JOINT LEGISLATIVE OVERSIGHT COMMITTEE ON INFORMATION TECHNOLOGY

REPORT TO THE NORTH CAROLINA GENERAL ASSEMBLY

December 2012

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JOINT LEGISLATIVE OVERSIGHT COMMITTEE ON INFORMATION TECHNOLOGY

December 13, 2012

TO THE MEMBERS OF THE 2011-2012 GENERAL ASSEMBLY:

The Joint Legislative Oversight Committee on Information Technology herewith submits to you for your consideration its annual report. The report was prepared by the Joint Legislative Oversight Committee on Information Technology pursuant to G.S. 120-231(c).

Respectfully submitted,

Senator Andrew Brock

Representative Marilyn Avila

Cochairs
Joint Legislative Oversight Committee on Information Technology

PREFACE

The Joint Legislative Oversight Committee on Information Technology, established by Article 26 of Chapter 120 of the General Statutes, is authorized to review current information technology that impacts public policy, including electronic data processing and telecommunications, software technology, and information processing. The 16 members of the Committee are appointed by the Speaker of the House and the President Pro Tempore of the Senate. The goals and objectives of the Committee include developing electronic commerce in the State and coordinating the use of information technology by State agencies in a manner that assures that the citizens of the State receive quality services from all State agencies and that the needs of the citizens are met in an efficient and effective manner. The Committee is directed to examine, on a continuing basis, systemwide issues affecting State government information technology, including operations, infrastructure, development, financing, administration, and service delivery. The Committee is authorized to make ongoing recommendations to the General Assembly on ways to improve the effectiveness, efficiency, and quality of State government information technology.

The Committee is chaired by Senator Andrew Brock and Representative Marilyn Avila. The full membership of the Committee is listed in Appendix B of this report. Information concerning the committee meetings and all information presented to the committee is available on the committee's website at http://www.ncleg.net.

COMMITTEE PROCEEDINGS

The Joint Legislative Oversight Committee on Information Technology met 13 times during the interims of the 2011 General Assembly, covering a broad range of topics.

September 8, 2011 Meeting

Following the conclusion of the 2011 Regular Session, the first meeting of the Joint Legislative Oversight Committee on Information Technology was held on September 8, 2011. The meeting provided Committee members with an overview of information technology policy and operations in North Carolina. The agenda included the following topics and presenters:

- Karlynn O'Shaughnessy, Fiscal Research Division, Overview of information technology operations and associated issues.
- Danny Lineberry, Office of the State Chief Information Officer, History of information technology in the State starting in the 1970s.
- Jim Dolan, Office of the State Controller, IT financial management.
- Mike Fenton, Office of the State Chief Information Officer, Current State IT planning process.
- Patti Bowers, Department of Transportation, IT contracting in North Carolina.
- George Bakolia, Senior Deputy State Chief Information Officer, Organization and functions for both the Office of the State CIO and the Office of Information Technology Services.
- Sarah Porper, Office of State Budget and Management, OSBM support to IT operations and system acquisition.
- Kathy Bromead, Enterprise Project Management Office, System development process and ongoing projects.
- Kay Meyer, Program Director, Office of the State Controller, Criminal Justice Law Enforcement Automated Data Services (CJLEADS), Example of a successful IT project.

- Randy Barnes, Department of Transportation, Jane Price, Department of Agriculture and Consumer Services, and Tracy Doaks, Department of Revenue, State agency chief information officer roles and responsibilities.

October 6, 2011 Meeting

The second meeting of the Committee was held on October 6, 2011. This meeting focused on State agencies that are currently exempt the State IT governance structure established by Senate Bill 991. Representatives of four of the five exempt agencies made presentations to explain the nature and extent of their respective exemptions:

- Greg Stahl, Senior Deputy Director, North Carolina Administrative Office of the Courts
- Nancy Lowe, Chief Information Officer, Department of Justice
- Tracy Doaks, Chief Information Officer, Department of Revenue
- Dennis McCarty, Director, Information Systems Division, North Carolina General Assembly

November 3, 2011 Meeting

The third meeting of the Committee was held on November 3, 2011. The discussion of the current exemptions from State information technology governance continued, with a presentation by the UNC General Administration. John Leydon, Vice President of Information Resources and Chief Information Officer University of North Carolina-General Administration, discussed university system information technology operations.

Continuing with a focus on education, the Committee was briefed on the status of Race to the Top by Philip Price, Chief Financial Officer, Department of Public Instruction and Phil Emer, Director of Technology Planning and Policy, Friday Institute.

In addition, the Committee also heard a series of presentations on Office of the State Controller projects. Speakers and specific topics included:

- Kay Meyer, Director of Data Integration, Office of the State Controller, NCFACTS Hosting Exception

- Jim Dolan, Deputy State Controller, Office of the State Controller, BEACON HR/Payroll Application Status
- Sharon Hayes, Director of eCommerce Initiatives, Office of the State Controller, Electronic Forms/Digital Signatures Update

December 12, 2011 Meeting

The fourth meeting of the Committee was held on December 12, 2011 as a joint meeting with the Joint Legislative Oversight Committee on Health and Human Services. Topics of interest to both committees were discussed. The following speakers presented:

- Karlynn O'Shaughnessy, Fiscal Research Division, North Carolina General Assembly, Department of Health and Human Services Information Technology
- Gerald Fralick, State Chief Information Officer, and Angeline Sligh, Department of Health and Human Services, Medicaid Management Information System
- Kay Meyer, North Carolina Financial Accountability and Compliance Technology System (NCFACTS)
- Bob Brinson, Criminal Justice Information Network, Health and Human Services Participation in the Criminal Justice Law Enforcement Automated Data System
- Anthony Vellucci, North Carolina Families Accessing Services through Technology
- Chloe Gossage, and Ben Popkin, Department of Insurance, Health Benefits Exchange
- Jeff Miller, North Carolina Health Information Exchange

January 5, 2012 Meeting

The fifth meeting of the Joint Legislative Oversight Committee on Information Technology was convened on January 5, 2012. The discussion of human services information technology continued with a review of the deployment of smart cards. The discussion of the Administrative Office of the Courts also continued with a presentation by the North Carolina General Assembly's Program Evaluation Division on issues concerning AOC information technology

projects. The Chair of the Geographic Information Coordinating Council presented the Council's annual report and explained its legislative agenda. Speakers and presentations included:

- Dr. Lee Mandell, Chairman, Geographic Information Coordinating Council and Tim Johnson, Director, Center for Geographic Information and Analysis, Annual Report and Legislative Agenda
- Shelia Platts, Department of Health and Human Services, Smart Card
- Michele Beck, Program Evaluation Division, North Carolina General Assembly, Project Management Lapses and Planning Failures Delayed Court Technology Improvements

February 2, 2012

The sixth meeting of the Committee was held on February 2, 2012 and focused on issues pertaining to the Department of Transportation Division of Motor Vehicles and Department of Public Safety. There was also an introduction to and discussion of the use of business intelligence within the State. The following persons made presentations:

- Johanna Reese, Deputy Commissioner, Division of Motor Vehicles and Randy Barnes, Chief Information Officer, Department of Transportation, Department of Transportation Division of Motor Vehicles Information Technology Projects
- Bob Brinson, Chief Information Officer, Department of Public Safety, DPS Information Technology Consolidation
- Leslie Chaney, Information Technology Director, New Hanover County, White Space Deployment
- Karlynn O'Shaughnessy, Fiscal Research Division, North Carolina General Assembly and Phyllis Pickett, Bill Drafting Division, North Carolina General Assembly, Business Intelligence

March 1, 2012

The seventh meeting of the Committee was held on March 1, 2012. The new State Chief Information Officer, Jonathan Womer, was introduced. The following speakers discussed their respective organizations' electronic procurement systems:

- Ken Craig, Associate Vice President for University Business Operations and Shared Services, University of North Carolina General Administration
- Sam Byassee, State Purchasing Officer and Director of the Division of Purchase and Contract, Department of Administration

