BETA

Business & Education Technology Alliance

Revised Recommendations for Preparing North Carolina for Competitive Advantage in the Knowledge Age.

Presented to:
The North Carolina Board of Education
and The North Carolina General Assembly
Joint Education Oversight Committee
March 2006

www.betanc.com

Table of Contents

Preface

General Statute 115C-102.15 was enacted by the North Carolina General Assembly in September 2002 and creates the Business Education Technology Alliance (BETA.) This is a 27 member Alliance of key leaders including business leaders, local and state policy makers, and educators charged to ensure that the effective use of technology is built into the North Carolina School System for the purpose of preparing a globally competitive workforce and citizenry for the 21st century. It is chaired by Lt. Governor Bev Perdue who was appointed by the Chairman of the North Carolina State Board of Education (SBE.) The BETA is required to advise the SBE and report annually on its progress towards its recommendations for education technology in the public schools. It is also required to report annually to the Joint Education Oversight Committee of the North Carolina General Assembly on its recommendations for education technology in the public schools. These recommendations may include changes to any law, rule, and policy that would improve implementing education technology in the public schools.

The membership of the Business Education Technology Alliance (BETA) is comprised of stakeholders by statute from the following groups: teachers, technology directors, principals, superintendents, local board of education members, county commission members, legislators, the State Superintendent of Public Instruction or designee, the Board of Governors, the Community College System and the State Board of Education. It is required in the statute that the associations or organizations that represent the groups appointed to the commission make recommendations for the BETA to the appointing officers. While the commission membership is charged to make the recommendations, feedback has been solicited from the sponsoring members and representatives of the stakeholder groups via email list serves, the BETA web site and direct communication. In addition, BETA Chairman Bev Perdue in collaboration with North Carolina Citizens for Business and Industry President Phil Kirk initiated a fund raising project to support the work of the BETA. As a result businesses and other organizations including the North Carolina State Board of Education and the North Carolina Department of Public Instruction (NCDPI) became sponsors to the BETA and continue to provide input into its work.

The Business Education Technology Alliance (BETA) began meeting on September 8, 2003 after the appointment of its members. It met in different locations across the state to learn about the technology, education and economic needs of the various parts of North Carolina. Each meeting included presentation from businesses, education, economic development groups, organizations and other entities that had information to share specific to the work of the BETA. The BETA was also organized into four subcommittees: Vision, Infrastructure, Professional Development and Funding and Accountability. The subcommittees met outside of the full BETA meetings and the committee chairs met with the BETA staff to coordinate their work. This draft document represents the draft recommendations of the BETA after hearing the feedback from across the state, reviewing data provided by the presenting through research and development of specific topics and issues.

Introduction

The Business Education Technology Alliance's (BETA) presented its first set of recommendations to the North Carolina State Board of Education (SBE) and the Joint Education Oversight Committee in January 2005. Legislation to begin the implementation of the recommendations was ratified in Senate 662 in August 2005. In addition, the SBE and the Education Cabinet have endorsed the 2005 BETA report and began implementation of recommendations within their preview of responsibility. The purpose of this document is to provide a status report on the implementation of the 2005 recommendations and make revised recommendations for 2006 in fulfillment of its legislative charge.

BETA Members for 05-07

The Honorable Bev Perdue
Lieutenant Governor
State Board of Education

The Honorable June Atkinson
State Superintendent of Public Instruction
By Statute

Nicole Darmody
Vice President for NC
University of Phoenix
Governor

Brad Phillips
VP Gov. & Public Relations
Time Warner
State Board of Education

Dorothy Witherspoon
County Commissioner
Kings Mountain
Governor

Donna McLamb
Principal
Butner Stem Middle School Granville County
Speaker of the House

George Bakolia
Chief Information Officer
State of North Carolina
By Statute

Kim S. Graham
Parent
NC Parent Teacher Association
State Board of Education

Scott S. Smith
Chief Technology Officer
Burke County Schools
Speaker of the House

***Elsie Brumback**
Education Consultant
Wake County
Chief State Information Technology Officer

The Honorable Linda Garrou
North Carolina State Senate
Co-Chairman of Appropriations
President Pro Tempore

The Honorable Joe Tolson
NC House of Representatives
Chairman of Education Appropriations
Speaker of the House

***Cindy Fertenbaugh**
Electronic Data Systems
Local Board of Education
Cabarrus County
Governor

Michael Taylor
President
Stanly Community College
State Board of Education

Steve Bilzi
Local Board of Education
New Hanover County
Governor

Dennis Carter
Teacher
Chestnutt Middle School Cumberland County
Speaker of the House

Jane Patterson
Director
e-NC
By Statute

Mary Accor, Cleveland
County Commissioner
Kings Mountain
State Board of Education

Betty Weycker
Technology Director
Winston-Salem/Forsyth County Schools
President Pro Tempore

Larry Price, Ed.D
Superintendent
Wilson County Schools
President Pro Tempore

The Honorable Vernon Malone
North Carolina State Senate
Chairman of Information Technology
President Pro Tempore

The Honorable Paul Miller
NC House of Representatives
Chairman of Science & Technology
Speaker of the House

***John Boling**
Director,
SAS Institute
State Board of Education

Steve Ballard,
Chancellor
East Carolina University
University of North Carolina Board of Governors

Rodney Shotwell
Superintendent
Macon County Schools
Speaker of the House

Rita Wyss
Teacher
R S Middle Rutherford County
Computer and Information Rutherford County
President Pro Tempore

Darleen Johns
President
Alphanumeric Systems, Ltd
State Board of Education

Glenn Barger, Catawba
County Commissioner
Catawba County
State Board of Education

Kathryn Moore
Dean, College of Education
North Carolina State University
Speaker of the House

***Darrin Hartness, Ed.D.**
Principal
West Elementary School
Cleveland County
President Pro Tempore

Myra Best, *Executive Director, NC Network,* Staff Support

*** Sub committee Chairmen**

Business Education and Technology Alliance 2006 Revised Report to the State Board of Education and Joint Education Oversight Committee

The Business and Education Technology Alliance is dedicated to fostering a learning landscape that promotes student achievement, business success, economic stability, and lifelong learning for the citizens of North Carolina.

Information technology as a tool for enhancing teaching and learning can expand the horizons of education around the world to enrich the resources of knowledge.

Educators, students, business, community, and government leaders are united in the belief that a technologically rich curriculum and a curriculum that is supported by robust and near and next generation technology is an essential component in preparing today's student to function as a knowledge worker in the new millennium. North Carolina must prepare its graduates to be productive, active, and successful in a global economy.

