REQUIRED SUBSTANTIVE COMPONENTS OF THE LOCAL SCHOOL DISTRICT TECHNOLOGY PLAN

Schools, school districts, and libraries that want to apply for Schools and Libraries support, commonly referred to as "E-rate," must first prepare a technology plan. Beginning with FY2011, technology plans are required only for Priority 2 services (Internal Connections and Basic Maintenance of Internal Connections). An approved technology plan sets out how information technology and telecommunications infrastructure will be used to achieve educational goals, specific curriculum reforms, or library service improvements.

A technology plan designed to improve education should cover the entire funding year (July 1 to June 30) but not more than three years. The plan must contain the following elements:

Goals and realistic strategy for using telecommunications and information technology

A professional development strategy

An assessment of telecommunication services, hardware, software, and other services needed

Ongoing evaluation process

Policies

The technology plan must be approved by a USAC-certified technology plan approver before discounted services can begin. The state is the certified technology plan approver for libraries and public schools. www.usac.org, August, 2011.

LEA/Charter Name:	Charlotte-Mecklenburg
LEA/Charter Number:	600
Superintendent Name:	Hugh Hattabaugh
Superintendent Signature	
Local Board Chair Name:	Ericka Ellis-Stewart
Local Board Chair Signature:	
Person of Contact:	Dr. Scott Muri, Chief Information Officer
Telephone:	980-344-0022
Contact Email:	scott.muri@cms.k12.nc.us

Charlotte-Mecklenburg Schools
Technology Plan

2012-2014

Adopted by Charlotte-Mecklenburg Board of Education
March 27, 2012
Posted on the CMS Website:
http://www.cms.k12.nc.us/mediaroom/Documents/2012%202014%20Tech%20Plan.pdf

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Charlotte-Mecklenburg
Technology Planning Committee/MTAC

Member	Job Title/Position
Ann Clark	Chief Academic Officer
Dr. Scott Muri	Chief Information Officer
Sheila Shirley	Chief Financial Officer
Jane Rhyne	Assistant Superintendent, Exceptional Children
Guy Chamberlain	Associate Superintendent, Auxiliary Services
Kathy Meads	Executive Director, ESL
Terry Cockerham	Executive Director, Northeast Zone
Anna Renfro	Executive Director, PreK-12 C&I
Lynne Tingle	Executive Director, Research, Analysis & Data Util
Sandy Fish	Executive Director, Inventory & Distribution
Ron Thompson	Executive Director, Federal and State Compliance
Kelly Gwaltney	Zone Superintendent, East Zone
Christina Efird	Director, Teacher Professional Development
Jimmy Chancey	Director, Career and Technical Education
Jeff Linker	Director, Magnet Schools
Stacie Levi	Director, Exceptional Children
Kay Hall	Director, Business Systems
Susan Manning	Director, Data Center Operations
Cindee Matson	Director, Information Systems & Support
Jay Parker	Director, Student Applications & Web Dev.
Jerry Shepardson	Director, Instructional Technology
Marc Angerer	Principal, Carmel Middle
Terry Hall	Principal, Dilworth Elementary
Steve Esposito	Principal, Highland Creek Elementary
Chad Thomas	Principal, Long Creek Elementary
Angela Bozeman	Principal, Olympic Biotech
Tracey Harrill	Principal, Providence High
Brian Schultz	Principal, Torrence Creek Elementary
Eric Ward	Principal, West Mecklenburg High
Jason Kline	Assistant Principal, Myers Park High
Glenn McCorkle	Assistant Director, Data Operations
Ann Jolly	Itinerant Coordinator, Exceptional Children
Shemeka Shufford	Coordinator, Career & Technical Education
Susan Goeldner	Project Manager, Chief Information Office
Grant Gurski	Specialist, Career & Technical Education
Carly Kidder	Specialist, EC Secondary
Nancy Harver	Specialist, Exceptional Children
Jake Standish	Specialist, Instructional Technology
Donna Jessup	Specialist, Instructional Technology
Hope Johnston	Specialist, PreK-12 Academic Support
Greg Clarke	Teacher, Career & Technical Education
Juan Flowers	Teacher, Berry Academy
Connie Liles	Teacher, Myers Park High
Jill Thompson	Math Facilitator, J.V. Washam Elementary
David Casavecchia	Technology Facilitator, Hopewell High
Sims Reeves	Technology Facilitator, Olympic Int'l Bus & Comm
Holly Shellenberger	Technology Resource Teacher, ESL

Elizabeth Romanek	Media Specialist, Northwest School of the Arts
Susan Strejc	Occupational Therapist
Jennifer Schwarz	Occupational Therapist, Exceptional Children
Jennifer Peace	Parent, Business Partner
Steve Eshleman	Parent, Olympic Biotech
Taylor Eshleman	Student, Olympic Biotech
Shaunice Baldwin	Student, Olympic METS

Charlotte-Mecklenburg Schools Technology Plan
2012-2014

Vision Statement

Charlotte-Mecklenburg Schools envisions technology as a resource for teaching and learning that fosters a digital-age learning environment focused on meeting individual student needs. This environment enables students to develop the skills and knowledge they need to learn effectively and live productively in an increasingly global and digital world.

The "classroom" should be a place of learning without limits.

- Continuous and limitless learning- 24 hours a day, 7 days a week
- Schooling in a decentralized format- allowing students to teach as well as learn
- Diversified and individualized learning- allowing assigned schoolwork to cater to the capabilities, attention spans and strengths of each student
- A global experience for participants
- Integration of creativity into the learning experience

The implementation of this vision begins with the creation of a wireless infrastructure that supports each school in CMS. A critical component of the network will be a Bring Your Own Technology (BYOT) environment that enables all users to experience a filtered Internet environment with their personal devices during the first phase of implementation. The second phase will enable users to access documents and other digital content from personal devices as well as CMS devices from either school or home. Finally, the third phase will incorporate the delivery of applications on both personal and CMS devices.

Access to personal teaching and learning devices will expand. Personal learning devices will enhance student and staff access to digital resources. A comprehensive professional development plan will be enacted to support the infusion of technology within the learning environment.

The "classroom" will expand beyond bricks and mortar. Technology will link students in Charlotte-Mecklenburg Schools with professors at universities and colleges from Chapel Hill to China. Online learning will enable students to study advanced Chinese or a second year of physics. Digital tools will link students with teachers who challenge them to soar and provide them with the differentiated support that they need.

Learning at new levels will be within every student's reach, regardless of ability. Teachers will be highly effective; they will have access to real-time data on student learning that will help them identify which students need more attention and which students have mastered content. Great teaching will help every student in the classroom. Clear boundaries between classrooms, subjects, grades and school levels will fade as teachers plan together how best to organize learning and align instruction with student needs and interests.

Students will be learning in less formal ways. Extracurricular and after-school activities will provide opportunities to learn from and help others here at home and around the world. Schools will meet rigorous standards of environmental management so that recycling and wise use of resources are part of the daily landscape.