April 12, 2012

The eighth meeting of the Committee was held on April 12, 2012. Speakers included:

- Jonathan Womer, State Chief Information Officer, Information Technology Internal Service Fund and Information Technology Consolidation
- Angela Taylor, Information Technology Director, Applications, Department of Health and Human Services and Anthony Velucci, Program Director, NC Families Accessing Services through Technology (NCFAST), Department of Health and Human Services
- Gary Thomas, IT Director, Department of Transportation, and Jill Stewart, IT Specialist, Department of Transportation, Enterprise Grants Management
- Julie Batchelor, Deputy State Controller, Office of the State Controller, North Carolina Accounting System (NCAS)

May 3, 2012

The ninth meeting of the Committee was held on May 3, 2012. Speakers and topics included:

- Micky Verma, Deputy State Chief Information Officer, NCID Funding
- T. Lane Hobbs, Master Trooper, North Carolina State Highway Patrol, Voice Interoperability Plan for Emergency Responders (VIPER)
- Jim Dolan, Deputy State Controller, Office of the State Controller, SAP Licenses

August 2, 2012

The tenth meeting of the Committee held on August 2, 2012. The first presentation to the Committee was Information Technology Requirements for the Department of Health and Human Services Space Consolidation. Speakers included:

- Anne Bander, Chief Operating Officer, Department of Administration
- Terry Hatcher, Director of Property and Construction Division, Department of Health and Human Services
- Micky Verma, Deputy Chief State Chief Information Officer

Additional speakers and topics included:

- P. Allan Sadowski, Information Technology Manager, North Carolina State Highway Patrol, Department of Public Safety, Public Safety Broadband Wireless Network National Initiative
- Karlynn O'Shaughnessy, Fiscal Research Division, North Carolina General Assembly, Information Technology Funding
- Peter Capriglione, Information Systems Division, North Carolina General Assembly, North Carolina General Assembly Tablet Pilot

September 13, 2012

The eleventh meeting of the Committee was held on September 13, 2012, with the following speakers and topics on the agenda:

- Sharon Hayes, eCommerce Program Director, Office of the State Controller, Electronic Forms and Digital Signatures
- Jonathan Womer, State Chief Information Officer and Bob Brinson, Chief Information Officer, Department of Public Safety, Department of Public Safety Information Technology

- Al Delia, Acting Secretary, Department of Health and Human Services, Department of Health and Human Services Office of Medicaid Management Information System Services Compensation Questions
- Peter Capriglione, Information Systems Division, North Carolina General Assembly, North Carolina General Assembly Tablet Pilot

October 11, 2012

The twelfth meeting of the Committee was held on October 11, 2012. This meeting focused on information technology initiatives with a Statewide, enterprise-level impact. Speakers and topics included:

- Andy Willis, Director, Office of State Budget and Management, North Carolina Integrated Business Information System
- Jonathan Womer, Office of the State Chief Information Officer Initiatives
- Kay Meyer, Program Director, Statewide Data Integration, Office of the State Controller

December 13, 2012

The last meeting of the Committee was held on December 13, 2012. The Committee heard presentations on grants management and information technology security, two important issues that will need to be addressed by the 2013 General Assembly. Speakers and topics included:

- David McCoy, the State Controller, and Andy Willis, Director, Office of State Budget and Management, discussed grants management.
- Charles "Chip" Moore, State Chief Information Security Officer, discussed information technology security.

The Committee also considered its other recommendations to the 2013 General Assembly, to be included in the final report.

FINDINGS AND RECOMMENDATIONS

I. **State Information Technology Governance/Senate Bill 991 Exemptions:** The Committee asked agencies that have exemptions from Senate Bill 991, which establishes State information technology governance and policies, to discuss the reasons for their exemptions. Five agencies participated in that review: the Department of Justice, the Administrative Office of the Courts, the Department of Revenue, the North Carolina General Assembly, and the University of North Carolina General Administration. Three agencies have blanket exemptions, while the Departments of Revenue and Justice have limited exemptions that address specific operational requirements. Based on the information presented, the Committee finds that agency exemptions can be counter-productive with respect to maximizing the State's information technology infrastructure.

Recommendation: (i) Create reporting requirements for fully exempt entities that will provide the General Assembly with the same information available from executive branch agencies. (ii) Require independent review of exemptions to determine validity and identify possible workarounds.

II. **Information Technology Consolidation:** The Committee reviewed information technology consolidation of both infrastructure and applications. The new State Chief Information Officer provided his plan for future consolidation efforts, in which he expressed the intent to continue with targeted, selective consolidation of infrastructure across State agencies and to refocus consolidated IT management from a service provider role into a service management organization. The Department of Transportation provided the Committee with an overview of their grants management system, which is intended to become the State's enterprise grants management system. The Department of Health and Human Services reported on their plan to consolidate their multiple case management systems. The Department of Public Safety gave a presentation on their progress in consolidating the IT functions of the three agencies making up the new Department. The CIO discussed the challenges associated with merging three departments with a work force of 25,000 and

operations in every county in the State. As an alternative to consolidating information technology operations in the Office of Information Technology Services, the Department has obtained approval from the State Chief Information Officer to use its own data center and take responsibility for its own desktop support.

Duplication of IT applications in State agencies is a significant issue. One example is software to manage vehicle fleets. The Program Evaluation Division recently completed a series of evaluations dealing with vehicles owned and operated by State organizations. A primary finding of these evaluations was that there is no central location or standardized data base available to manage and determine the number of vehicles owned and operated by agencies within North Carolina State government. Multiple fleet management systems are presently in use. The agencies owning the majority of vehicles are listed below, along with the system each currently uses to manage its fleet:

- Department of Transportation - SAP electronic logistical management system
- Department of Administration - internal system developed by agency IT staff
- State Bureau of Investigation - internal system developed by agency IT staff
- Department of Public Safety - State Highway Patrol currently uses SAP software similar to DOT's; DPS is presently determining a solution for the consolidated Department and has indicated an interest in a product similar to DOT's SAP system.

The remaining organizations within State government use multiple systems and methods, to include spreadsheets and paper records.

***Recommendations*:** (i) Continue the State's information technology consolidation effort, including the elimination of duplicative functions. Ensure that every effort is made to truly consolidate both hardware and software, to the greatest extent possible. (ii) Require the implementation of a single, centrally run fleet management system for all State agencies. (iii) Require the Office of the State Chief Information Officer to recommend opportunities to consolidate duplicative IT applications.

III. **Grants Management:** One area where the State has made progress on consolidating applications and creating a standard solution is grants management. At the direction

of the General Assembly, the Office of the State Controller, the Office of State Budget and Management, and the Office of the State Auditor have been working to develop an enterprise solution to grants management. They have concluded that grants management needs to be considered in the context of an Enterprise Resource Planning effort, based on the SAP implementation at the Department of Transportation. With regard to grants management, in the short term, they recommend that agencies requiring new grants management systems adopt the DOT SAP solution. They also recommend reauthorizing the Grants Management Oversight Committee as a steering committee, with participation from agencies, and they recommend conducting an assessment to determine the costs for implementation of an ERP capability. In the long term, they recommend implementation of ERP and centralizing SAP resources in a Statewide financial oversight agency.

Recommendations: (i) Support continuation of the consolidation effort to include expanding to a Grants Management Steering Committee. (ii) Authorize a study to determine the cost and develop a timeline for implementation of ERP.

IV. **Information Technology Outsourcing:** The State Chief Information Officer discussed information technology outsourcing during his consolidation presentation. ***Recommendations:*** (i) Ensure any outsourcing effort will provide substantial savings while maintaining, at a minimum, the same level of service. (ii) For any outsourcing effort, require development of a plan to evaluate the success of the effort and to return the function to State operation if the outsourcing effort is unsuccessful.