To achieve this vision, North Carolina must be prepared to provide technology literacy skills to its students and citizens anytime and anywhere using a variety of instructional approaches to accommodate individual and schedule differences.

Professional development, how and what citizens are taught, and the very climate and structure of education must be transformed. Professional development is the basis for ensuring students, citizens, and teachers have productive learning experiences. Students deserve outstanding course content delivered by highly qualified teachers whose practice embraces the best technology can bring to learning.

The Vision

We live in a knowledge society that increasingly depends on technology. Informed, productive, and responsible citizens of that society must be technology literate. Such literacy is vital to individual, county, state, national, and international economic prosperity.

Knowledge about computers and their applications is not sufficient. Citizens need to understand technology in a broader context if they are to assess its power and its limitations. The promise of North Carolina's future lies in people's ability to use, manage, and understand technology.

Citizens who understand and are comfortable with the concepts and workings of modern technology are better able to participate fully in society and in the global marketplace.

North Carolina pledges that graduates from its K-12 schools, community colleges, and universities and the state's general citizenry will possess the following attributes by the year 2025:

- Understand the ethical, cultural, and societal issues related to information and technology use.
- Use information technology strategies and products to locate, evaluate, and collect information from a variety of sources.
- Understand, manage, and create effective oral, written, and multimedia communication in a variety of forms and contexts for multiple audiences.
- Evaluate, select, and use new information resources and technological innovations based on their appropriateness for specific tasks.
- Use information technology resources for solving problems and making informed decisions.
- Use information and technology tools to enhance learning, increase productivity, and promote creativity.
- Adapt and transfer strategies for seeking information among various technologies.
- Contribute positively to the learning community and to society by recognizing the importance of information and technology to a democratic society.
- Pursue knowledge throughout life, using it for the betterment of self and mankind.

Recommendations and Rationale

Mission Statement

In the 21st century, an age requiring information and technology literacy, it shall be the mission of North Carolina to provide to all of its citizens the tools, resources, processes and systems to access information to solve problems, communicate clearly, make informed decisions, and construct new knowledge, products, and systems.

Vision for Global and 21st Century Literacy

1. The Education Cabinet should add a sixth (6th) strategic initiative to address the infusion of information and technology literacy skills in all learning environments and the importance of cultivating life long learning skills. The initiative should also include support for the technology infrastructure needed to support this initiative and it is recommended that it be written as follows:

Strong Global and 21st Century Learning

- Every student is prepared for life, work, and citizenship in the knowledge and information age of the 21st century
- Every teacher is informational and globally literate
- Every citizen understands and possesses the skills required to succeed in the global economy
- Every citizen has affordable universal access to effective technology

It is further recommended that the State Board of Education adopt this additional strategic initiative.

Rationale

The Education Cabinet includes the Governor, the Chairman of the State Board of Education, the Superintendent of Public Instruction, the President of the North Carolina Community College System, the President of the University of North Carolina, and the President of North Carolina Independent Colleges and Universities. The cabinet established goals, priorities and performance targets for making North Carolina First in America by 2010 and reports progress towards achieving these goals in the annual North Carolina Report Card. The strategic initiatives are as follows:

High Student Performance

- Every Student in School and Making Strong Progress
- Every Graduate Ready for College and Work
- Every School Accountable for Student Learning

Every Child Ready to Learn

- Every Child with Access to Quality Child Care
- Every Parent a Good First Teacher

- Every Child Ready to Begin School

Safe, Orderly, and Caring Schools

- Every School Free of Drugs, Weapons, and Disruption
- Every School with Adequate Facilities and Materials
- Every Student Known and Cared For
- Every Family Welcomed

Quality Teachers and Administrators

- Every Teacher Competent, Caring, and Qualified
- Every Principal a Leader
- Every School a Good Place to Work and Learn

Strong Family, Business, and Community Support

- Every Family Involved in their Child's Learning
- Every Community Involved in Children's Learning
- Every Child with Access to Quality Health Care

The Cabinet should include this initiative as an additional goal and strategic priority due to the integral role of information and technology literacy skills in North Carolina's economic success.

2. The General Assembly should provide new funding for the operation of the North Carolina Virtual Public School (NCVPS) and the expansion of e-learning course offerings to students in grades 9-12. These courses should be developed with teachers trained in on-line delivery of instruction so that students can register in the spring of 2007 for the 2007-08 school years. It is further recommended that the NCVPS Director and Advisory Board present to the State Board of Education no later that June 30, 2007 a plan for the inclusion of PreK-Middle school students in e-learning opportunities.

   Note: Please see the E-Learning Commission Phase II Report number (1) page 7 for additional information for this recommendation.

3. The General Assembly should establish an e-learning entity called the NCVirtual (NCV) for all North Carolina Citizens and locate it with the Education Cabinet as recommended in the E-Learning Commission Phase II Report. This report was endorsed by the State Board of Education at its February 2, 2006 meeting and the Education Cabinet at its February 16, 2006 meeting. It is further recommended that an advisory body with support staff be established no later than July 1, 2006 to implement the recommendations of the E-learning Phase II Report. The Advisory Board will develop strategies for providing comprehensive e-learning opportunities for all North Carolina Citizens and report to the Education Cabinet and to the Joint Education Oversight on its progress including any changes needed to policies, laws and rules to effectively develop e-learning opportunities for all NC Citizens no later than December 2006 and annually thereafter.

   Note: Please see the E-Learning Commission Phase II Report number (2) page 7 for additional information for this recommendation.

Rationale

All states have equal protection and education clauses in their constitutions that require them to provide for a free public education system. On-line learning, E-learning or virtual schools are vehicles for:

- assisting states in meeting their constitutional mandate for a free public education system for all.
- providing educational opportunities for all citizens, representing geographic, socio-economic and demographic diversity.

On-line learning, E-learning or virtual schools are also a natural and necessary development of the information age and the development of technology and technology tools. If accomplished at the expected level, this will be an approach that holds promise for expanding high quality education to all of North Carolina's citizens leading to an improved economy.

4. The State Board of Education should study and identify the kinds of resources including people, data, equipment and tools needed to operate schools designed to meet the needs of 21st century learners. The current system has been periodically revised; however, a comprehensive revision is recommended to incorporate the funding and resources needed to support the use of technology infrastructures as well as instructional technology. The SBE should work with the American Diploma Project and the Center for 21st Century Skills and incorporate when appropriate the work from these two initiatives. The work will include developing two sets of guidelines - one for technology infrastructure and one for instructional technology.

