduced the effectiveness of technology services at both the System Office and the 58 community colleges. Appendix B contains a diagram of these processes.

The needs for a replacement ERP solution are presented in the North Carolina Community College System Office 2017-19 Biennium Strategic & Information Technology Plan. The requirement to move beyond traditional agency-IT alignment and drive higher education innovation through new ERP technology acquisition will improve community college engagement and alignment across all levels of the community college enterprise. This strategy increases the value of North Carolina's Community College System for citizens and industry by providing relevant education and training to help support sustainable economic growth for our state.

PLANNING AND DESIGN RESULTS: JULY – DECEMBER 2016

1. Dedicated Enterprise Resource Planning Program Management Office Created

A dedicated ERP Program Management Office (ERP PMO) was created by the System Office in October 2016 for the purpose of creating and implementing the governance, program management, budgeting, staffing, contracting, and scheduling required to competitively solicit, contract and subsequently manage the ERP replacement system program. The System Office ERP PMO is staffed by qualified project managers and business systems analysts with subject matter expertise in each of the requested functional areas (student information system, core financial management, grants, human resource management, and payroll).

As required in S.L. 2016-94, collaboration with the Department of Information Technology (DIT) is maintained through the Enterprise Project Management Office (EPMO) and Technology Procurement Office. The System Office ERP PMO uses the EPMO Touchdown project management application for project plan development, tracking, scheduling, budgeting, and reporting. Technology purchases are approved and processed by the guidelines established and operated by the Statewide IT Procurement Office.

As of January 15, 2017 the ERP PMO maintains one active project with DIT - the *NCCCS ERP RFP Planning Project*. The purpose of this project is to review and improve core business processes, as well as identify, create and deliver a competitive solicitation for a new ERP system for the 58 community colleges as directed by S.L. 2016-94.

This project is on schedule to deliver the completed RFP solicitation document by October 2017.

NCCCS ERP RFP Planning Project Goals and Objectives:

- Identify current and future business requirements
- Create technical reference and system architecture at enterprise and college level
- Develop technical and functional implementation, operations and maintenance plan for the new ERP

NCCCS ERP RFP Planning Project Key components:

- Workflow process diagrams for each ERP functional area [Finance, Instruction (Curriculum and Con Ed), Financial Aid, HR & Payroll, Technology and Reporting]
- Benefits case (trade off analysis between current and new ERP system), total cost of ownership, sourcing strategy (supplier selection criteria matrix and facts based negotiation package)
- Feasibility of cloud-based ERP system (Completed)

2. Phased-In Contracting Plan with Checkpoints to Facilitate Budgeting and Program Management

As of January 15, 2017 the System Office ERP PMO contracting plan for the planning and design of a replacement ERP system consists of one awarded contract and one RFP for professional services.

- Gartner, Inc.
 - Awarded December 1, 2016 and ends June 30, 2019
 - Provides access to vendor neutral research and analytical resources with proven experience in the design, migration, and implementation of cloud based infrastructure and platform services
 - Strategic-level leadership expertise in the stand-up and continuing operations of the System Office ERP PMO
 - The System Office established this contract by way of the Master Client Agreement (MCA) established by the State Chief Information Officer.
- RFP Solicitation Number 50-NCCCS-10052016
 - Issued November 10, 2016 with anticipated award March 2017
 - The vendor awarded this contract will bring experienced functional, technical and strategic sourcing talent with proven planning and implementation for enterprise level ERP projects.

3. The Feasibility of a Cloud-Based Component

The maturity of cloud-based infrastructure, platforms and application services coupled with the accessibility of broadband services at the colleges make the feasibility of a cloud-based ERP solution highly achievable.

- Broadband Internet Connectivity

The NCCCS System Office operates and maintains a contract with MCNC, an independent non-profit organization that operates the North Carolina Research and Education Network (NCREN). The NCREN provides broadband data and video services to the 58 NC Community Colleges. Continuous and redundant connectivity to a high-speed network is critical to enabling a cloud-based solution. NCREN provides a minimum of 100Mbps committed capacity for the main campus at each of the 58 NC community colleges, burstable to 1Gbps with a guaranteed availability of 99.95% uptime, latency of less than 25ms, and a mean response time for repairs of 3 hours or less for all outages. MCNC operates a Network Operations Center providing all 58 NC community colleges 24-hour access to support as well as access a secure portal for network performance monitoring and support.

Additionally, MCNC provides up to 3,000 hours of Client Network Engineering (CNE) services per year available to all community colleges. CNE time can be utilized by each college or by

the System Office in support of the colleges. Services include network design, network assessments, general technical guidance and advice, training, recommended practices and assistance resolving complex network problems.

- Infrastructure, Platform and Application (Software) “as a Service”

The ability for vendors to provide access to ERP applications reliably and securely over the internet is a reality.

Infrastructure / Platform as a Service (IaaS / PaaS) – This cloud-based technology service, also known as ‘hosting,’ shifts infrastructure and Platform operations and maintenance from the NCCCS to the service provider. The provider offers an ERP operating environment (servers, networking, operating system, storage, database, etc.), and the NCCCS (in collaboration with selected vendors) develops, maintains, and operates the ERP application(s) within this environment or ‘platform.’

Applications or Software as a Service (SaaS) – This cloud-based technology service is an ERP licensing and delivery model in which software is licensed on a subscription basis and is centrally hosted by the ERP vendor or service provider. NCCCS end users access the ERP application(s) by way of a web browser and are provided configuration tools to build business automation workflows within established rules. SaaS solutions reduce complex ERP customization and integration that have proven difficult to maintain in the current NCCCS ERP solution.