V. **Information Technology Procurement:** Information technology procurement was addressed, both in general terms and with regard to specific projects. The Committee was provided with an overview of the State information technology procurement process during their September meeting. This included a review of the State laws covering information technology purchases. As a follow-up, at the March meeting, the Department of Administration and the University of North Carolina General Administration (UNCGA) provided overviews of their e-procurement systems for the Committee. Through the Department of Administration, executive branch agencies use an Ariba system that interfaces with the North Carolina Accounting System

(NCAS). The UNCGA uses a Sciquest system that provides a purchase to payment system and interfaces with the two universities that use Banner for e-procurement. ***Recommendation:*** Develop a cost-effective capability to aggregate the data from all three systems to allow for Statewide spend analysis.

VI. **Business Intelligence:** Business intelligence, or BI, is an umbrella term that refers to a variety of software applications used to analyze an organization's raw data. At an enterprise level, North Carolina has focused on data integration, developing the Criminal Justice Law Enforcement Automated Data System (CJLEADS). CJLEADS provides a tool to serve all criminal justice professionals including courts personnel, corrections and law enforcement, meeting two primary objectives, providing a comprehensive profile of an offender, including all North Carolina data through a single, web-based system and to provide photographic images to allow for positive identification and a "watch list" capability to alert criminal justice professionals when persons of interest have a change in status, such as arrest or release from custody. The North Carolina Financial Accountability and Compliance Technology System (NC FACTS), which is currently under development, is intended to provide a means to detect fraud, waste, and improper payments across State agencies. ***Recommendations:*** (i) Continue establishment of a comprehensive enterprise-level business intelligence program; (ii) Provide sufficient recurring funding to permit planning and development of program; (iii) Permanently designate the Office of the State Controller as the lead agency for State business intelligence initiatives; (iv) Continue establishment of a Government Business Intelligence Competence Center within the Office of the State Controller; (v) Require the State Controller to identify a process to consolidate redundant business intelligence projects within the State; and (vi) Mandate data sharing by participating agencies, changing legislation where appropriate.

VII. **Health and Human Services**: The Committee held a joint meeting with the Joint Legislative Oversight Committee on Health and Human Services to address issues common to both committees:

- The status of the Medicaid Management Information System (MMIS) that is currently under development was discussed. The Committee received a report on an audit by the Office of the State Auditor that identified some issues, including a lack of documentation to explain evaluations and decisions. The report noted that: the system is expected to be completed about 22 months late with total overall costs exceeding estimates by $320.3 million; there was a lack of documentation of the impact of schedule delays on system implementation; there was a lack of documentation on the determination of the amount of damages for which the vendor was responsible; and there was a lack of timely identification of about $30.4 million in changes that the vendor made to the replacement MMIS.
- There was a presentation on the North Carolina Families Accessing Services through Technology (NCFAST) project, which is intended to support county departments of social services. The system capabilities will include: online verification; a service delivery interface that will allow departments of social services using other systems to interface with NCFAST; ePASS, which provides a means for determining eligibility for services; and case management.
- The Affordable Care Act (ACA) includes provisions to create a health benefit exchange (HBE). The HBE is intended to help individuals and small businesses purchase coverage by providing standardized information to help consumers compare plans. In addition, some people will be eligible for subsidies to help them purchase health insurance coverage. Individuals will be able to apply for health insurance coverage online. Those who qualify for public coverage (i.e., Medicaid or NC Health Choice) will be enrolled into the public insurance programs; those who qualify for a subsidy will receive help paying for private coverage offered through the HBE. Not to be confused with the HBE, the North Carolina Health Information Exchange (HIE) provides the capability to electronically move clinical information among health care information systems while maintaining the integrity of the information being exchanged. The goal of HIE is to facilitate access to and retrieval of clinical data to provide safer and more timely, efficient, effective, and equitable patient-centered care.

- Smart cards are also currently under discussion for DHHS. A smart card is a credit card-sized plastic card with an embedded, secure microchip. Unlike an ordinary credit or debit card, which stores data on a magnetic stripe, a smart card can both contain and process information. Smart cards with biometrics include a method of verifying the identity of the user, such as a finger scan or the patterns of the user's retina or iris. Additionally, there are other biometric methods for confirming identity which include hand/vein recognition and facial recognition.
- In addition to the joint presentations, the Committee also heard a presentation on DHHS's plan to eliminate duplicate case management systems within the Department, using NCFAST.
- At the August 2012 meeting, the information technology implications of consolidating of the Department at one location were discussed, and DHHS agreed to use State infrastructure, instead of building a new data center.

  Recommendations: (i) Carefully monitor DHHS projects to ensure they adhere to established timelines and budgets; (ii) support DHHS's efforts to eliminate duplication of IT capabilities within the Department; and (iii) monitor DHHS's space consolidation to ensure that the Department successfully moves its operations to Office of Information Technology Services infrastructure.

VIII. Criminal Justice: The Chair of the Criminal Justice Information Network (CJIN) presented to the combined meeting of the Joint Legislative Oversight Committees on Information Technology and on Health and Human Services. He discussed the need to include mental health data in CJLEADS to provide visibility for both criminal justice and mental health agencies. ***Recommendation:*** Work with CJIN, DHHS, and OSC to determine how best to ensure that each entity has access to the required mental health information.

IX. Education: In addition to addressing the UNCGA exemptions, the Committee reviewed the progress of the Department of Public Instruction's Race to the Top (RttT) initiative. RttT includes an Instructional Improvement System, new North

Carolina Virtual Public School courses, and an "NC Ed Cloud." At the local level, RttT focuses on the LEA network and user devices.

Recommendation: Continue to monitor progress of DPI IT initiatives.

X. **Office of the State Controller Initiatives:** In addition to its business intelligence initiatives, the Office of the State Controller is piloting an electronic forms and digital signatures capability for the State. A digital signature provides a higher level of authentication than a handwritten signature, increasing security. Rather than simply making forms electronic, OSC's electronic forms project focuses on eliminating paper forms, providing workflow automation, and focusing on common type business processes. OSC is also responsible for the BEACON Human Resources (HR)/Payroll system, and provided the Committee with an update on the status of the system. According to the presentation, system performance metrics continue to improve, and over 6,000 people have received system training. System enhancements continue, but given the program's limited resources, these enhancements may come at the expense of system operations and maintenance. The North Carolina Accounting System (NCAS) provides primary budgetary control and financial accounting to most state agencies and statewide financial reporting and information access for all agencies. Any systems developed by other agencies that require an interface with NCAS need to be coordinated with OSC early in the development process.

Recommendations: (i) Ensure that the Office of the State Controller has the necessary support to successfully implement and maintain the systems for which it is responsible, considering competing requirements and fiscal limitations. (ii) Ensure that other agencies coordinate any system development requiring an interface with NCAS with OSC.

XI. **Justice and Public Safety:** In addition to discussing the need to include mental health information in CJLEADS, the Chair of the CJIN Board also provided information on the board's activities. The North Carolina General Assembly's Program Evaluation Division reviewed a report entitled "Project Management Lapses and Planning Failures Delayed Court Technology Improvements," which addressed issues associated with delays in the completion of information technology projects.

In February 2012, Federal legislation mandating the development and implementation of the First Responders Network Authority, or FirstNet, a national broadband network for first responders, was enacted. This legislation has a potential impact on State first responders and will require policy decisions. Immediate requirements will include identifying a point of contact for the State (currently the Office of the State Chief Information Officer) and the identification of funding to match any grants received from the Federal government for system planning. Longer term, the State will need to decide whether to participate in the Federal initiative or independently develop a compatible system.

Recommendations:

(i) Require the Administrative Office of the Courts to submit quarterly status reports on technology projects to the Joint Legislative Information Technology Oversight Committee to include the following:

- Status of establishment of a formal process to gather stakeholder input of technology projects
- Status of information technology projects to include as a minimum the following:
    - Budget, both planned and actual
    - Timeline, both planned and actual
    - Status of project (project initiation, planning and design, execution and build, implementation, closeout)

(ii) Require regular reporting from the State's designated FirstNet point of contact on the project's progress, as well as potential requirements for resources or policy decisions.