Technology, great teaching, support for struggling students, resource conservation, diversity and global citizenship – all of these will be fixtures in classrooms of the future. We know that these things are possible. Evidence of this transformation exists in many CMS classrooms today.

Why must we engage in this work? CMS must ensure that the class of 2014 and beyond will be prepared to embrace that future of learning without limits. Nine thousand, seven hundred and nine students entered eighth grade in Charlotte-Mecklenburg Schools in the fall of 2009. Current trends suggest that only about two-thirds of them will graduate. About 3,300 of those eighth-graders won't make it through the 12th grade. The majority of the dropouts are likely to be poor or minority students and more than half will be male.

We are part of a larger, national crisis in public education. The dropout rate in Charlotte-Mecklenburg Schools mirrors the national rate: One in three American students does not finish high school.

The cost of that failure is almost beyond measure. It is counted in thousands of stunted lives, millions of lost dollars and an unknown number of missed opportunities. By any standard –social, economic, moral – we cannot continue to consign a third of our children to a lifetime of poverty and lost opportunity.

There is a growing national awareness of what has been called the silent epidemic of educational failure. The federal government has challenged states to compete for a Race to the Top for $4 billion in federal funding for public schools. In the private sector, the Bill & Melinda Gates Foundation has targeted improving American high schools as a major goal. The foundation is also funding a national two-year study of what constitutes effective teaching, and this research includes 500 teachers in Charlotte-Mecklenburg Schools.

Nationwide, there is a growing urgency among educators, government officials and citizens about the need to reform our schools so that America remains a global leader in education, innovation and entrepreneurship. Our nation's long-term economic success is not possible without dramatic improvement in education.

A strong impetus for reform exists in Mecklenburg County as well. The Charlotte-Mecklenburg Board of Education has set a high standard, requiring that "CMS provides all students the best education available anywhere, preparing every child to lead a rich and productive life."

There is also increasing financial pressure to improve the way schools are managed. The economic downturn that began in 2008 has affected North Carolina and Mecklenburg County, shrinking state and local funding for schools and requiring districts to rethink how schools are managed.

In the past three years, Charlotte-Mecklenburg Schools has improved student achievement, streamlined many business operations, and won the 2011 Broad Prize for Urban Education. We have decentralized to become more responsive and agile. We have tested innovative academic and leadership programs with very promising results.

These successes are substantial. They have created a strong foundation in Charlotte-Mecklenburg Schools for reform – but it is only a foundation. To advance to the next level – to get more of our students through the 12th grade and prepared for the future –requires more.

Charlotte-Mecklenburg Schools Technology Plan
2012 - 2014

Strategic Priorities

Charlotte-Mecklenburg Schools is a leader in the use of technology as an instructional and administrative tool. However, an analysis of individual schools across the district indicates wide variances in the amount of technology infused in the work of administrators, teachers and students. It is the responsibility of Charlotte-Mecklenburg Schools to provide the optimal teaching and learning environment and to ensure equity is achieved by using all available resources.

Equal access to technology and 21st century opportunities are critical to ensuring the success of all Charlotte-Mecklenburg students. Preparing students to be career and college ready requires the effective integration of 21st Century technology tools. While content mastery is critical, this mastery does not necessarily indicate that a student can apply their knowledge to communicate, collaborate, analyze, create, innovate and solve problems. These are the skills demanded by employers. Simply being able to use technology is no longer enough.

The National Education Technology Standards for Students (NETS-S) serve as a guide for CMS and enable the district to focus priorities and prepare students for a digital age. By the time a student graduates from a CMS high school, he/she should be able to:

1) Demonstrate creative thinking, construct knowledge and develop innovative products and processes using technology
2) Use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others
3) Apply digital tools to gather, evaluate and use information
4) Use critical thinking skills to plan and conduct research, manage projects, solve problems and make informed decisions using appropriate digital tools and resources
5) Understand human, cultural and societal issues related to technology and practice legal and ethical behavior
6) Demonstrate a sound understanding of technology concepts, systems and operations

In order to ensure all CMS students and staff meet the National Education Technology Standards, CMS will address the five strategic priorities established by the North Carolina Department of Public Instruction in the following manner:

1) Shared Services Model – leverage CMS technology initiatives with state shared services opportunities
2) Universal Access to Personal Teaching and Learning Devices – create a Bring Your Own Technology (BYOT) environment and enhance existing infrastructure
3) Access to Digital Teaching and Learning Resources, Including Digital Textbooks – transform the instructional environment from one driven by paper to one that is rich in digital content
4) Model of Technology-Enabled Professional Development – focus upon the development of digital age professionals
5) 21st Century Leadership for Your LEA – focus upon the development of leaders who can support digital age learning, implement technology and transform the education landscape

Strategic Priority 1: A Statewide Shared Services Model

Essential Questions

How will we leverage collaborative purchasing to pay substantially less for technology services and platforms?

How can a Statewide Shared Services Model assist in shifting primary support from infrastructure to instructional needs?

How can a Statewide Shared Services Model enable increased infrastructure and technology efficiency and sustainability?

How can a Statewide Shared Services Model provide higher service reliability?

How can a Statewide Shared Services Model facilitate more strategic budgeting models for our Charlotte-Mecklenburg Schools?

Current Status and Moving Forward

Charlotte-Mecklenburg Schools has had a distinct advantage over many school districts in North Carolina in that our size has allowed us to secure significant discounts over goods and services that smaller districts may not be able to obtain. However, the district is cognizant that the economy of scale on a state level offers the promise of additional savings.

The district has secured a communications line through the Microelectronics Center of North Carolina (MCMC) as our primary line connection from CMS to the Internet. This has resulted in a considerable savings to the district. The shift from local to state servers for the NCWise system allowed CMS to reallocate that hardware for other purposes, negating the need to purchase some equipment. As we move forward, the costs for maintaining and replacing that hardware will be reinvested into the enterprise.

Online assessment offers the opportunity to decrease costs by eliminating the need for the traditional paper forms, however these savings are tempered by the need for a sufficient quantity of devices that allow students to take their assessments online. Infrastructure and connectivity speed and reliability must also be taken into account.

The promise of other offerings, such as a filtering solution, storage and other cloud technologies could assist the district in reallocating dollars to instructional needs. The district will at some point need to update email service and we will investigate all options, including possible collaborations with the state. CMS will always have an evaluation process to determine what meets the needs of this LEA at the best possible cost.

Alignment to Other Plans and Initiatives:

Strategic Priority 1: A Statewide Shared Services Model
Charlotte-Mecklenburg will utilize and align with the following key initiatives/plans to reach for the vision and complete the strategic priorities of our plan:

Strategic Plan 2014

Area of Focus 4: Teaching and Learning Through Technology
Area of Focus 6: Parent and Community Connections

Career and College Ready, Set, Go!

Area of Focus 3: Establishing and increasing the use of robust data systems that measure student success and inform teachers, principals and policymakers about how they can improve the delivery of educational services to students

Accountability and Curriculum Reform Effort (ACRE)

By participating in the shared services model offerings, CMS will better prepare for the transition to online assessments, digital textbooks and universal access to personal teaching devices.