   Rationale

   The infusion of information and technology literacy into schools requires access to technology tools and resources that support students in developing the skills needed to access information to solve problems, communicate clearly, make informed decisions, and construct new knowledge, products, and systems. The SBE has provided guidance for system-wide or Local Education Agency (LEA) needs with regard to staffing, curriculum, and classroom needs through the Basic Education Plan (BEP) and periodically has made revisions to that plan. However, with the ABCs Plus and No Child Left Behind (NCLB), accountability has moved from the system and school level to the individual student. Since accountability is based on the child, then funding and resources should also be aligned with that requirement.

   The accountability requirements along with the rapid development of technologies continue to change the needs of schools and students. These combined changes impact the way we build, staff, and fund schools to achieve high quality learning environments for all students. The Local Education Agency (LEA) or district funding model met the needs of traditional education; however, it is not sufficient to meet the 21st Century learner. The new funding model should be driven by and based on the needs of the individual student.

While the recommendation seeks a comprehensive review of resources needed, there are several projects of note where information and technology literacy and technology tools, resources, processes and systems have been implemented. These projects include those such as the NCEITA Technology Demonstration Projects and the SBE Impact Grant Schools where federal grants are provided to support the full implementation of the school technology plan. Examples of other schools that have programs or infrastructure to support technology include but are not limited to, New Hope Elementary in Orange County, Southeast Raleigh High School in Wake County, and Mary Scroggs Elementary in Chapel Hill,

5. The BETA will coordinate the establishment of a coalition of stakeholder associations or organizations including business and education groups to develop a marketing plan to educate the public about the impact of technology on North Carolina's economic future. In the course of developing this plan, a statewide poll to determine the citizens' perspective about the use of technology and its impact on the quality of life, the workforce and education for all citizens should also be conducted.

   Rationale

   The importance of technology and technology literacy for North Carolina's future cannot be overstated. A marketing plan that tells the story of what technology and technology literacy means to every single citizen and to the state's economic future must be promoted. This investment and effort will garner the grass roots understanding that is needed in order for the citizenry to support and sustain the needed investment by the state in technology infrastructures and literacy.

Infrastructure for Global and 21st Century Literacy

6. The NC Rural Economic Development Center and e-NC in collaboration with representatives from Local Education Agencies, the University of North Carolina System and the Community College System should complete a feasibility study on developing regional education networks that are centrally managed to provide and sustain broadband connectivity to individual students and teachers in schools, community colleges and universities.

   The study should include an evaluation of existing technology infrastructures, such as the statewide NC Research and Education Network or regional infrastructure like Winston-Net. These state of the art infrastructures may be capable of supporting growth in traffic and thus serve as a backbone infrastructure for delivering high speed access to underserved regions.

   NOTE: This study is in process as directed in Senate 662 in August, 2005 and the results of the Report will be made as directed no later than May 1, 2006. Please see Appendix I page 24 for the progress report on this study.

Rationale:
Planning for the future needs of infrastructure including connectivity is essential for North Carolina's economic development. The future for technology and its impact can only be projected therefore it is essential that the feasibility of developing systems that support networks for the present as well as the future be studied. By investigating the function and operation of networks that support broadband technology, the state can determine funding needs and maximize current funds that will sustain the networks and judiciously utilize the state's dollars.

Typically, each school system, university and community college makes its own arrangements for Internet service, information databases, for software licenses, etc. Since they access this service as individual contractors, they are not able to generate sufficient leverage to be able to influence the market to impact affordability. Acting as a network that encompasses the entire region there is greater opportunity to influence the market so that equitable access is available to all members of the community including schools, universities, community colleges, local governments and public entities.

A regional network may also provide consistency in safety and security via network policies and management. The goal should be to have the capacity for broadband connectivity extend to each student's personal computer or computing device and other community services. One example of a community owned network is Winston-Net in Winston Salem, NC.

Winston-Net is a community owned fiber optic network that connects education, museums, libraries, government and non-profit institutions together in a unique electronic network. It is operated for the benefit of the community by a not-for-profit organization under the Winston-Salem Chamber of Commerce. It is sustained through establishing partnership agreements with network service providers.

The unique feature of Winston-Net is that it is a network of, by and for the members of this community. One of the important keys to this type of inter/intranet is a community wide authentication system and a community-owned high speed, fiber optic network. The authentication system provides the surety that those using the resources are who they claim to be. The fiber-optic network assures that the community owns the technology, which will be essential for its future growth and success.

7. The School Technology Commission should set or revise standards after seeking input from e-NC and ITS for LEA School Technology plans and establish a baseline template for:
    i. the technology infrastructure including broadband connectivity, people and resources needed to operate effectively from the classroom desktop to local, regional or state networks, and

ii. an evaluation component that holds local education agencies accountable for maintaining quality upgradeable systems.

NOTE: This change was made as directed in Senate 662 in August, 2005. The School Plans are currently being reviewed by the NC Department of Public Instruction and by NC Information Technology Services. Once the plans are reviewed, NCDPI coordinates with the LEA on the suggestions for upgrades from NCITS. In addition, the NCDPI will randomly check plans for compliance and report back to the SBE and NCITS with a recommended plan of action to support each of these local school administrative units in carrying out their plans. Please see Appendix II page 27 for the statute change regarding this recommendation.

Rationale

The current requirements for the Local Education Agency (LEA) School Technology Plans do not specifically include (and require) individual school technology plans. Each LEA develops its plan based on the State School Technology Plan adopted by the SBE as required in 115C-102.6A. The State Information Technology Services (ITS) as required in Senate Bill 991 passed during the 2004 session of the General Assembly sets the technical standards and the NCDPI is responsible for the instructional aspects of the State Technology Plan on which LEA School Technology Plans are based. The technical and instructional aspects of the LEA School Technology Plans should be in compliance with the approved State Technology Plan.

In review of the statutory requirements, the standards for the components identified in the recommendations are not included but considered by the BETA members as necessary to support information and technology literacy for all students. In addition, providing regional workshops for the LEAs will ensure that a review of changes to the 2005 State Technology Plan are incorporated into the revised 2005 LEA School Technology Plans.

8. The State Board of Education should investigate ways to ensure technology infrastructure standards in new school buildings are consistent with the requirements for schools as recommended by the NC ITS, including the allocation of funds from the Lottery proceeds for school construction.

9. The NCDPI should develop or revise its state portal of web resources to include building needs, sample floor plans, sample technology plans and other resources needed to support LEAs in building schools with technology infrastructure for the 21st century.