(iii) Ensure that the many unanswered questions surrounding the FirstNet initiative are resolved prior to expenditure of resources for system development and implementation, including:

a) Cost (both state and local)
b) Infrastructure
c) Coverage
d) Network architecture
e) Terms of agreement with the federal government

f) Governance

XII. **Geographic Information Systems:** The Committee heard a presentation from the Chair of the Geographic Information Coordinating Council on its annual report. The report discussed ongoing projects and requested the following:

- Conforming changes to enabling statutes required by FY2009-10 budget special provisions. Addition of 911 Board and Board of Elections Executive Directors as permanent Council members. (HB152)
- Funding for NC OneMap Revitalization Project: $247,000 for FY2012-13. (PCS for HB94)
- Restoration of full CGIA funding from IT Fund to $740,000 per year after a 19% cut.
- Long-term, independent, non-reverting, and potentially growing funding source to fund the CGIA.

Recommendation: Consider CGIA proposals prior to the 2013 session.

XIII. **Transportation:** The Department of Transportation provided the Committee with information on the status of its Division of Motor Vehicles technology projects. The House Bill 1779 initiative is intended to allow the collection of vehicle property tax at the same time that the vehicle is registered, in a single payment. The Next Generation Secure Driver License System creates a new driver license that will comply with the REAL ID Act of 2005, increase security and eliminate fraud and identity theft. It will also improve driver license work flow. The STARS/SADLS replacement project is intended to replace current systems with modern technology that will reduce operations and maintenance costs and improve the flexibility of system enhancements and changes.

Recommendation: Continue to monitor development of DMV projects.

XIV. **Statewide Initiatives:** During this session the Committee has heard a number of reports on enterprise, or Statewide, projects being developed by specific agencies.

These include the Office of the State Controller's business intelligence and electronic forms/digital signatures initiatives, and the grants management project that is being developed by the Department of Transportation, with participation from the Office of the State Controller and the Office of State Budget and Management. These projects allow an agency to use internal expertise to benefit the entire State, instead of having several agencies develop duplicative capabilities.

Recommendation: Designate specific agencies as centers of excellence for enterprise projects, and consolidate resources from competing projects to eliminate duplication.

XV. **Information Technology Security:** As incidents in other states have demonstrated, information technology security continues to be a significant concern. North Carolina has a very extensive cyber infrastructure that requires constant monitoring and protecting. As cyber threats evolve, it is also necessary to constantly train system users to ensure that they understand and can play a part in preventing unauthorized access to State systems.

Recommendation: Provide funding for more vulnerability and penetration testing, security controls, data loss prevention, and employee security and awareness training.

XVI. **White Space:** White space refers to unused channels in the traditional TV bands – UHF and VHF. The transition to digital television has provided additional space in the frequency spectrum that can now be used for other services. The available white spaces are different in each geographical area. White space provides lower frequencies than traditional Wi-Fi, allowing the signals to go through things like trees and walls and travel longer distances. It is also abundant in rural areas. Potential uses for the bandwidth include water quality monitoring, remote lighting control, replacement for high-cost, low-speed data links, mobile command posts, and fire ground data connection.

Recommendation: Monitor implementation of technology, both within the State and nationally.

TABLET PILOT

Under the leadership of **Co-Chairs Senator Andrew Brock and Representative Marilyn Avila**, during the 2011-2012 interim between legislative sessions, the Joint Legislative Oversight Committee on Information Technology conducted a Mobile Device Pilot Project ("Pilot") using tablets for Committee member and staff for both committee work and individual use. The purpose for the Pilot was to evaluate the practical use of tablets as well as any limitations. The Pilot was and is timely because mobile devices continue to become increasingly prevalent in the public and private sector. North Carolina joined other legislatures around the country in the process of developing effective use of tablets and other mobile devices. Further, General Assembly members were using tablet devices for their personal and business use and thus had begun bringing them to the General Assembly for use in combination with law-making activities. In addition, with the growing use of mobile devices by staff, lobbyists, stakeholders, public officials and the general public, it became imperative to determine best uses and challenges presented by the growing use of mobile devices in the legislative environment.

As noted in the introduction of the proposal, "The project will seek to determine how mobile devices might improve overall productivity, reduce the use of paper and print services, and provide for a more effective and efficient approach by which members and staff perform their day-to-day-legislative duties." Furthermore, as defined in the project scope:

"*Project Scope*

The project may encompass a review of all potential mobile devices in order to evaluate the practical use of the device as well as its limitations. The devices will be deployed to the sixteen members of the committee as well as the committee staff. The committee site will be modified to allow easy access for members as well as the public to view documents and presentations offered to the committee. Consideration must be given to provide for the use of a NCGA public WiFi network to allow for participation by members of the public who do not have the use of a cellular connection. ISD is confident that our existing infrastructure and capabilities can facilitate this need. In addition, acquisition of additional software that may not be native to the device may be necessary in order to allow for NCGA remote access, and to enable users to view certain types of information or access external sites for use. This need will be assessed during ISD's formatting of devices.

This "controlled" environment will allow for collection of the necessary evaluation criteria needed to support a meaningful report on the outcome of the project. The findings in the report will allow for input concerning the chamber automation project and the consideration of expansion of these mobile technologies to other legislative committees. Lastly, the report should provide the essential information required to enable the Joint Legislative Leadership to make a determination as to how mobile devices might be used to improve the legislative business process."

Additionally, the proposal set forth what legal issues needed to be studied as they pertained to a "paperless" environment.

"Legal Issues

The primary purpose of any legislative committee is to develop, or review, proposals for new or amended laws. Ultimately, law involves the analysis and management of information. Historically, law has been in written form. Nevertheless, the ever-advancing information technology innovations of the Digital Age present the legislature with the opportunity to make law with all the advantages and efficiencies that technology offers. In North Carolina, bills and enacted legislation are already disseminated and accessed electronically. The pilot will allow the committee process to be a paperless process. The law is often presumed to be written on paper, however, it does not necessarily require paper. The paperless committee pilot will provide a review of when paper is required in the legislative committee process versus when it is preferred by tradition. This information is an important component of determining why, when, and how to convert to a paperless process in other legislative committees as well."

Lastly, the proposal outlined twenty-one evaluation criteria to provide a foundation for the Pilot findings. To complement the evaluation criteria, the committee conducted a survey; the results follow the criteria findings. While there are twenty-one criteria outline in the proposal, they can be condensed into four categories to summarize the analysis and findings, they categories are: functionality, associated costs, security and support requirements, and the use of paper and print services.

The Pilot

ISD purchased 22 tablet devices from Verizon's Wireless pricing plan using the state's cellular contract for state and local government. ISD purchased twelve Apple iPads and ten

Motorola XYBoards, each with 16GB of memory, a folio case with keyboard, and the unlimited use government data plan. For inventory purposes, ISD also purchased three car chargers, two Apple docks, and one spare charger for each model tablet.

The tablets were used "out of the box" but were set up and configured with the NCGA Internet site as well as the committee's Web site as icons on the home screen. NCGA e-mail was set up on the tablets. Other non-NCGA e-mail accounts (G-mail for example) were setup if requested or if assistance was needed. A free software package was installed to allow for access to the NCGA's remote desktop servers. Otherwise, ISD did not restrict the software that could be downloaded to the tablet. A defined Copilot data network, separate from our internal data network and from the member's only network (MONET) was set up for tablet access. Use of the Copilot data network (COPILOT) was restricted to participants in the tablet Pilot. The tablets were distributed to members and staff and they proceeded to use them in the IT committee meetings, and some members and staff used them in other committee meetings. Due to device software limitations on the tablets, all meeting agendas were converted to an HTML format and put on-line. All committee presentations were converted to PDF format and put on the committee's Web site for use in the meetings. In addition, when session reconvened, members used the tablets to access the chamber and member dashboards.

Summary Categories

Functionality

It is easy to see why tablets are attractive as a means of retrieving electronic information, reading e-mail, searching the Web, and accessing social media sites. Unlike traditional laptops, tablets have a smaller footprint weigh significantly less, and have a longer battery life.

