

Enterprise Electronic Forms and Digital Signatures



Information Technology

Joint Legislative Oversight Committee on Information Technology

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FY 2015-2016 Q2

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Contents

Legislative Request	1
Report Focus	1
Introduction	1
Authentication Project.....	2
Approach	2
Current Users.....	2
DOT Roadway Construction and Engineering.....	3
Highway Project Letting.....	4
Construction Claim Form.....	5
Engineering / Private Engineering Firm Contracts.....	5
OSC Statewide Electronic Commerce	5
Electronic Signature Plans/Actions	6
Electronic Certification, License, Inspection and Permit System (ECLIPS) Project	6
Approach	6
Current Users - Pilots.....	7
Future Plans	8
Actions/Plans	9
Next Steps.....	9
Appendix A: SESSION LAW 2015-241 HOUSE BILL 97.....	1
Appendix B: Potential Users of Inspections, Licensing and Permitting Automation System	2
Appendix C: Financials (through Oct. 2015)	3

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Legislative Request

Section 7.13(a) and (b) of Session Law 2015-241 states “the State Chief Information Officer (State CIO) shall implement a digital forms program for State agencies that provides for the acquisition and use of information technologies that enable electronic review, submission, maintenance, or disclosure of information as a substitute for paper documents and hardcopy forms. This program shall be developed in consultation with participating agencies.”

Further, “the State CIO shall provide a completed plan for the program to the Joint Legislative Oversight Committee on Information Technology and the Fiscal Research Division. This plan shall include a priority list for implementing digital identities and associated certificates, specific electronic forms, a timeline for each implementation, and costs associated with the program.

The full text of the budget provision can be found in Appendix A.

Report Focus

This report provides an update on implementation of the digital signature and enterprise license, inspections and permitting services, and a basic plan for the future.

Introduction

Legislation passed by the General Assembly in 2011 directed the State Controller to plan, coordinate and implement a statewide capability for enterprise electronic forms and digital signatures. (Section 6A.18 (a) of Session Law 2011-145.)

A survey of high-level Agency requirements and some of the possible approaches led the Office of the State Controller (OSC) to organize this effort into two projects:

- The **Authentication Project** focused on digital signatures, eliminating resource-intensive processes that require Agencies, citizens, and staff to manually sign documents.
- The **Automation Capability Project** focused on helping Agencies be more efficient while eliminating paper processes by automating complex processes that encompass multiple forms and checkpoints. The initial effort focused on inspections, licensing and permitting.

Based on feedback from Agencies, OSC adopted a decentralized approach on the projects. This allowed OSC to enter into contracts with vendors and allowed Agencies to access services as they needed them. Separate vendors were selected to provide the electronic forms and digital signatures capability.

OSC’s role was to provide contract administration, help Agencies adopt the systems, and help provide training and help desk support. Agencies maintained their own forms, workflows, and configurations that met their business needs.

The General Assembly transferred responsibility for the enterprise electronic forms and digital signature services from OSC to the State CIO in 2013. The transition was effective October 1, 2013. Since that time, the project has been sustained by the Legislature.

Authentication Project

Approach

The Authentication Project focused on the use of digital signatures, eliminating resource-intensive processes that required Agencies, citizens and staff to manually sign documents.

After an open procurement, OSC awarded a contract to DocuSign, Inc., in August 2012. DocuSign is a Software as a Service (SaaS) vendor. Under the SaaS model, the State has no hardware or software installed and running on its infrastructure, all processing is accomplished in the cloud.

The original contract was for a two-year term and procured 100,000 electronic signature transactions for each year. The contract also included onboarding services, training for users, assistance with template creation and access to DocuSign's Enterprise Support services.

A two-year extension of the contract with DocuSign was negotiated and signed in August 2014. Included in this extension was a provision that all of the envelopes that had been purchased by the State but not utilized would continue to be available for the duration of the contract period. Additionally, there was no requirement for the State to procure additional envelopes unless the current supply of paid envelopes was fully utilized. The terms and pricing of the contract remained the same as the original 2012 version.

The "convenience" contract is available for use by Executive Branch Agencies as well as non-State Agencies as permitted by law. The contract offers a "tiered" volume pricing model that leverages the State's purchasing volume. DIT is working with the Executive Branch Agencies to expand the usage within this branch of State government.

