



PROGRESS ON THE COMMUNITY COLLEGES SYSTEM  
ERP PLAN, DESIGN AND IMPLEMENTATION PROGRAM

A Report to the:

Joint Legislative Oversight Committee on Information Technology

Submitted By

NC Community College System Office

October 1, 2017

## LEGISLATIVE REQUEST

During the 2017 Session of the General Assembly, the NC Community College System sought the following legislation which was enacted in Section 37.7 of S.L. 2017-57.

**SECTION 37.7. 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~~ The North Carolina Community Colleges System Office shall initiate a competitive solicitation process for implementation of a replacement system 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).~~ efforts. 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 on the planning and implementation of the enterprise resource planning system to the Joint Legislative Oversight Committee on Information Technology on or before January 15, 2017. ~~The report shall identify~~ By no later than October 1, 2017, the System Office shall report on 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**

The NC Community College System Office (NCCCSO) initiated an Enterprise Resource Planning (ERP) system planning and design project pursuant to Session Law 2016-94, Section 7.10A.(a). In June/July of 2017, the State Board of the Community Colleges (SBCC) and the State Chief Information Officer (State CIO) approved the award of a professional services contract to CampusWorks, Inc. to support and assist the NC Community Colleges System in this major programmatic effort. 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 2017-57, 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.
- The feasibility of a cloud-based component.
- A cost estimate for full implementation.

In November 2016, the Enterprise Resource Planning (ERP) Program Management Office (PMO) 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 primarily, cloud-based solution as a result.

Base assumptions of the current planning and design project are 1) to assume adequate funding; and, 2) development of a competitive solicitation leading to a new ERP solution and replacement of the aging, on premise system architecture currently implemented. The approach will enable the System Office and the 58 community 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, workforce development 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.

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 site implementation, operations, and maintenance plans for the new ERP.

NCCCS ERP RFP Planning Project Key components:

- Workflow process diagrams for each ERP functional area [Finance, Instruction (Curriculum and Workforce Development), 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).

This report provides the progress made by the System Office on the ERP solution plan design and implementation under the State's competitive solicitation processes.

## **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: DECEMBER 2016 – SEPTEMBER 2017**

### **1. Proposed Sequence of Functional and Site Implementation.**

In July 2017, an ERP Executive Steering Committee (ESC) was chartered to provide leadership, guidance and governance for the program. The System Office Executive Leadership initiated the chartering process with the NC Association of Community College Presidents (NCACCP) in early 2017, and in June the NCACCP identified five (5) College Presidents to serve on the ERP ESC. In addition to the System Office President the Presidents serve as the voting membership of the ERP ESC. In June 2017, the remaining Community College stakeholder Associations identified their representatives to the ERP ESC. Representatives of the State CIO and the State Controller's Office also sit on the ERP Executive Steering Committee to provide more holistic governance and integration with the State's efforts to replace its financial ERP system.

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**

|                              |   |
|------------------------------|---|
| <b>Instruction</b>           | <b>Education and training resources for delivery to students.</b> |
| <b>Student Services</b>      | <b>Resources enabling the student lifecycle.</b>                  |
| <b>Institutional Support</b> | <b>Resources enabling college operations.</b>                     |

*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"><li>• Contract/Grant Management</li><li>• Purchasing/e-Procurement</li><li>• Accounts Payable</li><li>• Fixed Assets</li><li>• Physical Plant</li></ul> |
| Competency Based Ed.   | Academic Records   | Human Resources/Payroll   |
| Workforce Cont. Education  | Registration   | College Budget & Accounting System  |
| College & Career Readiness   | Retention & Counseling   |   |
| Customized Training  | Graduation   |   |
| 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.*

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

The System Office ERP PMO contracting plan for the planning and design of a replacement ERP system consists of two contracts.

**Gartner, Inc.** This contract was awarded December 1, 2016 and ends June 30, 2019. The contract will provide access to vendor neutral research and analytical resources with proven experience in the design, migration, and implementation of cloud based infrastructure and platform services. In addition, it will also provide 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.

**CampusWorks, Inc.** After establishing a dedicated Enterprise Resource Planning Program Management Office (ERP PMO) in October 2016, the program team developed and posted for open competition a Request for Proposal (RFP) to obtain professional services from an experienced and qualified vendor. The ERP PMO also established an RFP Evaluation Committee comprised of technical and functional experts from the multiple colleges and the System Office.

With approval by the State Board of Community Colleges (SBCC) and the Department of IT State CIO, the System Office awarded a contract to CampusWorks, Inc. in July 2017. Augmented with these additional resources, the ERP PMO initiated the process of gathering and analyzing system process needs and requirements. 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 under current Session Law. CampusWorks, Inc. staff are integrated within the ERP PMO.

As required in S.L. 2017-57, collaboration with the Department of Information Technology (DIT) is maintained through the Enterprise Project Management Office (EPMO) and IT 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. The project is on schedule to initiate the competitive solicitation process by October 2017.

### **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**

The System Office ERP PMO continues to develop the business and functional requirements, vendor evaluations, and technology strategies necessary to develop a cost estimate for full ERP implementation. The contracts with Gartner, Inc., and CampusWorks, Inc. will provide additional information relative to the ERP replacement costs. 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 a request for recurring funding in the 2018 Short Session.



## **CONCLUSION**

The Community College System has made significant progress in accordance with the legislative directives to plan and design a modernized ERP system for the 58 community colleges. Through the contracts with Gartner, Inc. and CampusWorks, Inc., the Community College System is taking a very thoughtful and measured approach to ERP replacement to ensure that current and future business requirements have been identified and will be built into the new ERP system. Furthermore, the Community College System believes a cloud-based ERP solution is both achievable and desirable. However, the success of the modernized ERP system is predicated on the need for recurring funding to both design and support and system in the future.

## **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