On the other hand, balanced against these gains is a loss in overall functionality if the tablet is to be used for the same tasks as a laptop. As indicated by the responses to question 19 in the survey, and to paraphrase a member's view as stated at the August 2, 2012 committee meeting, the tablet is "good for reading a book, but not for writing a book."

The iPad and Android tablet devices cannot run the Microsoft Office products Word or Excel, which is a significant drawback for those members who need the full functionality of a desktop or laptop. Moreover, there are limitations as to how documents can be viewed and manipulated via Web delivery using the tablets. For example, the Motorola XYBOARD downloads a PDF document and the users must locate the file and open it in the PDF viewer. The iPad is unable to render multiple documents in a single browser pane; this requires multiple windows or tabs for the viewing of multiple documents. Through software applications and as tablet technology matures, these limitations can be overcome.

However, as their intended purpose, the tablets proved very functional for access to committee content, e-mail and social networking sites, Web searching and information gathering.

Associated Costs

Hardware

The total non-recurring charges were approximately $18,000.

Unlimited Data Plan

The total recurring, data plan charges are $836.22 per month. ISD paid for these charges. It has been suggested that if the legislature provides tablets, the members could use funds from their office account to purchase the data plan. However, a change in the authorized use of this account for this purpose would need to be approved by the Legislative Services Commission.

The cost details are as follows.

Per item Cost

Item	Unit Cost
IPad	**$629.00**

iPad case/keyboard	**$74.99**
iPad spare charger	**$20.00**
iPad dock	**$29.97**
iPad car charger	**$22.49**
XYBOARD	**$529.99**
XYBOARD spare charger	**$22.49**
XYBOARD case/keyboard	**$97.49**
1 year Unlimited Data Plan	**37.99 (recurring)**
Total non-recurring charges	**17,378.18**
Total recurring charges Data Plan	**$836.22**

Per Unit Device Cost

Item	**Unit Cost**
IPad and accessories	**$703.99**
XYBOARD case/keyboard	**$627.48**

Software

ISD did not purchase any "Apps" for the tablets. We used a free version of a software package to allow for remote access to the NCGA data network. As noted, ISD did not restrict the downloading of "Apps" by members or staff.

Presently we have a manual process of moving documents (drag and drop to a folder) to committee Web sites. If we are going to have all committees put their content on the Web, either in advance of the meeting or in real time, investment in a content management software package should be explored. The software would provide the tools for committee clerks and staff to seamlessly move documents to the committee's site, as well as make them manageable for electronic access by members and committee participants.

While we are striving to reduce printing in the legislature, members still want to print at times from their tablet devices. In order to do this, additional print management software and tablet-compatible printers would be necessary.

A discussion of mobile management software is in the next section.

Security and Support Requirements

Security

While security is of the utmost importance, the way in which the tablets were used was not a major concern. All of the content accessed by the users was Web-based. As designed, the Web is segregated from the internal legislative data network. Additionally, the Copilot network was configured to not allow access to the internal network, i.e., internal network storage and servers. As an example, the "F and S" drives could not be accessed. Furthermore, these devices were NCGA-provided so we were confident the devices were secure on our network.

In the case of members having their personal tablets, again since the content from both committees and chambers was Web-based, the threat to the legislative data network was minimized.

However, if tablets are to be used in the legislative environment, mobile management software or hardware will need to be installed in the legislative setting. One such method of security is implantation of a Network Access Control (NAC) device or server. A NAC device controls access by authenticating the device upon its connection to a network. One definition is as follows.

> "Network access control (NAC), also called network admission control, is a method of bolstering the security of a proprietary network by restricting the availability of network resources to endpoint devices that comply with a defined security policy.
>
> A traditional network access server (NAS) is a server that performs authentication and authorization functions for potential users by verifying logon information. In addition to these functions, NAC restricts the data that each particular user can access, as well as implementing anti-threat applications such as firewalls, antivirus software and spyware-detection programs. NAC also regulates and restricts the things individual subscribers can do once they are connected. Several major networking and IT vendors have introduced NAC products.
>
> NAC is ideal for corporations and agencies where the user environment can be rigidly controlled. However, some administrators have expressed doubt about the practicality of

NAC deployment in networks with large numbers of diverse users and devices, the nature of which constantly change. An example is a network for a large university with multiple departments, numerous access points and thousands of users with various backgrounds and objectives."[1]

However, as the hacker community begins to attack tablet devices in depth, security policies and procedures need to be developed if tablets are to be utilized in the legislature, regardless of whether or not the tablet is NCGA-provided. Any device that is intended to access the internal workings of the legislative data network needs to have the same security protection as NCGA-provided equipment.

Support Requirements

Tablet devices have the same support requirements as desktops and laptops. As in all cases, ISD does its best to become familiar with the variety of personal smartphones and other devices that a member or staff may use.

For the Pilot, the number of devices requiring support was not overwhelming. ISD currently uses a software delivery application to remotely distribute software, software patches, and desktop icons to users. This same methodology will be necessary to support tablets in our environment. Therefore, a mobile management software solution will need to be considered.

Lastly, if we allow for members and staff to have access to multiple devices, thought must be given to the possible need to increase computer support staff because of increased workload.

[1] http://searchnetworking.techtarget.com/definition/network-access-control

Reduction in Use of Paper and Print Services

Besides determining the functionality and practical use of tablet devices, the Pilot's charge was to determine the potential savings in the use of paper and print services. There are many associated costs with paper use. Naturally, there is the cost of the paper, the associated cost of toner or ink used in the printer/copiers and finally the time involved by staff to print and distribute the paper copies as well as the wait time for members and staff as the copies are being distributed.

The Indiana legislature conducted a study of paper use in November of 2011. They too were considering "going paperless with iPads." As stated in an article from NCSL's blog, *The Thicket* – November 17, 2011, "An in-depth report prepared for the committee by staff of the Legislative Services Agency provides detailed information that should be helpful to other states looking at implementing tablets in the legislature or moving toward a more paperless process." The study also analyzed the "study the flow of paper throughout the Indiana legislative process." Their findings were that "A single bill in the Indiana General Assembly generates about 11,400 sheets of paper, weighing 45.6 lbs. and creating a 3.8 foot stack of paper—that's the equivalent of 1.386 trees!"

While our Pilot study of paper use is not as detailed as that in Indiana, we do have documentation that tracks paper use for our legislature. We had the print shop keep records of the number pages and the number of copies of legislation as well as other documents for committees they produced between July 21, 2011 and August 14, 2012. While the data does not provide detail as to the exact type of duplication, it does disclose the number of pieces of paper and copies that were produced by the print shop for that period. Furthermore, we know the number of cases of paper purchased for the 2011 session as of August of this year and for the two-year cycle for the 2009 session.

For this purpose, only 8.5x11.5 white paper as well as 8.5x11.5 white three-hole punch paper was analyzed. This represents the paper used for the bulk of printing in the legislature. The methodology for this analysis is straightforward. The cost of the paper and the cost of the printer/copier were used as multipliers for the cost of copies.

Six committee meetings were held from January thru May during the tablet Pilot. We had 183 (duplex) pages for presentations. The committee consists of 16 members and 9 staff. Thus, total number of copies required for the committee was 25. Had we provided hard copy of the

presentations, we would have produced 4,587.5 pages. The cost would have been $64.68. The table below shows the calculations for these results.

Joint Legislative Oversight Committee on IT - January – May 2012 - Duplication Cost Savings

Total Pages - Duplex	Total Members/Staff	Total Number of Pages	Paper Cost	Copier Cost	Combined Paper/Copier Cost Paper=.0062 Copier-.0079	Presentation Duplication Cost
183.5	25	4587.5	0.0062	0.0079	0.0141	$ 64.68

Additionally, we looked at the number of other committee meetings that were held for the same time period. These committees did not keep track as we did of the number of pages presented. Therefore, we used the same information used for the IT committee regarding presentations and used an average of 18 members and staff per committee to determine the potential print costs. There were 233 meetings during the relevant time period. Using these figures, the average number of pages per meeting would have been 30.58. The total number of pages per member and staff for the 233 meetings would have been 7,125.14. The cost would have been $1,808.36. The table below shows the hypothetical costs for duplication of the presentations.