Race to the Top Local and State Scopes of Work

Implementation of the NC Education Cloud involves the development of a Tier 4 style data center that ensures hosted infrastructure is safe and secure. The Cloud will be used as a content distribution network (CDN) to provide both cached and dynamic content to end users and provide scalable storage capacity that is adaptable to peak demands. The initiative will support PK-12 education statewide by delivering information that is needed, when it is needed, to individual devices. This initiative will involve the transition from LEA-hosted server infrastructures to a centralized, cloud-hosted infrastructure as service. The state used $3.1 million of CMS' Race to the Top allocation to support this initiative. The three NC RttT objectives being met include: Incorporating the state infrastructure blueprint into technology plans; implementation of an infrastructure blueprint; and providing and supporting teacher, administrator access to Learner Management System, Learning Object Repository and web collaboration tools. CMS will provide any necessary infrastructure to connect to the NC Cloud and ensure end-users have access to the data and resources available in the Cloud. We are currently providing wireless Internet access in schools and offices to prepare for the implementation of the district's Bring Your Own Technology (BYOT) initiative in 2012-13 and 2013-14.

Priority 1. Statewide Shared Services Model

Suggested Goals/Targets	Year 1 July 1, 2012 – June 30, 2013	Year 2 July 1, 2013 – June 30, 2014	Yearly Evaluation Evaluation Method(s)	 DPI Use
Provide equitable and additional access to mobile devices and to digital resources	Evaluate any NC Education Cloud offering that might include student and/or adult email or document storage as well as any devices for which the State obtained special pricing *Responsible:* *Chief Information Office* *Legal Dept.*	Continue evaluation of offerings and/or develop implementation plan *Responsible:* *Chief Information Office* *Legal Dept.*	Rubric for evaluation of goods and services; Implementation plan; Cost/benefit analysis	
Reduce operating costs by facilitating a more strategic budgeting model	Evaluate any device and service offerings from the State to facilitate cost savings for on-line assessments. *Responsible:* *Chief Information Office*	Continue to evaluate offerings and/or develop implementation plan *Responsible:* *Chief Information Office*	Rubric for evaluation of goods and services; Implementation plan; Cost/benefit analysis	
Facilitate a more strategic budgeting model utilizing blended funding and reducing isolated programmatic spending	Provide all schools with a base level of technology, taking advantage of shared services. Title I schools will supplement the base level to provide additional technology to schools using a planned approach	Expand base technology standard if appropriate and funded. Continue to supplement above the base with Title I funding. *Responsible:*	Percentage of schools meeting base standard. List of supplemental technology goods/services	

	consistent with the District Technology Plan and the School Improvement Plan. *Responsible:* *Chief Information Office* *Title I Dept.*	*Chief Information Office* *Title I Dept.*	provided by Title I office
Maximize E-Rate in support of instructional programs	Attend E-Rate webinars, meetings, calls with DPI to remain current on eligibility requirements *Responsible:* *Chief Information Office* Apply for E-Rate funding for district determined eligible goods and services at eligible schools *Responsible:* *Chief Information Office* Apply for E-Rate funding for voice/voice mail equipment and/or services that contribute to student safety, security and excellent parent communications *Responsible:* *Chief Information Office*	Continue attendance at E-Rate webinars, meetings, calls with DPI to remain current on eligibility requirements *Responsible:* *Chief Information Office* Continue to apply for E-Rate funding for all eligible goods and services at eligible schools *Responsible:* *Chief Information Office* Continue to apply for E-Rate funding for voice/voice mail equipment and/or services that contribute to student safety, security and excellent parent communications *Responsible:* *Chief Information Office*	Award of E-Rate funding

Provide content filtering in accordance with the Children's Internet Protection Act (CIPA).	Provide licenses for *Websense* content filtering software. Monitor filter as appropriate *Responsible:* *Chief Information Office*	Evaluate *Websense* content filtering and Statewide Shared Service offering for filtering *Responsible:* *Chief Information Office*	Rubric to evaluate filtering solutions. Cost/benefit analysis
Evaluate the offerings of the State Instructional Improvement System for use in the CMS Talent Effectiveness initiative	Develop CMS RFP for Talent Management software *Responsible:* *HR* *Chief Information Office*	Participate in the IIS RFP process at the State Level *Responsible:* *CMS HR representation*	Evaluation rubric and implementation plan

Strategic Priority 2: Universal Access to Personal Teaching and Learning Devices

Essential Questions

What is universal access to personal teaching and learning devices?

Why do our teachers and students need access to personal teaching and learning devices?

How will we provide ample access to individual teaching and learning devices?

What models can be used for implementing universal access to personal teaching and learning devices in Charlotte-Mecklenburg?

Current Status and Moving Forward

Charlotte-Mecklenburg Schools recognizes that our world continues to evolve into one that embraces personal mobile devices. The latest trend in technology is towards more personal devices that are highly customizable by the end user. Current iterations of smart phones and other mobile devices are evidence of this fact. The district also recognizes that sufficient funding may never be available to provide each student with their own personal learning device. In response, Charlotte-Mecklenburg Schools will create a Bring Your Own Technology (BYOT) environment that will enable users to user personal mobile devices within the learning environment.

The BYOT environment will enable all users to experience a filtered Internet environment with their personal devices during the first phase of implementation. The second phase will enable users to access documents and other digital content from personal devices as well as CMS devices from either school or home. Finally, the third phase will incorporate the delivery of applications on both personal and CMS devices.

The district will also provide personal teaching and learning devices in schools throughout the district. While some users may prefer to use their own device, other users will take advantage of the devices provided by CMS to access and create digital content. Federal, state, local and grant funds will continue to be leveraged for the purchase of digital content as well as personal learning devices.

Charlotte-Mecklenburg Schools has outlined a clear plan to enhance the current infrastructure at the 159 school locations. By the start of the 2012-2013 school year, all school locations will have a wireless infrastructure. The infrastructure will continue to be enhanced to meet the growing demands of an ever-expanding digital learning environment.

Alignment to Other Plans and Initiatives:

Strategic Priority 2: Universal Access to Personal Teaching and Learning Devices
Charlotte-Mecklenburg will utilize and align with the following key initiatives/plans to reach for the vision and complete the strategic priorities of our plan:

Strategic Plan 2014

Area of Focus 1: Effective Teaching and Leadership
Area of Focus 3: Increasing the Graduation Rate
Area of Focus 4: Teaching and Learning Through Technology
Area of Focus 5: Environmental Stewardship

Career and College Ready, Set, Go!

Area of Focus 1: Increasing teacher and principal effectiveness so that every student has a great teacher and every school has a great principal
Area of Focus 3: Establishing and increasing the use of robust data systems that measure student success and inform teachers, principals and policymakers about how they can improve the delivery of educational services to students

Accountability and Curriculum Reform Effort (ACRE)

By providing universal access to personal teaching and learning devices, CMS will better prepare for the transition to online assessments and digital textbooks/resources.