Current Users

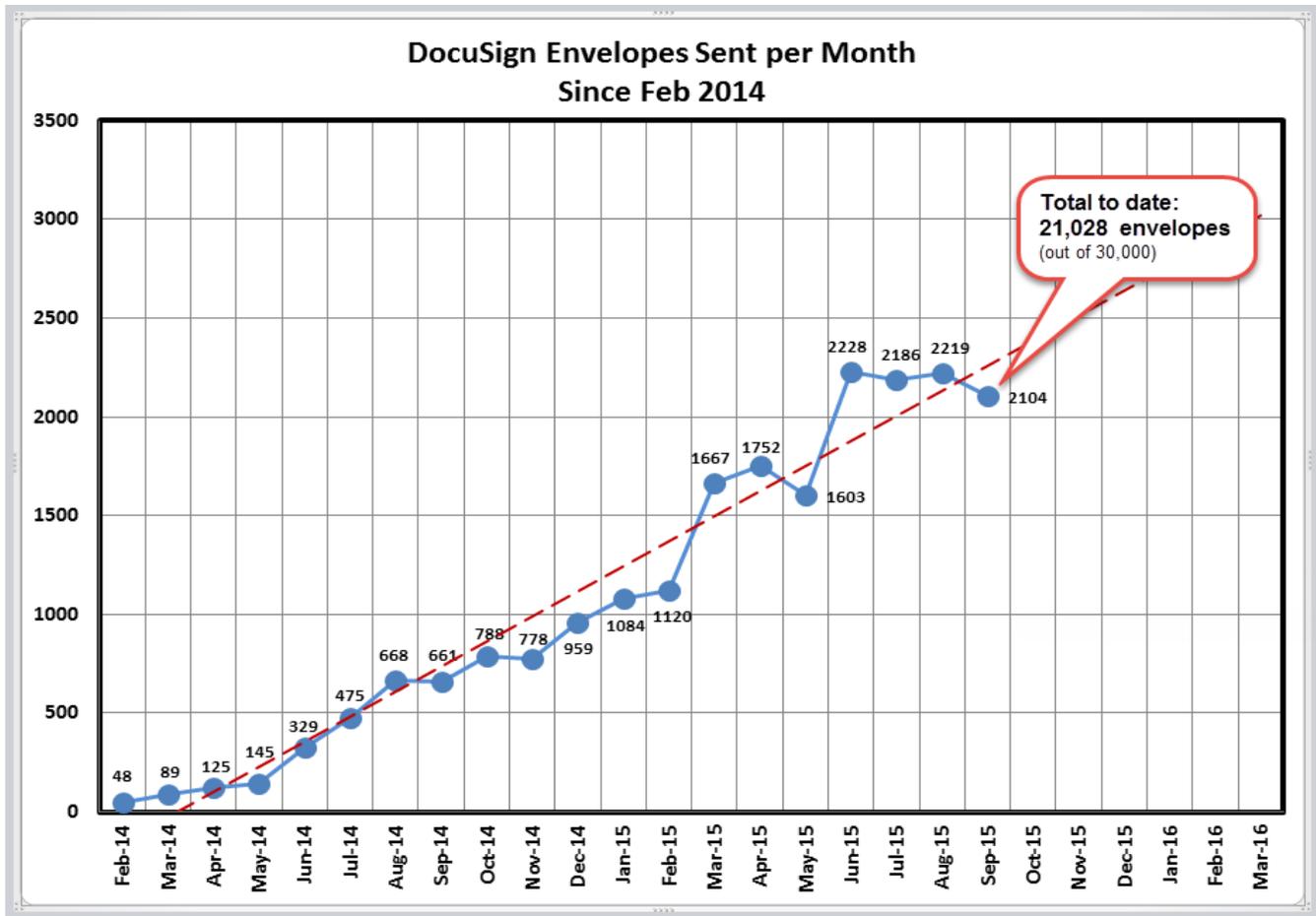
Several Agencies and State Institutions are using the digital signature contract including, but not limited to:

- The Governor's Office – Application for Boards and Commissions
- University of North Carolina – UNC Wellness Center
- East Carolina University – HR Department
- Department of Information Technology (DIT)

- Personnel Changes, Contract signing, travel reimbursement, forms with Agencies
- Department of Transportation – Roadway Construction
 - DOT Engineering – routing and approval of engineering plans
- Office of the State Controller
 - Online Agency e-Commerce Participation Forms
 - Delegation of Disbursing Authority authorization forms
- Department of Public Safety
 - Hiring Process
- Department of Public Safety – Juvenile Justice Division
 - NCALLIES system to manage grant cost reports and effectiveness measures
- Department of Public Safety – Emergency Management and State Highway Patrol
 - Travel reimbursement
- Rowan Cabarrus Community Colleges – Financial Office
 - Travel authorizations and expense reimbursements
- NC Community College System (7 Community Colleges and System Office)
 - Travel authorizations
 - Budget allocations and reallocations
- Department of Agriculture
 - Travel authorizations

DOT Roadway Construction and Engineering

The Department of Transportation Roadway Construction and Engineering has significantly increased their use of the electronic signature solution and workflow during the past year. As of September 2015, this project has utilized more than 20,000 envelopes from DocuSign and they are continuing to grow at a pace of 1500 to 2000 envelopes (transactions) per month.