“As a Service” capabilities are mature and commonplace in modern ERP solutions and provide the NCCCS with the ability to avoid costs currently associated with hosting a copy of an ERP solution on each of the 58 community college campuses.

Further, transitioning to a cloud-based “as a Service” solution will:

- Reduce ERP hardware acquisition, provisioning and maintenance timelines and related expenses
- Create predictable technology budgeting by transitioning ERP access and use costs to a utility based model
- Offer a readily scalable ERP solution and provide colleges to access services and features on-demand and as needed

4. Cost Estimate for Full Implementation

As of January 15, 2017, the System Office ERP PMO continues to develop the business and functional requirements, perform vendor evaluations, and determine technology strategies necessary to develop a cost estimate for full ERP implementation.

5. ERP Program Governance and Functional Implementation

In the next 30 days, the System Office ERP PMO will charter the ERP Steering Committee to provide overall program governance. The steering committee will be comprised of College Presidents and College and System Office senior executives. The ERP PMO will serve as the committee's executive agent and provide requisite program management, administration and coordination support.

In addition to their governance role, steering committee members will also chair/co-chair three major functional working groups – Instruction, Student Services and Institutional Support. College and System Office staff, subject matter experts, and student focus groups will augment the major working groups and provide the functional, business expertise and student experience needed to improve processes and define the new ERP solution.

NCCCS Major Functional Working Groups

Instruction	Education and training resources for delivery to students.
Student Services	Resources enabling the student lifecycle.
Institutional Support	Resources enabling college operations.

Figure 1- Major Functional Working Groups chaired/co-chaired by the steering committee.

NCCCS Major Functional Working Group Components

Instruction	Student Services	Institutional Support
Curriculum Programs	Admissions	Budgeting & Financials
Combined Course Library	Advising	<ul style="list-style-type: none">• Contract/Grant Management• Purchasing/e-Procurement• Accounts Payable• Fixed Assets• Physical Plant
Competency Based Ed.	Academic Records	
Workforce Cont. Education	Registration	
College & Career Readiness	Retention & Counseling	Human Resources/Payroll
Customized Training	Graduation	College Budget & Accounting System
High School Equivalency	Small Business Center	
	Accounts Receivable, Cash Receipting, Sponsorships, Financial Aid, Scholarships, Veteran Affairs	
Auxiliary Services – Bookstore, Day Care, Dental, Concessions, Landscaping, Culinary, Cosmetology,		
Institutional Research, Planning and Reporting		
Scanning/Imaging/Electronic Filing/Printing		

Figure 2. Major Functional Working Group business process components supported by business owners, functional experts and student focus groups.

CONCLUSION

To enable ongoing success in the North Carolina Community College System ERP System Planning and Design program the NC Community Colleges System Office plans to submit recommended changes to S.L. 2016-94 Section 7.10A.(a) & (b) as follows:

COMMUNITY COLLEGES SYSTEM ERP PLANNING AND DESIGN

SECTION XX. Section 7.10A. of S.L. 2016-94 reads as rewritten:

“COMMUNITY COLLEGES SYSTEM ERP DESIGN AND IMPLEMENTATION

“SECTION 7.10A.(a) The North Carolina Community Colleges System Office, in consultation with the Department of Information Technology, shall begin planning and design of a modernized ERP for the State's 58 community colleges. The ERP system shall address, at a minimum, student information system, core financial management, grants, human resource management, and payroll. The planning and design of the ERP system may include either a modernization of the current system or a replacement system. A request for proposal for a replacement system implementation shall be prepared for release no later than October 1, 2017. The North Carolina Community Colleges System Office may use funds from the North Carolina Community College IT Systems Budget Code 26802 to support planning, and request for proposal development efforts, and implementation; and of the funds appropriated to the Community Colleges System Office for the 2017-2019 fiscal biennium for the College Information System, up to five hundred thousand dollars (\$500,000) may be transferred at the end of each fiscal year to Budget Code 26802 Fund 2307 to be used for the North Carolina Community College System enterprise resource planning (ERP) planning and implementation. provided, that the total amount expended for the project does not exceed one million dollars (\$1,000,000). To the extent that these funds have not been appropriated for the 2016-2017 fiscal year elsewhere, they are hereby appropriated.

SECTION 7.10A.(b) The North Carolina Community Colleges System Office shall submit a preliminary report to the Joint Legislative Oversight Committee on Information Technology on or before January 15, 2017. On or before October 1, 2017, the System Office shall report on ~~The report shall identify~~ the results of the planning and design effort, including at least all of the following information:

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APPENDIX A

CURRENT ERP SUPPORT EXCLUSIONS

The current production ERP solution in use by the North Carolina Community College System Office and the 58 community colleges specifically excludes support from the vendor (Ellucian, Inc.) for the following processes, subroutines, computed columns, interfaces, and reports (for any and all) software components for the following business requirements:

- Career Planning and Placement
- CCLSLS (Combined Course Library/Program of Study System)
- DER (Development Education)
- Equipment Inventory
- Facilities Management
- Fire Certification
- HRD (Human Resources Development)
- LEIS (Literacy Education Information System)
- Customized Training for Job Growth
- Parking
- Program Audit
- Regional Calendar
- RIE (Research & Institutional Effectiveness)
- Small Business Center
- Accuplacer Test Scores
- AR/CR (Accounts Payable / Cash Receipting)
- E-Procurement
- ISASORR (Improve Student Access to Services and Optimize Registration Resources)

Current NCCCS ERP Operations and Maintenance Process