Interim Committees – January – May 2012 - Hypothetical Duplication Cost Savings

Total Pages/Meeting - Duplex	Total Number of Meetings	Total Pages	Total Members/Staff	Total Number of Pages	Combined Paper/Copier Cost Paper=.0062 Copier=.0079	Presentation Duplication Cost
30.58	233	7125.14	18	128,252.52	0.0141	$ 1,808.36

The information contained in the print shop logs between July 21, 2011 and August 14, 2012 indicates the actual printing costs for committees and the chambers. For that period, paper duplication cost was $22,321.25. The table below shows the calculations for this cost.

Print Shop Duplication Costs - 7-21-2011 thru 8-14-2012

Duplex pages	Total Pages Copied	Combined Paper/Copier Cost - Paper =.0062 - Copier=.0079	Total Print Shop - Paper and Production Cost
43,673.77	1,583,067.27	0.0141	$ 22,321.25

Finally, at the end of this section, there are tables that show paper costs for the 2009-2010 and the 2011-2012 sessions. This is included to provide information of the overall purchase of 8.5x11 white plain and three-hole punch paper.

By using tablets or electronic devices in committees, a savings can be realized not only in paper costs and production, but also in the time that is required by staff to print the documents and distribute them in meetings or on the chamber floor. As the price of paper, equipment and supplies increase, the use of electronic devices in the legislature will help reduce the impact of those increases in price.

Conclusion

Before tablets, the choice between the two alternatives of a desktop or a laptop was simple: if portability was required, a laptop was the device of choice. As tablet devices mature, new devices come to the marketplace (Microsoft's Windows software for tablet devices), and ultra-books become more business ready (i.e., more durable), the choices will become greater, thereby complicating the analysis used to arrive at a decision.

Currently, each member is permitted to select one device: either a laptop or a desktop. If the options are expanded to include tablets and ultra-books, the member's ability to choose the device he or she prefers should be preserved.

As members seek to bring in their own tablets for personal, business, and legislative use, the risk of co-mingling of personal and non-legislative information and the impact of legislative confidentiality and public records must be considered. Additionally, the legislative environment will need to provide the same functionality and security as it does for NCGA provided devices.

As the technology evolves, policies that govern the use of technology must also evolve. Having technology readily available can blur the lines of acceptable use in the legislature. If the legislature is to keep at the forefront of technology the policies and procedures that govern the access to and use of the legislative technology should be reviewed to provide reasonable use standards that can be easily understood, easily adhered to and easily enforced.

The Pilot has demonstrated that tablet devices have a place in the legislature for consuming legislative information, a task for which they are ideally suited. If they are to be used as a full-function device, however, they will require additional software to access the NCGA's remote desktop servers, and those servers will need to be configured and tested to ensure they can handle the increased use load.

Technology has always had its place within the legislature. As the pace of technological change accelerates, the challenge will be to provide the best return on investment as we bring new technology into our environment.

Recommendations

1. ISD should continue to offer one computer to members. Based on the member's needs, they can select a laptop, an ultra-book, or a tablet device.
2. NCGA-provided computer devices must be secure, but also need to be functional to allow members to conduct legislative business via applications and social media interaction when communicating with constituents.
3. Rules and procedures for reasonable acceptable use polices of legislative devices or personal devices should be reviewed and modified as needed to accommodate the use of tablets.
4. Tablet Use
    a. NCGA-provided.
        i. NCGA will need to invest in the necessary mobile management and development software and/or hardware to allow ISD to manage the devices using the same methodology as is done with the current NCGA-provided devices.
            1. Security
                a. Tablet passwords required.
            2. Software deployment
    b. Use of personally owned Tablets.
        i. If members are allowed to bring their own tablet devices to access legislative information, the devices will need to be validated via NCGA mobile management software and hardware for network access and for installation of NCGA-approved software.
    c. Tablet software.
        i. Provide and purchase, if necessary, software that allows access to the NCGA remote desktop servers and any other software required for security and functionality and development.

ii. NCGA should provide a list of approved software that ISD can recommend to members for purchase that may assist the member or staff in their legislative business needs.

d. ISD will be responsible for the direct support of legislative supplied devices. ISD will make every attempt to aid members with the use of their personal devices. ISD will follow the Legislative Services Commission policies on software ("Software – Programs on General Assembly Personal Computers" and "Software –Use and Duplication") for software support.

5. The Legislative Services Commission should modify the rules that govern how the office expense allowance is used to allow members to have the option of purchasing a data plan.
6. ISD should evaluate and purchase content management software for the setup of committee Web sites to allow for seamless document management by committee staff.
7. ISD will need to evaluate their current staffing and determine if having to support multiple devices will require additional support staff.
8. The member's only network (MONET) should be continued to provide a secure network for members to use their own device to access non-NCGA information.
9. The legislature should continue to explore all options of reducing the overall use of paper in the legislature.
10. Legislative staff should be provided with tablet devices for the use of staff assigned to floor duty.

Evaluation Criteria and Outcomes

The evaluation criteria findings are in italic text.

1. Does the device have the necessary functionality and flexibility; i.e., is the device "ready for prime time."
    a. Overall device features and device limitations:
        i. The uses of these devices are relatively new to public and private sector business, are we going to be the early adopters of the technology?
            1. *The Android market has three main manufactures Sony, Motorola Samsung. The MS windows device is in the development stages. Other companies, Lenovo, for example are introducing devices that have ultra-book and tablet functionality combined.*
        ii. *The iPad was introduced into the market place in 2010. Since that time, Apple has released two version of the device and is scheduled to update the product again.*
        iii. *Consumers, the private sector, state agencies and state legislatures are using tablet technology and the technology is vetted on a daily basis via trade journals and magazines. The technology is clearly here to stay and its use is inevitable.*
    b. The hardware and software are ever improving, and the technology advancements mimic the early phases of the PC and laptop platforms. How likely is it that the current limitations will be overcome by these advancements?
        1. *The use of mobile management software will be required in the legislative environment.*
        2. *As with MS Office products, word processing and spreadsheet applications are necessary to get the most functionality from the tablet device.*
2. Costs
    a. Device costs.
        i. NCGA initial investment in the 22 tablets was approximately $18,000 ($818 average cost) with a total monthly data plan charge of $836.22 ($38 average charge).
    b. Associated software costs.
        i. As with laptop use, the NCGA will need approved applications for access to the NCGA remote desktop servers, as well as to printers to aid members and staff with document production.
        ii. Additionally, the NCGA could establish a list of "approved" apps that members could purchase on their own. By doing so, members and the NCGA would have confidence that the apps were vetted by IT staff and all security concerns were addressed for personal, business and legislative use.
    c. Training costs, if any.
        i. IDS would incorporate the training into its training schedules.
3. Software requirements.
    a. Members and staff indicated that there is the need to access the NCGA remote desktop servers as well as the need for a software package similar to the Office Suite. E-mail can be accessed from the tablet device's software without direct NCGA network access.

b. *The purchase of mobile management software and content management software will be required for tablet management and committee content management.*

4. Explore the "bring your own device" option:
   a. Pros/cons.
      i. *Discussed in the body of the report.*
5. Compatibility with current and future NCGA software:
   a. In-house developed.
      i. *With the chamber automation system, software was developed to be platform agnostic [platform-neutral?], since the applications ran as Web services. The chamber dashboard, member staff board and chamber driver systems all worked well on both tablet devices. However, having two distinct devices required the developers to design and test on each tablet device as well as on the traditional laptop and PC. Functionality in some instances was stymied due to tablet limitations.*
   b. Purchased products.
      i. *ISD did not purchase any products for members. We used a free version of remote access software to access our remote desktop servers. Nor did it purchase a content management software package or mobile management software.*
   c. Future (short- and long-range) access to, and readability of records created.
      i. *The same policies, procedures and law apply to data use and access from a tablet. However, these may need to be reviewed to allow them to keep pace with the technology as it changes and as it is used.*
6. Use of device for the viewing of committee documents:
   a. Meeting agendas.
      i. *The Android device was unable to launch a link from within a Word document. Thus, a Web based version of the agenda was created. This however required our Web master to create the document. If tablets were to be used in other committees, this would not be a practical solution, and an agenda committee application would need to provide for this.*
         1. *The iPad did not have this issue.*
   b. Presentations.
      i. *All presentations and documents were converted to PDF format.*
         1. *The Android device downloaded the document and the user needed to remember to go to the download link to view the file. This took some getting used to but was workable.*
         2. *The iPad device allowed the documents to be viewed in the browser window.*
   c. Legislation and its development:
      i. Bills.
      ii. Amendments.
      iii. Committee substitutes.
      iv. Committee reports.
      v. Fiscal notes.
   d. Document sharing and collaboration between members and staff.
      i. *The use of the tablet was found to be more useful in the consumption of information rather than the production.*