Highway Project Letting

NCDOT lets approximately 50 highway/bridge construction projects each month. For each project, NCDOT produces a set of PDF plan sheets, which engineers are required to sign. DocuSign is now used to assist with this process. The engineer places the professional seal in the CADD file and then prints the file to PDF. After all the PDFs (plan sheets) have been generated, the engineer will use DocuSign to route the documents to the appropriate signers. Once all parties have signed all documents, they are downloaded from DocuSign and assembled as an electronically-signed PDF set. This set of files is then made available for bidding and letting purposes.

Benefits:

- 1) Faster signing - now multiple signatures can occur simultaneously which reduces time. Also, any signers that are geographically dispersed can sign without making special trips to Raleigh, resulting in time and cost savings.
- 2) Electronic plan set that is fully text searchable - this allows for quick and easy text searching across the entire plan set by inspectors/contractors and really anyone
- 3) Sharper looking plan set - since there is no scanning or faxing, documents look more crisp and clear.

Construction Claim Form

NCDOT has several standard Construction Claim forms representing claims by the contractor to NCDOT, typically requesting time or funding updates. Typically, a contractor signature is required and several NCDOT signatures are required. NCDOT uses Docusign to route to all signers for signature. Again, once completed, the electronically signed form is downloaded from Docusign used as necessary.

Benefits:

- 1) Faster signing - similar to above
- 2) Full text searchable - similar to above
- 3) Workflow routing - Docusign is able to automatically route the document to the next signer, as well as send carbon copy documents to anyone as defined by the sender.

Engineering / Private Engineering Firm Contracts

NCDOT relies heavily upon external partners for Engineering design and construction. The partnerships require signed contracts. NCDOT now signs all contract documents with Docusign.

Benefits:

- 1) Faster signing - similar to above
- 2) Full text searchable - similar to above
- 3) Workflow routing - Docusign is able to automatically route the document to the next signer, as well as send carbon copy documents to anyone as defined by the sender.

OSC Statewide Electronic Commerce

The Office of the State Controller manages the process by which State Agencies can participate in electronic commerce. In the past, Agencies would need to find the appropriate participation form on the web, then print it, manually complete and sign it, then either scan to email or FAX the completed form to the Controller's office. Along with the time consumed to follow this process, a related OSC incident ticket would need to be opened in order to track the process.

DocuSign has replaced this manual process by eliminating the paper altogether. The number of associated incident tickets has decreased by an average of 90%. Additionally, the amount of time needed to secure signatures and process the document has decreased from approximately one week to one day.

The Controller's office implemented electronic forms and signatures for Electronic Funds Transfer (EFT) processing in 2014. They expanded the process to requests for Merchant Cards (VISA, MasterCard, AMEX and Discover) processing in 2015. Additionally, Cash Delegation forms are now handled through DocuSign.

Electronic Signature Plans/Actions

- DIT will continue to communicate the benefit and value of this capability.
- DIT will provide already purchased envelopes to Executive branch Agencies interested in using DocuSign, eliminating the Agency's need to purchase envelopes.
- DIT will issue a Survey to gather information regarding use of Digital Signature technology in State Agencies.
- DIT will analyze Agency survey responses to identify high-level business requirements for continuing a Digital Signature capability in State Government
- DIT will assess the current marketplace to determine technology options for Digital Signatures capability
- DIT will develop a go forward plan for this capability based on Agency need and current market assessment

Electronic Certification, License, Inspection and Permit System (ECLIPS) Project

Approach

The goal of the ECLIPS Project is twofold: to change the business processes around licensing, inspections and permits within the executive branch, and to develop an enterprise automation capability that enables the total automation of current processes that use paper forms and duplicate data entry. This new approach will significantly streamline the cycle time and the processing time for permitting, licensing and inspections. It will also improve data integrity and automate the workflow, which reduces the administrative time and support required.

In addition to reducing cycle time, improving the quality of the data and eliminating manual steps in the process, the goal is to add functionality that is not available in the current business processes. This includes providing opportunity for the citizens to improve their ability to communicate with state government, understand the status of their current licenses, permits and inspections, and to provide an electronic method for payment of all fees and services.