Race to the Top Local and State Scopes of Work

Implementation of the NC Education Cloud involves the development of a Tier 4 style data center that ensures hosted infrastructure is safe and secure. The Cloud will be used as a content distribution network (CDN) to provide both cached and dynamic content to end users and provide scalable storage capacity that is adaptable to peak demands. The initiative will support PK-12 education statewide by delivering information that is needed, when it is needed, to individual devices. This initiative will involve the transition from LEA-hosted server infrastructures to a centralized, cloud-hosted infrastructure as service. The state used $3.1 million of CMS' Race to the Top allocation to support this initiative. The three NC RttT objectives being met include: Incorporating the state infrastructure blueprint into technology plans; implementation of an infrastructure blueprint; and providing and supporting teacher, administrator access to Learner Management System, Learning Object Repository and web collaboration tools. CMS will provide any necessary infrastructure to connect to the NC Cloud and ensure end-users have access to the data and resources available in the Cloud. We are currently providing wireless Internet access in schools and offices to prepare for the implementation of the district's Bring Your Own Technology (BYOT) initiative in 2012-13 and 2013-14.

Priority 2: Universal Access to Personal Teaching and Learning Devices

Suggested Goals/Targets	Year 1 July 1, 2012 – June 30, 2013	Year 2 July 1, 2013 – June 30, 2014	Yearly Evaluation Evaluation Method(s)	 DPI Use
Create a Bring Your Own Technology (BYOT) environment that enables students and staff to bring personal communication devices which will enhance student learning.	Provide a wireless infrastructure in all schools that enables a filtered Internet experience for users with personal mobile devices *Responsible:* *Chief Information Office*	Provide a wireless infrastructure in all schools that enables a filtered Internet experience as well as cloud access to digital content and services for users with personal mobile devices *Responsible:* *Chief Information Office*	Network monitoring reports	
Effectively communicate to all stakeholder groups about the impact of personal learning devices on the teaching and learning environment.	Develop and implement a comprehensive communication plan that informs all stakeholders of the CMS BYOT implementation. *Responsible:* *CMS Communications Dept.* Develop and implement a Parent University "BYOT 101" course for parents *Responsible:* *Parent University*	Continue with the implementation of the comprehensive communication plan for BYOT *Responsible:* *CMS Communications Dept.* Continue with the implementation of the Parent University "BYOT 101" course for parents *Responsible:* *Parent University*	District and parent survey results District and parent survey results	

Increase student and staff access to personal learning devices.	Develop and implement a grant opportunity for professional learning communities that is focused upon the effective integration of personal learning devices and digital content in the learning environment *Responsible:* *Chief Information Office*	Expand the grant opportunity for additional professional learning communities to participate, thus increasing the student and staff access to personal learning devices *Responsible:* *Chief Information Office*	Network usage reports MMIS audit reports

Strategic Priority 3: Statewide Access to Digital Teaching and Learning Resources, Including Digital Textbooks

Essential Questions

What are digital teaching and learning resources? What are digital textbooks?

Why do teachers and students need access to digital teaching and learning devices?

What are the benefits of digital textbooks?

What are open educational resources and how can they is used?

How can access to these resources be increased in our LEA?

Current Status and Moving Forward

Charlotte-Mecklenburg Schools entire vision for 21st century learning is guided by our ***Strategic Plan 2014.*** www.cms.k12.nc.us/mediaroom/strategicplan2014/Pages/default.aspx

Strategic Plan 2014 (SP2014) serves as the foundation for instructional decisions, including technology, throughout our district. Student achievement is the keystone of the plan. Digital resources are viewed as a critical tool to enhance instruction throughout the district.

Digital teaching and learning resources are as varied as instructional methodologies. Student responders, computers, tablet technology (iPad, Kindle, Nook), PCs, laptops, document cameras, interactive whiteboards, data portals, Math Forward and digital ancillaries are but a few examples of technology designed to provide a medium for more flexible differentiated instruction, student response and enhanced engagement. Digital sound, text and images are often better suited to meet the needs of diverse learners thereby reducing barriers in instruction and enhancing appropriate accommodations for some users.

Digital teaching and learning devices enable the teacher and student to move beyond the fixed limitations of text and speech. Integration of technologies in instruction reflects the role of technology in students' lives. Digital natives do not view technology as a separate entity. Technology is common place, seamless and transparent. The natural progression of instruction reflects the use of technology to transform instruction, enhance learning and increase student success. When teachers integrate technology as part of their classroom instruction, students are empowered and become actively engaged in their learning. Technology integration occurs when teachers know how and when to use technology as a teaching tool to maximize student learning. Technology is not just an add on, it is a learning tool that, when properly integrated in instruction, allows students to access information, learn content, solve problems, analyze and synthesize information in a timely manner and ultimately present their understanding.

The benefits of digital textbooks include aligning the learning styles of digital natives with instruction. Learning goes beyond physical access thereby requiring cognitive engagement through the use of appropriate, just in time technology. Updated information is continually available to students and teachers via downloads. Technology opens the door to accommodations for our students with special needs. For example, e-Readers or Text readers/magnifiers provide further accommodations for students.

Open education resources (OER) are teaching and learning materials that are freely available online for everyone to use, whether student, parent or instructor. The materials supplement day to day instruction and may enhance the educational experience for our students. Critical evaluation of OER is key to their successful implementation. Instructional WIKIS, Edmodo and Yammer are examples of OER currently in

use in Charlotte-Mecklenburg Schools. CMS anticipates expanding these offerings throughout the life of the technology plan.

Digital instructional ancillaries and supplemental online student resources are regularly part of the adopted textbook programs. Students enrolled in Mandarin Chinese utilize an online text. This text is available to all students through LearnNC. MAPS101 is a digital resource providing the most current geography resources. Additionally all parents and students may access MAPS 101 at home 24/7. Online textbooks are becoming more commonplace at the university level. The increased use of these materials by CMS students provides additional preparation for college and beyond.

High school juniors and seniors will be provided an opportunity to participate in the Career and College Promise (CCP) by taking online courses for college credit, offered through a variety of North Carolina community colleges. CCP provides students with the experience of college while still providing them with the support of high school. It gives students an opportunity to improve their chances of success once they enter college. Better preparation for matriculating students should result in an improved graduation rate at the college level. Decreasing the dropout rate and shortening the graduation timetable will decrease the cost of subsidizing tuition for students enrolled in state institutions and should result in a significant savings as the cost of tuition hours in the university is significantly more than the cost of tuition hours in the community college system. Students have an opportunity to complete the Core 44 College Transfer Pathway where, upon completion, general education requirements will be waived by the NC institution they attend. Students that were on track to graduate early now have a strong reason to remain at the high school, where they can complete college classes without having to pay tuition. Students earn credit both at the high school and college level. The college credits count toward college general education requirements and give students the opportunity to transition into college level classes, earning college credits, while maintaining high school support. Students will be able to bring their own technology to supplement the availability at the school.