Rationale

General Statute GS 115C-521 was amended in 1996 with regard to the SBE's authority to set standards and substituted the word "guidelines" for the word "standards" for school construction. The statute also included a requirement for the NCDPI to revise and update its "guidelines" to include the types of construction

including technology infrastructure. However, due to the rapidly changing technology, the guidelines need to be revised based on the needs for current school construction so that the technology infrastructure is designed to support current, upgradeable and scalable systems. With the passage of the Education Lottery in August, 2005, there may be more opportunities to set standards for technology infrastructure in order to receive school construction funds.

10. The Office of State Budget and Management shall conduct a study to determine the best methods for collecting, managing, and providing access to information about technology, water, sewer, and other modern infrastructures needed to assist communities in becoming and remaining economically viable. Included in the report should include legislative proposals, including a proposal to define the term "infrastructure" in the General Statutes to include modern communication technologies.

    NOTE: This study is in process as directed in Senate 662 in August, 2005 and the results of the Report will be made as directed no later than May 1, 2006. Please see Appendix III page 29 for the progress reports on this recommendation.

    Rationale
    Technology is as essential to the economic development of the state as highways, water, and sewer. By making this distinction, the state is setting a precedent to establish connectivity across the state as a basic economic need and available to all parts of the state and every public and private building as well as homes.

11. The North Carolina Board of Science and Technology and the North Carolina Progress Board are encouraged to provide an annual report by county on the status of trends that reflect the impact of education on economic growth for the 21st century. This report should be available for citizens and should contain information about the status of their county with regard to education and economic growth.

    Rationale
    Tracking Innovation Index 2003 that was prepared by the North Carolina Board of Science and Technology provides a report on the state of North Carolina's Innovative Economy. The North Carolina Progress Board's role is to set broad directions for the state and set goals to measure the state's progress in meeting those goals as well as report any progress to state leaders and residents. There is also the NC Report Card for schools, which includes the number of computers connected to the Internet per schools. While all of these reports are extremely valuable in the information they provide, there is a need to provide broader information to the average citizen about their individual county.

    Citizens should be able to compare their community to the state and nation on specific indicators such as investment in school technology, unemployment, poverty, education status and cost of connectivity. The data needed are currently provided in a

variety of formats and maintained by multiple agencies; however, it would be helpful to provide this information in a user-friendly format for the average citizen. This would provide some additional measures and maintain accountability to taxpayers and citizens about the connection between education and the economy for their individual community as compared to the rest of the state and nation.

Professional Development for Global and 21st Century Literacy

12. The State Board of Education should create a state portal of high quality professional development resources for PreK-20 educators from a wide variety of reputable sources. This portal should include professional development courses available from community colleges, universities and other professional development providers.

    Rationale
    A state portal will provide LEAs and other educators with a single source for identifying professional development opportunities for high quality programs and how they may be utilized. This is important for quality issues including time, skill alignment, and utilization of resources. Some of the current professional development resources include programs such as ExplorNet, LearnNC, Cumberland County Web Academy, and those offered through the Center for Leadership Development.

13. The Education Cabinet should initiate a collaborative effort among Teacher preparation providers, the 21st Century Center and the Professional Teaching Standards Commission about the need incorporate 21st century technology skills and global learning into the teacher and administrator preparation programs.

    Rationale
    The in-service needs of educators to upgrade skills in using rapidly changing technology, learning new methods for instruction and using new technologies is a time consuming and expensive venture. Standards and courses for those in pre-service programs as well as advanced degree programs ensure that those beginning educators and those seeking advanced degrees are entering the system prepared for their roles.

14. The Education Cabinet State Board of Education should create (or adopt) a framework such as that included in the Z. Smith Reynolds Report on Professional Development, dated November 2004, for analyzing effective professional development programs to ensure compatibility and applicability to instructional programs and resources used in the classroom.

    Rationale
    There is a need to provide ongoing high quality professional development that improves learning for the 21st Century. The increased accountability for improving student achievement and the availability of professional development opportunities makes it more incumbent for the SBE to establish standards to provide guidance to

teachers, administrators and other educators. This framework of standards should be research based and aligned with and support the policies for curriculum and instruction as well as the criteria for licensure.

15. The State Board of Education should provide and advocate for flexibility in funding, and other resources necessary for teachers to be able to participate in professional development opportunities at a convenient time and location as well as provide opportunities that are job embedded.

    Rationale
    LEAs currently have flexibility in using existing funds to provide professional development; however, there is a need to have dedicated funds for professional development to support educators when learning new information and technology literacy skills. In addition, learning new skills when they directly relate to enhancing one's current role ensures application of new knowledge and skills. The challenge is finding the time to provide professional development to educators within the context of the working day. The Funding Committee recommendations may offer one solution, which may eliminate competition for limited resources.

Technology and Funding for Global and 21st Century Literacy

16. The State Board of Education (SBE) should determine the total amount of funds needed for the recurring total cost of ownership to maintain and upgrade the LEA School Technology Plans. This should include personnel costs for both technical and instructional needs so that a 3 to 5 year budget plan can be developed for the General Assembly.

    Rationale
    It is estimated that $150.00 per child is needed to fully implement all LEAs technology plans. The members of the General Assembly can plan more effectively if they have a thorough knowledge of the budget requirements for technology. The technology plans will be aligned with standards set by Information Technology Services (ITS) and approved by the State Board of Education (SBE) as required by this past session of the General Assembly resulting in an increased measure of accountability.

17. The General Assembly should consider all legal and fair incentives and legal and fair methodologies (ie: private sector provided, public/private partnerships, or public sector provided) for providing scalable broadband connectivity to all schools and communities at an affordable rate. A state and local statutory environment should exist that encourages both public and private investment in broadband infrastructure, particularly in underserved areas.

    Rationale
    It is the responsibility of the state to ensure that all schools have equal access to connectivity and that the infrastructure meets established standards. By developing a

fund that provides incentives or matching funds for telephony, wireless, power or cable providers to provide broadband connectivity in hard to reach or under served communities, then there would be assurance that all citizens as well as schools have affordable connectivity. One example of incentives may be a tax credit to encourage the deployment of broadband connectivity to underserved areas or Tier One and Tier Two counties.

18. After receiving the results of the Regional Network Study required in Senate 622 ratified August 2005, the General Assembly should consider establishing two public school funds for school technology. One fund to support school technology infrastructure (for example, line charges, network cabling and servers) and the second to support instructional technology (for example computer hardware, software, peripherals and staff development). The funds should be developed based on the budget needs identified in the LEA school technology plans for infrastructure and instructional technology as recommended by the School Technology Commission and approved by the State Board of Education (SBE) for accountability and state budget planning.