As with digital signatures, a convenience contract was established for Executive Branch Agencies and others authorized by law to use services provided by the Department of Information Technology (DIT), such as local governments and universities. The Controller's Office awarded the contract to CSDC Systems. The initial efforts have focused on inspections, licensing and permitting. Future efforts will

place more emphasis on reducing duplication and streamlining and improving business processes, as described later under Next Steps.

DIT manages the service, which includes providing the systems and core components of the application in test and production, support staff, vendor and contract management, and program management. Each Agency purchases client licenses to access the application and configures the system to meet its business processes requirements for a wide variety of inspection, licensing, and permitting functions.

Current Users - Pilots

The first two pilot initiatives on the ECLIPS platform continue to work toward completion and the Agencies using the system believe they will continue to see operational benefits. These deployments are the Department of Environmental Quality (DEQ) Sedimentation and Erosion Control Permits and the Department of Agriculture Nursery Licenses/Certificates.

DEQ -- Sedimentation and Erosion Control Permits

The Division conducts approximately 19,000 inspections annually, utilizing multiple forms. The automated back-office component on ECLIPS went into production in June 2014. More than 20,000 applications and/or plans were converted from the DEQ legacy system. To date, more than 4,000 new applications and/or plans have been entered by DEQ staff members.

The mobile inspection phase went live in September 2014. As of this report, approximately 50 agents are using the mobility platform of this application in performing their jobs.

The public portal component has been installed in the development environment. DEQ is in the final phase of testing the CSDC-modified portal components before moving into production.

Benefits defined by the Agency include:

- Enhanced customer service through an organized and transparent regulatory process
- Decreased processing times through direct data entry instead of using handwritten forms that are then entered into a system
- Improved data accuracy
- Improved workflow management
- Fewer status calls (customers can look up their status online)
- Improved tracking, scheduling and reporting

Businesses will also save time and money since an entire construction project must wait for DEQ approval before beginning a project. When the approval time is reduced, costs for the construction company are potentially reduced.

The State will save on certified mail, postage, printing, ink, envelopes and paper costs. Time savings will be redirected to plan reviews during peak times, process improvements, customer follow-up and other customer service tasks.

The Department of Agriculture and Consumer Services – Nursery Licenses/Certificates

Nineteen plant protection specialists inspect more than 10,000 acres of nursery stock each year and issue nursery licenses/certificates to authorize the distribution or sale of nursery stock or collected plants. The automated back office system went live on ECLIPS in November 2013. The mobile inspection component testing phase is complete. The department is working to deploy the mobility tablets to the specialists so that the mobility capability of this solution can be utilized in the 2016 nursery inspection cycle. The public portal component is in the testing phase. It is expected that the public portal will be deployed into production for the 2016 inspection cycle along with the mobility components.

Benefits defined by the Agency include:

- Increased efficiency with online payments and license renewals
- Improved planning, scheduling and navigation to inspection sites
- Greater efficiency of inspection reporting/processing, resulting in less time spent processing inspection results and more time performing inspections
- Reduced backlog of overdue inspections
- Reduced cost of operations
- Future cost avoidance
- More effective inspection techniques resulting from improved plant pest specialist access to data and inspection resources resulting in:
- Improved ability to identify violations and discrepancies
- Greater violation enforcement—ensuring that all known violations are addressed in a timely manner
- More effective management capabilities resulting from faster, broader access to higher-quality data leading to:
 - Better short-term deployment of resources by identifying problem areas
 - Improved long-term strategic planning
 - Identification of training needs and process improvement opportunities
 - Improved fee collections

The back-office system is yielding process improvements, and the portal and mobile phases will help the department realize cost savings in the future.

Future Plans

Agriculture has identified other uses for the ECLIPS capabilities.

- The Department is working to implement Food & Drug licenses on the ECLIPS platform. This will involve migrating 5 existing license types from a legacy system in addition to creating 2 to 3 new license types
- Department staff is currently working to finalize plans for setting up new license types in ECLIPS for Structural Pest and Pesticides Division.

DEQ recognizes the potential value for further ECLIPS projects. Once the short-term and long-term planning has been completed, DEQ will engage the DEQ Technology Management Committee for prioritization and associated budget considerations.

Potential deployments that have been identified by both Agencies can be found in Appendix B.