Our ability to increase access to these resources is continually under review and is reflective of global conversations related to the rapid expansion of instructional technology. Topics as mundane as furniture layout, internet drops and upgrades are quickly leading to the district-wide implementation of wireless, and the potential of BYOT. Principals, school leadership and the increase of online professional development are helping to integrate technology into effective lesson design, implementation, testing and staff evaluation. As a result of the needs of our students and the dynamics of technology development digital teaching and learning resources will continue to evolve throughout and beyond the life of the 2012-14 CMS Technology Plan.

Alignment to Other Plans and Initiatives:

Strategic Priority 3: Statewide Access to Digital Teaching and Learning Resources, Including Digital Textbooks
Charlotte-Mecklenburg will utilize and align with the following key initiatives/plans to reach for the vision and complete the strategic priorities of our plan:

Strategic Plan 2014

Area of Focus 1: Effective Teaching and Leadership
Area of Focus 3: Increasing the Graduation Rate
Area of Focus 4: Teaching and Learning Through Technology
Area of Focus 5: Environmental Stewardship

ACRE (Accountability and Curriculum Reform Effort)

As the Common Core State Standards (CCSS) and North Carolina Essential Standards (NCES) are adopted and assessed, the increased use of technology is expected to support the implementation of both the curriculum and instruction through the expansion of learning time and accessibility of resources. Collaboration is a vital component of the new standards allowing both students and teachers the opportunity to achieve instructional flexibility to best meet student needs. The ability to collaborate outside the classroom introduces a global platform to both students and teachers.

Career and College Ready, Set, Go!

Area of Focus 1: Increasing teacher and principal effectiveness so that every student has a great teacher and every school has a great principal
Area of Focus 2: Updating North Carolina's statewide PK-12 Standard Course of Study and school accountability system to reflect internationally benchmarked standards and assessments that prepare students for success in college and thte workplace
Area of Focus 3: Establishing and increasing the use of robust data systems that measure student success and inform teachers, principals and policymakers about how they can improve the delivery of educational services to students

Race to the Top Local and State Scopes of Work

Implementation of the NC Education Cloud involves the development of a Tier 4 style data center that ensures hosted infrastructure is safe and secure. The Cloud will be used as a content distribution network (CDN) to provide both cached and dynamic content to end users and provide scalable storage capacity that is adaptable to peak demands. The initiative will support PK-12 education statewide by delivering information that is needed, when it is needed, to individual devices. This initiative will involve the transition from LEA-hosted server infrastructures to a centralized, cloud-hosted infrastructure as service. The state used $3.1 million of CMS' Race to the Top allocation to support this initiative. The three NC RttT objectives being met include: Incorporating the state infrastructure blueprint into technology plans;

implementation of an infrastructure blueprint; and providing and supporting teacher, administrator access to Learner Management System, Learning Object Repository and web collaboration tools. CMS will provide any necessary infrastructure to connect to the NC Cloud and ensure end-users have access to the data and resources available in the Cloud. We are currently providing wireless Internet access in schools and offices to prepare for the implementation of the district's Bring Your Own Technology (BYOT) initiative in 2012-13 and 2013-14.

The Use of Title I / ESEA Federal Funds to Support Instruction

Title I /ESEA funds shall be used to supplement district-wide initiatives and will not serve to supplant. Providing devices in schools where few children will be able to participate in the District BYOT initiative as well as tablet technology above the standard are under consideration.

Innovation in Online / Digital Instruction
Career and Technical Education (CTE)

The focus of the use technology in CTE classrooms is to transform instruction, enhance learning and increase student engagement, creativity, collaboration and success. When teachers integrate technology as part of their classroom instruction, students are empowered and become actively engaged in their learning. The integration of technology in CTE focuses on three areas; classroom integrative technology, online access, and professional development.

Integration systems chosen facilitate student engagement, enhance learning and assist instruction. These are:

- The Student Response System, an interactive technology, helps to engage the student, provides real time data for the teacher and is an additional instructional and/or learning tool available to teachers.
- The Interwrite Mobi is a wireless pad that provides the freedom to interact with a projected presentation from anywhere in the room. The teacher can write annotations and run applications remotely and encourage student participation.
- Digital, still and video cameras (Flip Video) promote planning and producing, collaboration, communication, creative thinking and problem solving. Presentation skills are sharpened as students present their material to classmates.
- The Document Camera allows the presenter to project three-dimensional objects or standard documents via LCD for the audience to view. It will also save a digital image which can be used/reviewed at a later time.

Online resources for CTE Teachers and Students are made available via two CTE Moodle sites:

- The CTE Teacher Site provides resources, documents and support for all middle and high school teachers via curriculum-specific categories. This site employs a 24/7 anytime-anywhere model for teacher access to instructional resources, assignments and training. Secure access is provided for all users.

- The CTE Student Site provides online student access to course materials, resources, activities and assignments. Online class assignments, documents, class reviews and resources are available to CTE students and can be accessed 24/7. Self-paced review, make-ups for extended absences and timely results of student progress are available for teachers.
- CTE continues to move forward in development of online, blended and fully instructional courses for the 2012-13 school year.

Professional development for teachers is not just necessary but imperative. Integration occurs when teachers understand when and how to use technology as a teaching tool to maximize student learning. Teachers are given the opportunity to learn how to implement new technology, collaborate and share activities and strategies.

Common Core / Essential Standards

As the Common Core State Standards and North Carolina Essential Standards are adopted and assessed, the increased use of technology is expected to support the implementation of curriculum and instruction through the expansion of learning time and accessibility of resources. Collaboration is a vital component of the new standards, allowing both students and teachers the opportunity to achieve instructional flexibility to best meet student needs. The ability to collaborate outside the classroom introduces a global platform to both students and teachers.

Response to Instruction

Responsiveness to Instruction (RtI) is a research-based process of instruction, assessment and intervention. The process allows schools to identify struggling students early, and provide appropriate instructional interventions in academics and behavior to increase the likelihood for student success. The reauthorization of the Individuals with Disabilities Education Improvement Act (IDEA, 2004) and the passage of the No Child Left Behind Act (NCLB, 2001) stresses the use of instruction and interventions that are scientifically research based, as well as the delivery of effective academic and behavior supports to improve student performance. Additionally, RtI provides a multi-tiered model of interventions that offers effective educational practices for schools to bring high-quality instruction. Technology that supports the CMS RtI model includes but is not limited to:

Measures of Academic Progress (MAP) - A MAP assessment is delivered over the web and is aligned to national and state curricula and standards in reading and math. MAP assessments provide actionable data about where each child is on their unique learning path. MAP adapts to a student's responses as they take the test. Every test item on a MAP assessment corresponds to a value on the RtI Scale (for Rasch Unit), so educators gain a deep understanding of what a student knows.

Reading A- Z - Reading A-Z is a member-based website that provides online curriculum resources. Each month, Reading A-Z adds new books, lesson plans and other resources, thus continually expanding its wealth of materials. The website has more than 2,500 downloadable books (including English, Spanish, and French versions) and thousands of teaching and learning materials.

AMC Anywhere - AMC Anywhere is the technology component of Assessing Math Concepts that simplifies data collection and instantly provides teachers with the instructional level for their students. Teachers enter student data directly onto a web-based platform. After assessment, teachers can access web-based reporting. AMC Anywhere offers administrators and teachers a variety of reports that summarize student results and enable teachers to make instructional decisions.