    Rationale
    The current School Technology Fund can be used for infrastructure and instructional technology. As a result, districts are using the fund in various ways thus creating competition between instructional and infrastructure needs. The study currently being conducted by the e-NC on regional networks may yield a more effective way to establish a statewide infrastructure to support schools. If so, then creating two separate funds, one for instructional technology and one for infrastructure, will eliminate the competition between the two needs. By requiring that the funds be based on the budgets in LEA School Technology Plans, the state can plan for annual funding needs more effectively.

19. After receiving the results of the Regional Network Study required in Senate 622 ratified August 2005, the General Assembly should consider alternative ways to providing more direct support to LEA's for assistance with e-rate. The study will incorporate a recommendation for more effective use of the e-rate reimbursements for North Carolina Schools.

    Rationale
    E-rate was established to provide reimbursements to schools and libraries for line charges and connectivity, primarily in rural areas. The application process for the federally regulated E-rate reimbursement program is often difficult to negotiate. In addition, it is a reimbursement program which means funding is always a year behind. The NCDPI has been providing some assistance with the process however, with the recommendation from the regional network study due by May 2006, there may be a more effective way to ensure that the state captures needed resources.

20. The State Board of Education should initiate the development of a coalition of state level associations and their national counterparts including the State Board of

Education (SBE), the North Carolina Association of Educators (NCAE), the North Carolina Association of School Administrators (NCASA), North Carolina School Boards Association (NCSBA), North Carolina Association for Educational Communications and Technology (NCAECT), North Carolina School Library Media Association (NCSLMA) and other appropriate groups to advocate for improving the E-rate process for schools.

Rationale

There is a need for the organizations that represent schools in North Carolina and across the nation to proactively seek assistance on behalf of schools to improve the service of E-rate, a federally managed program. The regulations have become increasing burdensome especially with the most recent changes of accounting for the program. Schools have experienced delays in funding applications, changing rules and other issues that are preventing them from receiving maximum benefit from this program. It is federally managed and an organized effort needs to be mounted to help alleviate these problems.

GS 115C-102.15: BUSINESS AND EDUCATION TECHNOLOGY ALLIANCE

SECTION 7.27.(a) There is created the State Board of Education's Business and Education Technology Alliance.

SECTION 7.27.(b) The Business and Education Technology Alliance shall be composed of 27 members who have knowledge and interest in ensuring that the effective use of technology is built into the North Carolina School System for the purpose of preparing a globally competitive workforce and citizenry for the 21st century. These members shall be appointed as follows:

1) The Superintendent of Public Instruction or his or her designee;
2) One member of the State Board of Education appointed by the chair of the State Board of Education;
3) One parent of a public school child appointed by the State Board of Education after receiving recommendations from the North Carolina State Parent Teacher Association;
4) Two members of the Senate appointed by the President Pro Tempore of the Senate;
5) Two members of the House of Representatives appointed by the Speaker of the House of Representatives;
6) One member of a local board of education who represents a local education agency (LEA) that has successfully incorporated technology into its schools, who is appointed by the Governor, after receiving recommendations from the North Carolina School Boards Association;
7) One member of a local board of education who represents a local education agency (LEA) that has limited access to technology, who is appointed by the Governor, after receiving recommendations from the North Carolina School Boards Association;
8) Two at-large members appointed by the Governor;
9) One representative of business and industry appointed by the State Board of Education after receiving recommendations from the North Carolina Citizens for Business and Industry;
10) Four members appointed by the President Pro Tempore of the Senate. In making these appointments the President Pro Tempore is encouraged to consider appointing a local school superintendent or a local school administrator who represents a local education agency that has limited access to technology, a school principal who works in a school that successfully incorporates technology into its instructional program, a school teacher who works in a school with limited access to technology, and a technology director who represents a local education agency (LEA) that has successfully incorporated technology into its schools. Professional associations representing school administrators and professional associations representing teachers may recommend appointees to the President Pro Tempore;
11) Four members appointed by the Speaker of the House of Representatives. In making these appointments the Speaker of the House of Representatives is encouraged to consider appointing a local school superintendent or a local school administrator from a local education agency that has successfully incorporated the use of technology into its instructional programs, a school principal working in a school with limited access to technology, a school teacher who has successfully

incorporated the use of technology into classroom instruction, and a technology director who represents a local education agency (LEA) that has limited access to technology. Professional associations representing school administrators and professional associations representing teachers may recommend appointees to the Speaker of the House of Representatives;

12) One chancellor or his or her designee of institutions of higher education who has demonstrated effective and innovative use of technology for education, appointed by the Board of Governors of The University of North Carolina;
13) One president or his or her designee of the Community College System who has demonstrated effective and innovative use of technology for education, appointed by the State Board of Community Colleges;
14) Two county commissioners, one of whom represents a county that has successfully incorporated technology into its schools and community, who are appointed by the State Board of Education, after receiving recommendations from the North Carolina Association of County Commissioners;
15) Two representatives of technology businesses who have either successfully developed innovative technology programs for education or have partnered with a local education agency (LEA) to develop a technology-based education environment in that LEA, who are appointed by the State Board of Education, after receiving recommendations from North Carolina Electronics and Information Technologies Association and the North Carolina Citizens for Business and Industry; and
16) One representative of the Information Resource Management Commission appointed by the Commission's Chair.

SECTION 7.27.(c) Each of the following organizations or agencies shall select a representative from its organization or agency to serve as a nonvoting member to the Alliance. These members shall provide information to the Alliance about technology in North Carolina: Rural Internet Access Authority; Information and Technology Services, North Carolina Department of Public Instruction; Office of State Information Technology Services, Office of the Governor.

SECTION 7.27.(d) Members of the Business and Education Technology Alliance shall serve for two-year terms. All members of the Alliance shall be voting members unless they are designated as ex officio members. The officer who made the initial appointment shall fill vacancies in the appointed membership. The member of the State Board of Education appointed to the Alliance by the chair of the State Board of Education shall serve as chair of the Alliance.

SECTION 7.27.(e) Members of the Business and Education Technology Alliance shall receive travel and subsistence expenses in accordance with the provisions of G.S. 120-3.1, 138-5, and 138-6.