Actions/Plans

- Complete remaining items for these two pilots and resolve all remaining open vendor issues
- Complete all phases of first two pilots by early 2016
- Document lessons learned from first two pilots
- Stabilize operational platform and assess enterprise readiness
- Work with Agencies to identify next process to implement and develop an implementation plan

Next Steps

Based on the results of these two pilots, a new updated strategy and plan needs to be put in place for this solution and the need of the state to automate manual paper processes and update older systems in the area of licensing, permitting and inspections. The Deputy of the Department of Agriculture has agreed to act as executive business sponsor to help drive a cross-agency effort to assess the work of these two pilots, review the current state needs, as well as look at current capabilities provided in the marketplace and work to determine a strategy and next steps.

To gain the full efficiencies of electronic forms and digital signatures, the State must look for ways to streamline and improve Agency business processes. Otherwise, we are simply automating inefficient business practices. To fully realize these efficiencies, Agencies need to be invested in re-engineering processes. DIT and the currently involved Agencies need to plan for including business process re-engineering along with future implementations of the ECLIPS platform.

Appendix A: SESSION LAW 2015-241

This is the text of Section 7.13 of Session Law 2015-241.

ELECTRONIC FORMS AND DIGITAL SIGNATURES

SECTION 7.13. (a)

The State Chief Information Officer (State CIO) shall implement a digital forms program for State agencies that provides for the acquisition and use of information technologies that enable electronic review, submission, maintenance, or disclosure of information as a substitute for paper documents and hardcopy forms. This program shall be developed in consultation with participating agencies. In developing this capability, the State CIO shall implement a citizen-friendly electronic forms processing solution that does all of the following:

- (1) Allows form data to be saved locally and submitted electronically.
- (2) Supports interactive forms on desktop and mobile devices.
- (3) Enables forms to be electronically routed through a workflow.
- (4) Provides for the encryption of confidential and sensitive documents.
- (5) Provides for digital signatures, where applicable, to enable and ensure submitter identity, submitted form information, and acceptance of forms terms and requirements.

If practicable, this program shall be made available to all State agencies, departments, and institutions; local political subdivisions of the State; The University of North Carolina and its constituent institutions; community colleges; and local school administrative units.

SECTION 7.13. (b)

On or before January 1, 2016, the State CIO shall provide a completed plan for the program to the Joint Legislative Oversight Committee on Information Technology and the Fiscal Research Division. This plan shall include a priority list for implementing digital identities and associated certificates, specific electronic forms, a time line for each implementation, and costs associated with the program.

Appendix B: Potential Users of Inspections, Licensing and Permitting Automation System

Listed below are potential projects that have been identified. DIT believes there is even further potential for the requested solution.

Department of Agriculture

Anticipated Deployment	Anticipated Number of Inspections/Permits/ per Year	Total Number of Professional and Business Licenses	Current Professional and Business Licenses (New or Renewed)	Anticipated System Users	Concurrent System Users
Fertilizer (PIFF)		710	446	2	2
Plant Protection (PIPP)	6500	8492	4637	3	3
Seed (PISE)		6882	4612	4	2
Structural Pest (SPSP)	5600	8653	5253	15	10
Pesticide (FDPR)	850	21378	14778	15	10
Pesticide (FDPE)	7050	25152	12542	17	10
Sleep Products	3000	1700	1700	5	2
Animal Welfare (VEVE)		1151	750	9	6
Avian/Livestock (VERL)		3677	1565	10	3
Food (FDCL)		5191	842	5	2
Prescription Drug (FDPD)		2290	1560	3	2
LP Gas (STLP)	6676	2653	1602	5	3
Scale & Petroleum Device (STSL)		3071	1304	1	1
Weighmaster (STWM)		12032	6603	5	2
Fiscal Mgmt. Grain (ADFM)		612	354	2	2

Department of Environmental Quality

The Department of Environmental Quality manages 140 types of permits, plans, licenses and certifications across air quality water quality, waste management land management and marine fisheries. DIT and DEQ teams are working together to build a plan for the remaining permits, plans, licenses and certifications.

Appendix C: Financials (through Oct. 2015)

	Appropriations	Actual Spend \$	Forecast	Ending Balance
FY2015-16 Appropriations	762,115			
FY2015-16 Spend		0		
Carry Forwards from FY2014-15	173,537	-	-	
FY2015-16 Ending Balance				<u>935,652</u>
Expenses FY 2015-16 To CSDC (Portal Software)	BUDGET	ACTUALS		
		144,000		29,537
Personal Services	351,115	117,128		<u>233,987</u>
Purchased Services	411,000	18,443		<u>392,557</u>
Total Expenditures		279,571		<u>656,081</u>

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