Priority 3: Statewide Access to Digital Teaching and Learning Resources, Including Digital Textbooks

Suggested Goals/Targets	Year 1 July 1, 2012 – June 30, 2013	Year 2 July 1, 2013 – June 30, 2014	Yearly Evaluation Evaluation Methods(s)	 DPI Use
Shift from traditional print and paper-based resources to affordable, current online resources	Develop online professional development aligned with SP2014 designed to increase the use of wikis, and intranet document access. *Responsible:* *Chief Information Office* *Professional Development Dept.*	Utilize wikis and intranet document access to minimize the use of paper-based resources. *Responsible:* *Individual CMS Depts.* *Chief Information Office*	Professional development reports from the MyPD platform.	
Expand the use of digital resources.	Benchmark the use of digital resources by students and teachers. Information Systems and Support *Responsible:* *Curriculum and Instruction Dept.* Continue and expand as appropriate the CMS	Identify areas of potential growth and support as needed. Information Systems and Support *Responsible:* *Curriculum and Instruction Dept.* Continue and expand as appropriate the CMS Instructional	Percent of growth	

	Instructional Web to provide cloud based software to all instructional staff *Responsible:* *Curriculum & Instruction Dept.* *Chief Information Office*	Web to provide cloud based software to all instructional staff *Responsible:* *Curriculum & Instruction Dept.* *Chief Information Office*	
Use digital content aligned specifically to Common Core and NC Essential Standards	Form a team to evaluate and plan a digital pilot implementation of 6-12 social studies instructional materials for 2014-15. *Responsible:* *CMS Textbook Dept.* *Dept. of Humanities*	Continue online, digital evaluation process through implementation of the pilot. Using this experience as a model, develop a process that allows the adoption of additional digital instructional resources across the curriculum. *Responsible:* *CMS Textbook Dept.* *Dept. of Humanities*	Results of online evaluation process. Successful implementation of new Social Studies Program including digital content in 2014-15.
Ensure equitable access to digital teaching and learning resources from school to school in CMS.	Provide CIPA compliant, secured Wi-Fi access for students and staff in all CMS schools and work sites. *Responsible:* *Chief Information Office* Assess the need to supplement the BYOT initiative.	Increase CIPA compliant, secured Wi-Fi access to support the growing demand of the Bring Your Own Technology (BYOT) initiative. *Responsible:* *Chief Information Office* Develop a plan to address inequities of access across the district.	Number of devices connected to the network. Connectivity report. Filtering reports. Number of students and staff participating in

	Responsible: *Chief Information Office*	*Responsible:* *Chief Information Office*	BYOT initiative. Completed technology equity plan to address needs.

Strategic Priority 4: A Statewide Model of Technology-Enabled Professional Development

Essential Questions

What skills are needed to transition to digital teaching and learning resources?

How can these skills be delivered and sustained to our LEA teachers and administrators?

How do teachers, administrators and staff work with colleagues to guide our LEA toward more effective uses of 21st Century tools for teaching, learning and managing instruction?

How are teachers, administrators and staff prepared to understand, implement and assess the span of skills and processes that students need to succeed in the 21st Century?

How are teachers, administrators and staff prepared to apply 21st Century assessment systems to inform instruction and measure 21st Century knowledge, skills, performance and dispositions?

Current Status and Moving Forward

Charlotte-Mecklenburg Schools is in a unique position to provide its employees with technology-enabled professional development. Strategic Plan 2014 has the Virtual Learning Tactic to promote teaching and learning through technology. Staff must be proficient at integrating virtual learning experiences to engage students as well as to prepare them to be college and career ready. By participating in both web-based and blended online professional development opportunities, not only will staff come to understand the power of technology for learning but also the skills necessary to implement it into the classroom as well as their professional work environment.

We will align professional development with the ISTE Standards for Teachers as follows:

ISTE Standard: Facilitate and Inspire Student Learning and Creativity

Teachers use their knowledge of subject matter, teaching and learning and technology to facilitate experiences that advance student learning, creativity and innovation in both face-to-face and virtual environments.

To Meet the Standard

Professional Development Goals	Participant Outcomes
Explore digital tools and resources to expand the walls of the classroom for real world application	• Create a list of tools and resources currently available at their school and within their classroom • Design a real world performance task for their students using available tools and resources such as Discovery Education content and Builder Tools, Edmodo and other Web 2.0 tools • Move students along the Depth of Knowledge (DOK) continuum to support Common Core efforts
Learn how to effectively use technology to facilitate collaboration with peers, students and parents.	• Create a collaborative learning group to work with peers during PLC or Common Planning time. • Create an online communication tool that can be accessed by parents and students

ISTE Standard: Design and Develop Digital-Age Learning Experiences and Assessments

Teachers design, develop and evaluate authentic learning experiences and assessments, incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills and attitudes identified in the NETS-S.

To Meet the Standard

Professional Development Goals	Participant Outcomes
Design content-rich lessons infused with technology	• Modify a current lesson to integrate appropriate technology tools to enhance the learning experience for students. Tools include iPads, tablets, computers and Smartphones as well as apps, software and assignment tools through learning management systems.

ISTE Standard: Model Digital-Age Work and Learning

Teachers exhibit knowledge, skills and work processes representative of an innovative professional in a global and digital society.

To Meet the Standard

Professional Development Goals	Participant Outcomes
Understand effective use of technology to support instruction	• Complete a pre- and post- assessment regarding effective use of technology tools to support instruction • Participate in professional learning communities at work to learn best practices of technology integration

ISTE Standard: Promote and Model Digital Citizenship and Responsibility
Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices.

To Meet the Standard

Professional Development Goals	Participant Outcomes
Recognize safe and ethical use of information and technology	• Respond to scenario based-activities to demonstrate an understanding of safe and legal technology issues

ISTE Standard: Engage in Professional Growth and Leadership
Teachers continuously improve their professional practice, model lifelong learning and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources.

To Meet the Standard

Professional Development Goals	Participant Outcomes
Explore current research on emerging technologies and the potential impact on the classroom environment	• Join additional personal or professional learning network to keep abreast of relevant instructional technology • Establish SMART goals for utilizing technology to enhance instruction • Commit to a plan to identify what changes need to be made in the classroom to begin integrating technology
Learn how to organize and manage a	• Create a classroom management plan

technology-rich learning environment	• Design routines and procedures that promote technology use within the classroom

Over the next two years we will increase the instructional capacity of delivering online courses as well as the number of online courses offered to CMS staff with the goal to strengthen our understanding of the following domains that will help us transform our practice:

- Understanding of social constructivism and inquiry-based learning (instructional philosophy)
- Best instructional practices in technology-enabled teaching and learning (pedagogy)
- Computer and information literacy, critical thinking, problem solving and innovation (21st Century skills)
- Knowledge and skills needed to select and incorporate technology tools effectively (technical skills)

Alignment to Other Plans and Initiatives:

Strategic Priority 4: A Statewide Model of Technology Enables Professional Development
Charlotte-Mecklenburg will utilize and align with the following key initiatives/plans to reach for the vision and complete the strategic priorities of our plan:

Strategic Plan 2014

Area of Focus 1: Effective Teaching and Leadership
Area of Focus 2: Performance Management
Area of Focus 3: Increasing the Graduation Rate
Area of Focus 4: Teaching and Learning Through Technology

Career and College Ready, Set, Go!