SECTION 7.27.(f) The Business and Education Technology Alliance shall:

(1) Advise the State Board of Education on the development of a vision for a technologically literate citizen in 2025. This vision should contain the educational standards needed to accomplish that vision, the educational uses of technology to accomplish that vision, and a plan for educating the community, educators, and business people about the vision and educational uses of technology. The vision and the plan for educating the public about the vision may include:

a) Various models and frameworks of the high quality and effective use of technology for education purposes including those students who have not learned with traditional approaches. The models may include the Cumberland County Schools Web Academy, the Virtual High School, and Nova Net.
b) Opportunities for teachers to experience the uses of technology in work and business settings, which is the world for which they are preparing students to work.
c) Production of multimedia presentations such as videos, commercials, and publications that help citizens, students, and educators see and understand the current and future power of technology for educating our children and impacting our lives.

(2) Advise the State Board of Education on the development of a technology infrastructure, delivery, and support system that provides equity and access to all segments of the population in North Carolina. The infrastructure, delivery, and support system may include:

a) Opportunities for access to high-speed connectivity to the Internet which impacts on the quality of instruction that can be provided for students at school and in the community.
b) Technology networks that enable communities to encompass the student and his/her family while maintaining the rights to privacy for all citizens, i.e., a social service, health, education, and mental health network. This network will increase collaboration among agencies and provide a coordinated, systemic service approach.
c) Continue to evaluate the status of current technology systems and structures from the State to local level as it relates to employing technology for improving instruction.
d) Continue to provide access to technology equipment and infrastructure at home, school, and in the community such as extended hours of operation for schools and other community facilities and on-loan laptop computers for student and parent use.
e) Continue to develop surveys that provide information about the types and results of technological tools utilized by teachers, students, and others at school, in the community, and home.
f) Sufficient personnel to maintain the operation of information technology systems.
g) Coordination with regional economic development planners to position local education agencies as an integral part of economic development.

(3) Advise the State Board of Education on the development of professional development programs for teachers to successfully implement and use technology in public schools for all students. These programs should also develop their leadership skills so that they can

use technology as a tool to support the rethinking of the core business of schools: student learning. The professional development programs may include:

a) Models of staff development from the State that are considered state of the art, support the vision for technology, and that could be used by local districts to train their staffs.
b) Designated time for professional development for using technology as well as skills for using technology as a delivery for curriculum and instructional programs.
c) Collegial planning time so that colleagues can coach and support each other in learning new ways in which to think about instruction.
d) Teacher and administrator preparation and other programs that ensure the Department of Public Instruction's Technology Foundation Standards for Teachers and Administrators in higher education are incorporated into classroom instruction.
e) Training teachers with skill sets to teach technical courses that are in growing demand to function at home and work.
f) Increase opportunities for sharing best practices in all areas of instruction.
g) Increase opportunities for learning how to use technology to customize instruction for all students.
h) Increase opportunities for learning how to use technology to diagnose student learning.

(4) Advise the State Board of Education on the development of a Funding and Accountability system to ensure statewide access and equity. The Funding and Accountability system may include:

a) Public-private partnerships.
b) Identification of resources and the cost of those resources.
c) Funding to keep hardware/software current.
d) Evaluating progress toward realizing the technology vision.
e) Evaluating the impact of various technology initiatives on alleviating some of the State's education and economic development problems.
f) Incentives to encourage risk taking and innovative uses of technology.
g) Funding for only those initiatives that are well-planned, demonstrate high commitment, and have a solid evaluation component.

(5) Report annually to the State Board of Education on the progress of the Alliance's recommendations for education technology in the public schools on the first Friday in December. This report may contain a summary of recommendations for changes to any law, rule, and policy that would improve implementing education technology in the public schools.

(6) Report annually to the Joint Legislative Education Oversight Committee in the General Assembly on the recommendations for education technology in the public schools on the first Friday in January. This report may contain a summary of recommendations for changes to any law, rule, and policy that would improve implementing education technology in the public schools.

SECTION 7.27.(g) Federal funds and private funds may be used to support the Alliance. State funds shall not be used to support the Alliance.

Appendix I

PROGRESS REPORT FROM THE E-NC AUTHORITY TO THE LT. GOVERNOR, CHAIR OF THE BETA E-LEARNING COMMISSION MARCH 8, 2006

Progress Report on BETA recommendation #5:

BETA Recommendation # 5- extracted from Senate Bill 622, Section 7.42):

The NC Rural Economic Development Center and e-NC in collaboration with representatives from Local Education Agencies, the University of North Carolina System and the Community College System should complete a feasibility study on developing regional education networks that are centrally managed to provide and sustain broadband connectivity to individual students and teachers in schools, community colleges and universities. The study should include an evaluation of existing technology infrastructures, such as NCREN, WinstonNet and others. The study should recommend ways to maximize the use of existing resources to support growth in broadband service access to the State, including underserved regions.

…The study should include, but not be limited to:

a. *Extending the broadband data infrastructure to every school, community college, college and university by the state.*
b. *Providing affordable broadband in home and workplace in NC.*

Progress reports on the feasibility study per Session Law 2005-276--An act to implement recommendations for the Business Education Technology Alliance.

The NC Rural Economic Development Center and the e-NC Authority in collaboration with interested providers of broadband services, representatives from local school administrative units, the University of North Carolina System, private colleges, the State Board of Education, the State Chief Information Officer, and the Community College System shall perform a feasibility study on developing regional education networks that provide and sustain broadband service access to individual students and teachers in schools, community colleges, and universities.

Progress Report on regional education networks.

The e-NC led feasibility team has been underway for nearly 8 weeks. Efforts are focused in two parallel paths:

1. The understanding and collection of community network technology methods and Wide Area network (WAN) and Local Area Network (LAN) connectivity costs.

2. The development and determination of statewide and other network technology methods that will effectively and efficiently deliver broadband to all NC schools. This part of the study is about 50% complete.

Specifically, to execute phase one of the study, the team is surveying all school communities. This includes merging K12 Annual Media Technology Reports (AMTR) and Technology Plans, with validation of random selected Local Education Administration (LEA) onsite visits and planned focus meetings and discussions with LEA leadership. This deliberate time-consuming task is to achieve the double goals of accuracy and community participation. Community colleges, colleges and university surveys are more manageable due to the advanced nature of their technology development.

The community-wide technical design team has extended its work from earlier BETA activities through working with complementary statewide resources. Regular team meetings have progressed to a preliminary "strawman" proposal that is being detailed and vetted prior to taking it on the road to statewide focus groups.