7. Use of device for:
    a. Video/audio.
        i. Members would use the tablet for video conferencing if it were available. See responses to survey question 26).
    b. Webinars.
        i. As with laptop use, the device can be used to view Webinar content.
    c. Member-related cost-saving generated by alternative for "go-to-meeting" usage:
        i. Assess potential savings in the area of:
            1. Travel reimbursement.
            2. Extra-day/overnight per diem.
        ii. If this is to be considered, the Legislative Services Commission will need to create and modify rules that pertain to the above topics.
8. Cost/benefit analysis of potential savings, whether quantifiable or unquantifiable, direct or indirect; including, but not limited to: paper and printer services costs reductions.
    a. This topic is discussed in the main body of the report.
9. Ease of use by members and staff for increased efficiency.
    a. Members and staff found the devices easy to use. They also felt the devices aided in their productivity. For example, a staff member was the only staff to have a computer (tablet) at a meeting with members and staff and was able to research the answer to a question where the answer was not known. Thus, a decision was able to be considered instead of put off until the required research was performed.
10. Reliability.
    a. The Android device had some minor problems, such as:
        i. Not charging fully.
            1. This could have been due to a faulty charger. When that was replaced, the device charged.
            2. One device had to be set back to factory default.
            3. Device would freeze periodically and required a "hard reboot".
    b. We had one instance of an iPad failure. Apple allows for the iPad to be brought to one of their stores to be evaluated and exchanged if necessary. In this instance the device was replaced. As a result, the device needed e-mail and network setup and was returned to the member.
    c. The Apple folio keyboard experienced keys just dropping off.
11. Application and device security; including analysis to determine the level of protection needed and the level of risk that can be tolerated in the legislative committee environment.
    a. Encryption.
        i. As is done today with current NCGA laptops, hardware/software encryption will need to be implemented.
    b. Password protect device.
        i. With the inherent portability of mobile devices, password protection is essential to ensuring device and information security.
    c. Virus protection requirements.
        i. Software security companies are making available mobile protection. That protection can be incorporated into a total mobile management security suite.
12. Network Interface.
    a. Speed – download/upload.

i. *The NCGA wireless network was more than adequate for document downloads/uploads.*

b. NCGA wire/wireless.
   i. Member Only Network - Monet
      1. *The MONET was designed to all those members who wished to use their own devices to access business or personal e-mail and information. This network worked well for the chamber automation pilot since the application was a Web based service. This network will not have access to our internal network, thus personal devices will not be able to access NCGA information.*
      2. *A Co-pilot wireless network segment was created for network access by the committee tablet devices. This network was segregated (firewall and access control list implementation) from the standard wireless network.*
      3. *If we have the use of personal devices, a network that has access to NCGA Web services for chamber automation will need to be initiated to provide secure access of the devices to network content.*

c. Cellular.
   i. *Members utilized the cellular data network when wireless was not available. The usage is as follows: (USAGE DATA at end of document)*

d. Voice/Video and Data.
   i. *The user understands the limitations of tablet devices. For the most part, the tablet can be used for voice/video and data usage.*

13. Data Storage impact.
    a. *If mobile devices are used, a device with the maximum storage available should be purchased. Unlike a network file system, documents downloaded to the device will begin to use up space. If trained properly, these can be deleted by the user; however, it can present a problem if regular storage housekeeping is not performed.*
14. Requirements of staff, the committee clerk, and presenters in order to provide a true digital experience.
    a. *In house product development or a content management package would need to be purchased in order to allow for seamlessly uploading and accessing documents.*
15. Configuration requirements.
    a. *Use mobile management software.*
16. How the device fits within the following areas:
    a. IT device refresh rate.
       i. *Mobile devices are so new (iPad introduced in 2010) that the technology and operating systems are on almost on the same refresh rate as smartphones. Whereas, laptops, or ultra-books, with windows operating systems will be on par with a 3-4 year refresh rate.*
    b. Software update requirements.
       i. *On non-windows devices, a mobile device software management package, (see below) will be required. Inherent to tablet devices and mobile devices in general, "Apps" are "self-updating" if allowed. For laptops and desktops in the NCGA, automatic updates are not allowed and are controlled via software settings. If this is not done for a tablet this could become problematic to the functionality of the device in the legislative environment.*

17. Requirements for a mobile device management solution.
    a. *There is no need to re-invent the wheel when it comes to mobile device security. Daily, information in this area is being discussed in trade magazines. If a non-windows device is to be used, a proven mobile security software package will need to be purchased. These packages allow for bulk software updates and remote wipe capability in the event a device is lost or stolen.*
18. Training in use of device for members and staff.
    a. *Training was adequate but more was desired by some.*
19. Use of social media sites and other web-based tools as a catalyst for constituent casework, interaction and communications.
    a. *Members indicate that they use the table extensively for these purposes. Survey questions 23, 24.*
20. Assist in development of a template for converting a traditional legislative committee process to an electronic one, especially if converting means re-engineering the existing process.
    a. *In order for deployment of tablet use for all committees, a system, somewhat similar to the piloted chamber automated system will need to be developed. This requirement is to ensure fast and easy access to committee documents, both at hand, and that may be introduced during the meeting. The development of a committee document access system (or dashboard) must be designed with technology that is able to be utilized with proper training by the committee clerks and support staff.*
21. Transparency; public access capabilities and limitations.
    a. *Rules and procedures for reasonable acceptable use polices of legislative devices or personal devices should be reviewed and modified as needed to accommodate the use of tablets.*

Data Usage Report

Company Name : ST OF NC-NC GENERAL ASSEMBLY
Structure Name: Default
Position : ST OF NC-NC GENERAL ASSEMBLY
Report Name : Overview of Lines
Period Range Jan-12 To: Aug-12

Summary by Wireless Number

Wireless Number	Device Name	Data_Usage
919-210-4167	Copilot22	2,554,239KB
919-306-1176	Copilot12	1,285,950KB
919-306-1516	Copilot10	108,746KB
919-306-1933	Copilot03	244,334KB
919-306-2046	Copilot01	10,007,490KB
919-368-5245	Copilot13	14,950,063KB
919-368-5307	Copilot14	563,957KB
919-368-5486	Copilot15	14,011,152KB
919-368-5746	Copilot16	2,301,981KB
919-368-6104	Copilot19	136,662KB
919-368-7051	Copilot20	146,269KB
919-368-7158	Copilot21	815,785KB
919-368-7248	Copilot02	9GB
919-368-7551	Copilot04	8GB
919-368-8129	Copilot05	3GB
919-368-8829	Copilot06	77GB
919-368-9232	Copilot07	11GB
919-368-9370	Copilot08	19GB
919-368-9393	Copilot09	8GB
919-368-9643	Copilot11	11GB
919-368-9667	Copilot17	6GB
919-368-9716	Copilot18	9GB
Total		

Paper Purchase and Usage Information

2009-2010 Paper Purchases

Paper Type	Total Paper	Average Case/Month Purchase	Cost/Case	Total Paper Cost	Per Sheet Cost 5000 sheets /Case
White 8.5x11.5	2560	106.67	29.41$	75,289.60$	0.00588
White 3HP 8.5x11.5	560	23.33	30.66$	17,169.60$	0.00613