Area of Focus 1: Increasing teacher and principal effectiveness so that every student has a great teacher and every school has a great principal
Area of Focus 2: Updating North Carolina's statewide PK-12 Standard Course of Study and school accountability system to reflect internationally benchmarked standards and assessments that prepare students for success in college and the workplace
Area of Focus 3: Establishing and increasing the use of robust data systems that measure student success and inform teachers, principals and policymakers about how they can improve the delivery of educational services to students

Accountability and Curriculum Reform Effort (ACRE)

By participating in the state-wide model of technology-enabled professional development, CMS will better prepare for the transition to online assessments, digital textbooks and universal access to personal teaching devices.

Race to the Top Local and State Scopes of Work

Implementation of the NC Education Cloud involves the development of a Tier 4 style data center that ensures hosted infrastructure is safe and secure. The Cloud will be used as a content distribution network (CDN) to provide both cached and dynamic content to end users and provide scalable storage capacity that is adaptable to peak demands. The initiative will support PK-12 education statewide by delivering information that is needed, when it is needed, to individual devices. This initiative will involve the transition from LEA-hosted server infrastructures to a centralized, cloud-hosted infrastructure as service. The state used $3.1 million of CMS' Race to the Top allocation to support this initiative. The three NC RttT objectives being met include: Incorporating the state infrastructure blueprint into technology plans; implementation of an infrastructure blueprint; and providing and supporting teacher, administrator access to Learner Management System, Learning Object Repository and web collaboration tools. CMS will provide any necessary infrastructure to connect to the NC Cloud and ensure end-users have access to the data and resources available in the Cloud. We are currently providing wireless Internet access in schools and offices to prepare for the implementation of the district's Bring Your Own Technology (BYOT) initiative in 2012-13 and 2013-14.

Priority 4: A Statewide Model of Technology-Enabled Professional Development

Suggested Goals/Targets	Year 1 July 1, 2012 – June 30, 2013	Year 2 July 1, 2013 – June 30, 2014	Yearly Evaluation Evaluation Method(s)	DPI Use
Implement a plan for technology-enabled professional development (PD) for teachers and administrators with a support model that promotes the ideals of technology integration.	Create a Technology Learning Environment and Needs Survey. *Responsible: Priority 4 Committee* Use the above survey results to chart school and district level PD plans. *Responsible:* *Curriculum and Instruction Dept.* *School Leadership Team* Develop technology-based PDs at the district & school level. Ensure the school improvement plans	Revise the Technology Learning Environment and Needs Survey as needed. *Responsible: Priority 4 Committee* Use the above survey results to chart school and district level PD plans. *Responsible:* *Curriculum and Instruction Dept.* *School Leadership Team* Continue to develop technology-	Technology Learning Environment and Needs Survey Strategic Plan 2014 reports, Professional Development Plan in School Improvement Plan MyPD reports	

	include goals around professional learning community development of the technology-based PD. *Responsible:* *Curriculum and Instruction Dept.* *School Leadership Team* Promote inquiry-based learning, higher order thinking, constructivism &/or application through PDs that includes technology integration. *Responsible:* *Curriculum and Instruction Dept.* *Zone Office staff*	based PDs at the district & school level. Ensure the school improvement plans include goals around professional learning community development of the technology-based PD. *Responsible:* *Curriculum and Instruction Dept.* *School Leadership Team* Promote inquiry-based learning, higher order thinking, constructivism &/or application through PDs where the integration of technology is required. *Responsible:* *Curriculum and Instruction Dept.* *Zone Office staff* *School Leadership Team*	evidencing school and district PDs aligned with survey results and Strategic Plan 2014 MyPD Course Overview—Technology Integration
Leverage media specialists and instructional technology facilitators to support digital reform.	Require school administrators to include the media specialist, technology facilitator and/or a technology point person on the School Leadership Team to initiate the reform. *Responsible:* *Zone Office staff* Promote Big6™ as the district research model	Require school administrators to include the media specialist, technology facilitator and/or a technology point person on the School Leadership Team to continue the reform. *Responsible:* *Zone Office staff* *School Leadership Team* Implement Big6™ as the district research model as part of School Improvement Plan	School Leadership Team roster MyPD course report, School

	Responsible: Media Services	*Responsible: Media Services*	Improvement Plan
Deliver Common Core and Essential Standards (CCSS/ES) training to teachers using integrated technology as a model for further classroom integration.	Create online modules and courses incorporating Web 2.0 tools to support the implementation and instruction of CCSS/ES. *Responsible:* *Curriculum and Instruction Dept.* *Virtual Learning Tactic* Create a web form for teachers to share required CCSS/ES tasks, rubrics and student work samples for W1-Argumentation. *Responsible:* *Curriculum and Instructional Dept.* *All teachers* Create and post curriculum guides on the CMS Intranet to support CCSS/ES. *Responsible:* *Curriculum and Instruction Dept.*	Increase the number of online course offerings incorporating Web 2.0 tools on the instruction of CCSS/ES. *Responsible:* *Curriculum and Instruction Dept.* *Virtual Learning Tactic* Continue the use of the task web form to facilitate additional CCSS/ES collaboration within professional learning communities. *Responsible:* *Curriculum and Instructional Dept.* *All teachers* Strengthen the CCSS/ES instruction by including common required tasks focusing on essential skills. *Responsible:* *Curriculum and Instruction Dept.*	MyPD course reports on courses offered by C&I and schools Task reports and examples from the website Task reports and examples from the website

Prepare staff for online assessment delivery.	Continue training for Testing Coordinators regarding the protocols and administration of the state-required assessments as capabilities permit. *Responsible:* *Chief Information Office* Use the train-the-trainer model, Testing Coordinators will train teachers at the school level in the administering of online state assessment as capabilities permit. *Responsible:* *Chief Information Office*	Strengthen training for Testing Coordinators regarding the protocols and administration of the state-required assessments as capabilities permit. *Responsible:* *Chief Information Office* Use the train-the-trainer model, Testing Coordinators will train teachers at the school level in the administering of online state assessment as capabilities permit. *Responsible:* *Chief Information Office*	Agendas, sign-in sheets, screenshots Online assessment tutorials provided by the state Agendas, sign-in sheets, Screenshots Online assessment tutorials provided by the state
Prepare students for online assessment delivery.	Utilize online tutorials provided by state to assist and prepare students to complete assessments online. *Responsible:* *Chief Information Office* *Zone Office staff* *Testing Coordinators* Include student exposure to online assessments as part of School Improvement Plan. *Responsible:* *School Leadership Team*	Continue to utilize online tutorials provided by state to assist and prepare students to complete assessments online. Provide additional training as capabilities permit. *Responsible:* *Chief Information Office* *Zone Office staff* *Testing Coordinators* Continue student exposure to online assessments as part of School Improvement Plan. *Responsible:* *School Leadership Team*	Agendas Screenshots Rosters School Improvement Plan usage reports or examples of tools used