The study team has found significant leadership and vision in the prior BETA reviews, assessments, and recommendations. The detailed analysis is confirming these basic assumptions that:

1. Connectivity must respond to and enable a predictable 21st Century teaching, learning and administrative demand, which is larger than most institutions have imagined.
2. Higher Education institutions have progressed significantly faster than others due to demand and adequately funded infrastructure developments and networking application solutions and could provide a model for expansion to all schools. Many schools, elementary, middle or high schools, have demonstrated innovation, resourcefulness, and creativity out of desperation; others have been less successful.
3. School connectivity needs evolve consistently with unique local programs and local communities' schools only want to pay for what is needed, thus "one size does not fit all".
4. It appears logical and practical to leverage existing statewide assets and resources in a collaborative solution to provide a backbone, support services and connectivity to all schools.
5. A practical 3-year timeline would coincide with current school technology transition needs, contracts, bandwidth requirements and proposal execution.
6. State funding for 3 components:
    1) a statewide backbone requiring one time investments;
    2) ongoing support service resources;
    3) connectivity costs net of e-rate are essential to achieve BETA objectives.

Funding estimates, which are now being developed, will be detailed in the final report to the General Assembly.

Other elements will be important to delivering broadband connectivity to all schools such as:

1) a coordinated administrative and instructional program prediction (instructional and administrative programs also contribute to requirements for levels of connectivity. It is important to note that these programs cannot be implemented easily without the additional necessary bandwidth;
2) optimized e-rate utilization (no money left on the table due to improper or incomplete applications); and
3) a recognition that a well functioning 21st century school is the result of a combination of additional important factors such as leadership, personnel, staff development, transport facilities, and technology equipment.

Timeline: (Assumes continuing and regular key stakeholder reviews leading to a consensus proposal)

- Detailed Feasibility Study DRAFT review in mid-April.
- Final Study report and presentation elements available in early May.

Progress Report on "growth in broadband service access to the State, including underserved regions"

The review of ways to maximize the use of these existing resources to support growth in broadband service access to the State, including underserved regions is being done against the backdrop of the General Assembly statutory requirements for the e-NC Authority as noted in Session Laws 2003-425, HB 1174. Currently, the connectivity access for broadband from an e-NC report in March 2005 report is at 74.84% for rural and 89.91% or an average of 82.33% statewide access to broadband. A new report on statewide access, by the e-NC Authority, is due out in by end of March 2006 and this information will be added to the Feasibility Study report due to the 2006 Regular Session of the 2005 General Assembly.

The Feasibility Study report will be delivered to the General Assembly by the end of April. The 2006 Regular Session will begin May 9, 2006.

e-NC Authority Facilitator for the Feasibility Study: Larry Creglow
lcreglow@nc.rr.com

Team Members:
Jane Smith Patterson Executive Director jpatterson@e-nc.org
Charles Pittman cpittman@e-nc.org
Donna Sullivan dsullivan@e-nc.org
Joanna Wright jwright@e-nc.org
Public Policy Intern from UNC Tom Merrihew tmerrihew@e-nc.org

Appendix II

ASSISTANCE WITH SCHOOL TECHNOLOGY NEEDS

SECTION 7.43.(a) G.S. 115C-102.6A(c) is amended by adding a new subdivision to read:

"(c) Components of the State school technology plan shall include at least the following:

(17) A baseline template for:

a. Technology and service application infrastructure, including broadband connectivity, personnel recommendations, and other resources needed to operate effectively from the classroom desktop to local, regional, and State networks, and

b. An evaluation component that provides for local school administrative unit accountability for maintaining quality upgradeable systems."

SECTION 7.43.(b) No later than October 31, 2005, the Department of Public Instruction shall hold regional workshops for local school administrative units to provide guidance in developing local school system technology plans that meet the criteria established in the State school technology plan, including the components added under subsection (a) of this section.

SECTION 7.43.(c) G.S. 115C-102.7 is amended by adding the following new subsection to read:

"(c) The Department of Public Instruction shall randomly check local school system technology plans to ensure that local school administrative units are implementing their plans as approved. The Department shall report to the State Board of Education and the State Chief Information Officer on which local school administrative units are not complying with their plans. The report shall include the reasons these local school administrative units are out of compliance and a recommended plan of action to support each of these local school administrative units in carrying out their plans."

SECTION 7.43.(d) The State Board of Education shall determine the total amount of funds needed for the recurring total cost of ownership to implement, maintain, and upgrade technology infrastructures and instructional technology as specified in the revised local school system technology plans. This shall include personnel costs for both technical and instructional needs so that a three- to five-year budget plan can be developed for the General Assembly.

SECTION 7.43.(e) The State Board of Education shall also study and identify the types of resources needed to operate schools designed to meet the needs of twenty-first century learners. The State Board shall report the results of this study to the 2006 Regular Session of the 2005 General Assembly.

SECTION 7.43.(f) In order to provide assistance to local school administrative units with E-rate applications, the Department of Public Instruction shall, within existing funds, ensure that a minimum of one full-time coordinator is assigned this responsibility. The Department shall notify local school administrative units about the person or office assigned the responsibility of providing assistance with E-rate applications.

The Department shall provide the State Board of Education with an annual report on E-rate, including funding, commitments, and enrollment by local school administrative units. As used in this section, "E-rate" is the mechanism to provide discount rates to support universal telecommunications services for use by schools and libraries as provided in section 254 of the federal Telecommunications Act of 1996.

Appendix III

Lt. Governor Bev Perdue and State Board of Education Chairman Howard Lee, convened a group of interested parties on January 9, 2006 to begin preliminary discussions to accomplish a state definition for infrastructure that includes technology, the collection of information about state infrastructure and affordable broad band access.

The Office of State Budget Management is responsible for completing the study however three committees were formed and initial results from their work to offer assistance with the study follows the legislative charge.

From Senate 622, August 2005.
PLANNING FOR BETTER COLLECTION OF INFRASTRUCTURE INFORMATION
SECTION 6.33.(a) The Office of State Budget and Management shall conduct a study to determine the best methods for collecting, managing, and providing access to information about technology, water, sewer, and other modern infrastructures needed to assist communities in becoming and remaining economically viable.
SECTION 6.33.(b) The Office of State Budget and Management shall report the results of this study to the 2006 Regular Session of the 2005 General Assembly. The report shall include legislative proposals, including a proposal to define the term "infrastructure" in the General Statutes to include modern communication technologies.