2009-2010 Print Shop Paper Usage

Paper Type	Total Paper	Average Case/Month Use - Print Shop	Cost/Case	Total Paper Cost	Per Sheet Cost 5000 sheets /Case
White 8.5x11.5	589	24.54	29.41$	17,322.49$	0.00588
White 3HP 8.5x11.5	294	12.25	30.66$	9,014.04$	0.00613

2009-2010 NCGA Non Print Shop Paper Usage

Paper Type	Total Paper	Average Case/Month Use - NCGA	Cost/Case	Total Paper Cost	Per Sheet Cost 5000 sheets /Case
White 8.5x11.5	1971	82.13	29.41$	57,967.11$	0.00588
White 3HP 8.5x11.5	266	11.08	30.66$	8,155.56$	0.00613

2011-2012 Total Paper Purchased January 2011 to Present

Paper Type	Total Paper	Average Case/Month Purchase	Cost/Case	Total Paper Cost	Per Sheet Cost 5000 sheets /Case
White 8.5x11.5	2080	115.56	30.91$	64,292.80$	0.00618
White 3HP 8.5x11.5	440	24.44	33.00$	14,520.00$	0.00660

APPENDIX A

North Carolina General Statutes
Chapter 120
Article 26.

Joint Legislative Oversight Committee on Information Technology.

§ 120-230. Creation and purpose of the Joint Legislative Oversight Committee on Information Technology.

There is established the Joint Legislative Oversight Committee on Information Technology. The Committee shall review current information technology that impacts public policy, including electronic data processing and telecommunications, software technology, and information processing. The goals and objectives of the Committee shall be to develop electronic commerce in the State and to coordinate the use of information technology by State agencies in a manner that assures that the citizens of the State receive quality services from all State agencies and that the needs of the citizens are met in an efficient and effective manner. The Committee shall examine, on a continuing basis, systemwide issues affecting State government information technology, including, but not limited to, State information technology operations, infrastructure, development, financing, administration, and service delivery. The Committee may examine State agency or enterprise-specific information technology issues. The Committee shall make ongoing recommendations to the General Assembly on ways to improve the effectiveness, efficiency, and quality of State government information technology. (1999-237, s. 22(a); 2004-129, s. 7A(b).)

§ 120-231. Committee duties; reports.

(a) The Joint Legislative Oversight Committee on Information Technology may:

(1) Evaluate the current technological infrastructure of State government and information systems use and needs in State government and determine potential demands for additional information staff, equipment, software, data communications, and consulting services in State government during the next 10 years. The evaluation may include an assessment of ways technological infrastructure and information systems use may be leveraged to improve State efficiency and services to the citizens of the State, including an enterprise-wide infrastructure and data architecture.

(2) Evaluate information technology governance, policy, and management practices, including policies and practices related to personnel and acquisition issues, on both a statewide and project level.

(3) Study, evaluate, and recommend changes to the North Carolina General Statutes relating to electronic commerce.

(4) Study, evaluate, and recommend action regarding reports received by the Committee.

(5) Study, evaluate, and recommend any changes proposed for future development of the information highway system of the State.

(b) The Committee may consult with the State Chief Information Officer on statewide technology strategies and initiatives and review all legislative proposals and other recommendations of the State Chief Information Officer.

(c) The Committee shall submit annual reports to the General Assembly on or before the convening of the regular session of the General Assembly each year. The Committee may submit

interim reports at any time it deems appropriate. (1999-237, s. 22(a); 2004-129, ss. 7A(c), 36; 2006-264, s. 10.)

§ 120-232. Committee membership; terms; organization; vacancies.

(a) The Committee shall consist of 16 members as follows:

(1) Eight members of the Senate at the time of their appointment, appointed by the President Pro Tempore of the Senate. At least two appointees shall be members of the Senate Appropriations Committee.

(2) Eight members of the House of Representatives at the time of their appointment, appointed by the Speaker of the House of Representatives. At least two appointees shall be members of the House of Representatives Appropriations Committee.

(3), (4) Repealed by Session Laws 2004-129, s. 7A(d), effective July 1, 2004.

(b) Members of the Committee shall serve terms of two years beginning at the convening of the General Assembly in each odd-numbered year, with no prohibition against being reappointed, except initial appointments shall begin on appointment and end on the day of convening of the 2005 General Assembly.

(c) Members may complete a term of service on the Committee even if they do not seek reelection or are not reelected, but resignation or removal from service constitutes resignation or removal from service on the Committee.

(d) The President Pro Tempore of the Senate and the Speaker of the House of Representatives shall each select a legislative member from their appointees to serve as cochair of the Committee.

(e) The Committee shall meet at least once a quarter and may meet at other times upon the call of the cochairs. A majority of the members of the Committee shall constitute a quorum for the transaction of business. The affirmative vote of a majority of the members present at meetings of the Committee shall be necessary for action to be taken by the Committee.

(f) All members shall serve at the will of their appointing officer. A member continues to serve until the member's successor is appointed. A vacancy shall be filled within 30 days by the officer who made the original appointment. (1999-237, s. 22(a); 2001-486, s. 2.7; 2004-129, s. 7A(d).)

§ 120-233. Assistance; per diem; subsistence; and travel allowances.

(a) The Committee may contract for consulting services as provided by G.S. 120-32.02. Upon approval of the Legislative Services Commission, the Legislative Services Officer shall assign professional and clerical staff to assist in the work of the Committee. The professional staff shall include the appropriate staff from the Fiscal Research, Research, Legislative Drafting, and Information Systems Divisions of the Legislative Services Office of the General Assembly. Clerical staff shall be furnished to the Committee through the offices of the Senate and the House of Representatives Supervisors of Clerks. The expenses of employment of the clerical staff shall be borne by the Committee. The Committee may meet in the Legislative Building or the Legislative Office Building upon the approval of the Legislative Services Commission.

(b) Members of the Committee shall receive per diem, subsistence, and travel allowances as follows:

(1) Committee members who are members of the General Assembly, at the rate established in G.S. 120-3.1.

(2) Committee members who are officials or employees of the State or of local government agencies, at the rate established in G.S. 138-6.

(3) All other Committee members, at the rate established in G.S. 138-5. (1999-237, s. 22(a).)

§ 120-234. Committee authority.

The Committee may obtain information and data from all State officers, agents, agencies, and departments, while in discharge of its duties, under G.S. 120-19, as if it were a committee of the General Assembly. The provisions of G.S. 120-19.1 through G.S. 120-19.4 shall apply to the proceedings of the Committee as if it were a committee of the General Assembly. Any cost of providing information to the Committee not covered by G.S. 120-19.3 may be reimbursed by the Committee from funds appropriated to it for its continuing study. (1999-237, s. 22(a).)

§ 120-235. Committee subcommittees; noncommittee membership.

The Committee cochairs may establish subcommittees for the purpose of making special studies pursuant to its duties, and may appoint noncommittee members to serve on each subcommittee as resource persons. Resource persons shall be voting members of the subcommittee and shall receive subsistence and travel expenses in accordance with G.S. 138-5 and G.S. 138-6. (1999-237, s. 22(a).)

§§ 120-236 through 120-239. Reserved for future codification purposes.

APPENDIX B

JOINT LEGISLATIVE OVERSIGHT COMMITTEE ON
INFORMATION TECHNOLOGY

Committee Members

Co-Chairs

Rep. Marilyn Avila (Co-Chair)

Sen. Andrew Brock (Co-Chair)

Legislative Members

Rep. Larry M. Bell

Rep. Glen Bradley

Rep. Bill Cook

Rep. Kelly E. Hastings

Rep. Phil R. Shepard

Rep. Joe P. Tolson

Sen. Bob Atwater

Sen. Ralph Hise

Sen. E.S. (Buck) Newton

Sen. David Rouzer

Sen. Dan Soucek

Sen. Josh Stein

Sen. Stan White

APPENDIX C
JOINT LEGISLATIVE OVERSIGHT COMMITTEE ON
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