State Collection of Data Work Group
January 9, 2006 meeting

Participants:

Ed Turlington, Chairman
Jean Crews-Klein, Rural Center
Jane Patterson, e-NC
Nat Carpenter, NCUC
Tom Newsome, OSBM
Bridget Paschal, NCUC
Tim Johnson, GIS
Joe Turlington, OSBM
Rolf Blizzard, NCCBI
Patrick Hourigan, Time Warner
Ann McArthur, Governor's Office
Anita Watkins, NCLM

- We are resources to OSBM in its work and are focused on the charge given to that office--how to collect, manage and provide access to information about infrastructures needed to assist communities in becoming and remaining economically viable.

- Useful information about the State's water and sewer infrastructure exists at the Rural Center and the Center for Geographic Information Analysis, among other places, and is currently being updated. The study should recommend ways to keep this information current and detailed enough to meet the legislative directive.

- Useful information about the State's technology resources exists at the Utilities Commission and the E-NC authority, among other places. Some of it is proprietary, e.g., certain information contained in regulatory filings. The study should recommend ways that relevant information is current and accessible without violating confidentiality.

- Useful information about the technology in the State's schools exists at DPI and in local school districts, among other places. Group members expressed concerned about the depth of this information and recommend that the study recommend ways that it be accurate, detailed enough to be useful and accessible to policy makers.

- Given that the Department of Commerce is updating its website to include, among other things, information about the State's infrastructure, we recommend that the study include an examination of that work and where possible, recommend ways that the Department's update can serve the legislative directive of section 6.33(a).

- We recommend learning from best practices in other states on the best way to collect the relevant information listed in section 6.33(a).

State Definition Work Group
January 9, 2006 meeting

Participants:

Randy Fraser, Chairman, Time Warner
Joe Freddoso, CISCO
Tricia Willoughby, NCBCE/21st Century Skills Center
Lee Mandell, NC League of Municipalities
George Bakolia, NC CIO
Patrice Roseler
Jon Hamm, Sprint
Teresa Kelly, NCUC
Billy Ray Hall, Rural Center

The group recommends:

Office of State Budget Management should:

- Review all statutes for references to the definitions currently used to define infrastructure.
- Compile all existing definitions of information technology infrastructure such as local governments
- Consider for policy purposes a definition that is broad and allows flexibility so that it includes references to current and anticipated modern communication technologies
- Consider information technology infrastructure required for connectivity to share all types of information seamlessly within and outside the state's purview.

Affordable Broadband Access Subcommittee

Date: January 9, 2006

Subcommittee members:

Herb Crenshaw, Chair
Jo Ann Sanford
Steve Parrott
Brad Phillips
Dwight Allen
Charles Pittman
Robert Wells
Elizabeth Dalton

Committee observation

While the determination of the availability of "affordable broadband access" in North Carolina is not a part of the statutory requirement for the Office of State Budget Management, Lt. Gov. Perdue and the Business Education Technology Alliance view it as an essential part of the state's infrastructure in the 21st century. This committee will attempt to define "affordable broadband access" over the next few months as well as make recommendations on how to increase its availability to North Carolina citizens. In the broadest sense, the committee wants to determine "what we want, where do we and do we not have it, and what are some recommendations on how to get it."

Issues

The committee identified a number of issues which it will consider:

1) Can we define "affordable broadband access"? **a)** How do we define "affordable"? Competition, new technologies, etc. are continually impacting the cost and price of services. Is it purely a dollar figure? Affordability is more than just price. If there is more and better content available, access becomes more affordable to consumers since they will get more value for whatever price they pay. **b)** What is "broadband"? Is it purely a transmission speed? Is it DSL, Roadrunner, WIFI? Is it a technology, service, or application? **c)** Does "access" mean it is totally ubiquitous or does it mean that all citizens can reasonably have high speed access to the Internet either in a public or private setting? For example, everyone in North Carolina can have telephone service at a reasonable or a subsidized cost, but only 93% of North Carolinians choose to have telephone service. How much expense should we incur to make broadband access available everywhere even if there isn't sufficient demand?

No matter how we define "affordable broadband access", it will be a snapshot in time.

2) If we are going to provide broadband access in remote or infeasible areas (generally where there is no viable business case), how do we incent, subsidize, or otherwise fund the deployment of broadband access? Can the "e-rate" program (not the funding portion of the program) serve as a model? What about public/private partnerships such as some of the successful matching funds provided by the RIAA to the private sector?

3) What is the legality of governments operating or providing broadband services in competition with the private sector? What role should government play?

4) Recommendations will be technology neutral, but the subcommittee was advised that today all technologies do not provide the level of service that may be required. More information will be needed.

5) What is the level of computer ownership in North Carolina? Is this not a critical part of the "affordable broadband access" definition? Do we get the cart before the horse if we spend monies to provide connectivity access when the people we are trying to reach cannot afford, do not have, or do not want computers (security and content concerns)?

6) Since BETA is focused on providing technologies in our schools, should the committee consider broadband access to students in the schools as a subset of its deliberations? If we can provide computer and broadband access to all our students both during and after school hours, will we not have achieved many of BETA's goals?

In addition to wrestling with these issues, the committee will take a look at a variety of relevant data including what others states are doing so that we can capitalize on any good ideas or "best practices".

Future meetings

The subcommittee will meet again before the full study committee meets. Possible dates and times will be sent to see when it is most convenient for the majority of the subcommittee

BETA is proud to announce and thank our sponsors, whose generous support made this project possible:

BETA

Business & Education Technology Alliance

Wired Sponsors

CIIT
CENTERS FOR HEALTH RESEARCH

brayton international®
A Steelcase Company

Bank of Granite
AS SOLID AS OUR NAME

Wyeth Vaccines

KELLY SERVICES

HCS Systems

Martin Marietta Materials

INSPIRE

IBM

North Carolina Association of Career and Technical Education Administrators

"If North Carolina is going to develop globally-competitive workers in a time when technology gives us access to 'anytime, anywhere knowledge,' then we will need to do three things: provide broadband connectivity to every citizen, make it affordable, and teach our students technology literacy skills."

Lt. Governor Bev Perdue
Chairman, BETA

BETA is proud to announce and thank our sponsors, whose generous support made this project possible:

BETA
Business & Education Technology Alliance

Velocity Sponsors

THE STATE BOARD OF EDUCATION
MAY 30, 1775
NORTH CAROLINA
APRIL 12, 1776

NCCBI
North Carolina Citizens for Business & Industry

Cisco Systems

NORTEL

tech5

Office of the
NORTH CAROLINA
LIEUTENANT GOVERNOR

NCNETWORK

PUBLIC SCHOOLS OF NORTH CAROLINA
State Board of Education
Department of Public Instruction

TIME WARNER CABLE
Now anything's possible℠