Provide ongoing support and professional development necessary for use of data to inform instruction.	Create online modules providing training on the use of Excel to analyze data. *Responsible:* *Chief Information Office*	Continue to develop and promote use of online Excel modules. *Responsible:* *Chief Information Office*	Online excel course exemplars
	Continue Data Wise training for all schools using webtools such as the Data Wise Portal, Webinars, Camtasia, and eUpdate. *Responsible:* *Chief Infromation Office* *Curriculum and Instructional Dept.,* *Zone Office staff* *School Leadership Team*	Strengthen Data Wise training for all schools using webtools and enhance the use of Web 2.0 tools to deliver these trainings. *Responsible:* *Chief Information Office* *Curriculum and Instructional Dept.,* *Zone Office staff* *School Leadership Team*	Webinar archives and participant questions Data Wise Portal Screenshots Copies of eUpdates Additional examples as identified in Year 2 Videographies documenting successful trainings
	Establish targeted professional development opportunities to provide training for the web-based assessment (classroom and formative) and data platform. *Responsible:* *Chief Information Office* *School Leadership Team when appropriate*	Increase targeted professional development opportunities to provide for the web-based assessment (classroom and formative). *Responsible:* *Chief Information Office* *School Leadership Team when appropriate*	PD request forms and survey results Videographies documenting successful trainings School Improvement Plan with Agenda
	Develop virtual learning networks to provide on-going discussions regarding the use of data in instructional decision making. *Responsible:*	Continue to use virtual learning networks to provide targeted discussions to assist with instructional decision making. *Responsible:*	Evidences of online chats and posts between participants

	Curriculum and Instruction Dept. *Zone Office staff* *School Leadership Team*	*Curriculum and Instruction Dept.* *Zone Office staff* *School Leadership Team*	
Provide professional development and support for teachers and administrators in 21st Century teaching and learning.	Develop training courses focusing on 21st Century systems and learning tools. Build a resource list of current and relevant instructional technology, apps and websites *Responsible:* *Curriculum and Instruction Dept.* *Zone Office staff* *School Leadership Team*	Continue to develop courses on 21st Century systems and learning tools. Continue to build and update the resource list *Responsible:* *Curriculum and Instruction Dept.* *Zone Office staff* *School Leadership Team*	MyPD course listing Resource list

Strategic Priority 5: 21st Century Leadership for All Schools and Districts

Essential Questions

Are your LEA leaders prepared to lead and create a vision for 21st century education?

Are mechanisms in place for school leaders to create 21st century learning cultures?

Are professional growth programs/opportunities available to prepare teachers and administrators to lead 21st century learning environments?

Current Status/Moving Forward

The performance of school leadership is essential for student success. There is no truly great school without a great principal leading it. School leadership has a direct effect on teachers. One key impact great leaders have on school outcomes is their effect on recruiting and retaining great teachers. Like most other people, teachers want to work with leaders they trust and respect, and who can help them to achieve their mission of helping students succeed. Teachers have repeatedly ranked school leadership as a top reason they choose to stay or leave a school or the profession altogether. Top teachers want top leaders.

Charlotte-Mecklenburg Schools believes that it is important to not only invest in technology but also in people. In order for CMS to provide an effective 21st learning experience for all students, teachers and administrators must be prepared. The district recognizes that the key to the development of successful 21st century learning environments rests in effective professional development. Educators in CMS have a variety of professional development opportunities focused upon the development of 21st century skills. Educators also have opportunities to collaborate via a robust system of professional learning communities as well as online via Yammer and wiki spaces. These opportunities will be expanded to include a stronger focus upon the ISTE/NETS standards for teachers and administrators. CMS will also focus upon the development of a global digital leader that understands and models how to effectively live in a digital society. Ultimately, all school leaders must be able to create and lead a shared vision for effective technology integration.

Alignment to Other Plans and Initiatives:

Strategic Priority 5: 21st Century Leadership for All Schools and Districts
Charlotte-Mecklenburg will utilize and align with the following key initiatives/plans to reach for the vision and complete the strategic priorities of our plan:

Strategic Plan 2014

Area of Focus 1: Effective Teaching and Leadership
Area of Focus 2: Performance Management
Area of Focus 3: Increasing the Graduation Rate
Area of Focus 4: Teaching and Learning Through Technology

Accountability and Curriculum Reform Effort (ACRE)

By creating 21st century leaders for all schools and the district, CMS will better prepare for the transition to online assessments, digital textbooks and universal access to personal teaching devices.

Career and College Ready, Set, Go!

Area of Focus 1: Increasing teacher and principal effectiveness so that every student has a great teacher and every school has a great principal
Area of Focus 3: Establishing and increasing the use of robust data systems that measure student success and inform teachers, principals and policymakers about how they can improve the delivery of educational services to students

Race to the Top Local and State Scopes of Work

Implementation of the NC Education Cloud involves the development of a Tier 4 style data center that ensures hosted infrastructure is safe and secure. The Cloud will be used as a content distribution network (CDN) to provide both cached and dynamic content to end users and provide scalable storage capacity that is adaptable to peak demands. The initiative will support PK-12 education statewide by delivering information that is needed, when it is needed, to individual devices. This initiative will involve the transition from LEA-hosted server infrastructures to a centralized, cloud-hosted infrastructure as service. The state used $3.1 million of CMS' Race to the Top allocation to support this initiative. The three NC RttT objectives being met include: Incorporating the state infrastructure blueprint into technology plans; implementation of an infrastructure blueprint; and providing and supporting teacher, administrator access to Learner Management System, Learning Object Repository and web collaboration tools. CMS will provide any necessary infrastructure to connect to the NC Cloud and ensure end-users have access to the data and resources available in the Cloud. We are currently providing wireless Internet access in schools and offices to prepare for the implementation of the district's Bring Your Own Technology (BYOT) initiative in 2012-13 and 2013-14.

Priority 5: 21st Century Leadership for All Schools and Districts

Suggested Goals/Targets	Year 1 July 1, 2012 – June 30, 2013	Year 2 July 1, 2013 – June 30, 2014	Yearly Evaluation Evaluation Method(s)	 DPI Use
Educational administrators will promote an environment of professional learning and innovation that empowers educators to enhance student learning through the infusion of contemporary technologies and digital resources.	Utilize the school boards Theory of Action for Change to drive the development of the strategic plan and related policies *Responsible: All Leaders*	Utilize the school boards Theory of Action for Change to drive the development of the strategic plan and related policies *Responsible: All Leaders*	Project Management Oversight Committee (PMOC)	
	Align district and school house budgets to support leaders as they address gaps in digital equity *Responsible:* *All Leaders*	Align district and school house budgets to support leaders as they address gaps in digital equity *Responsible:* *All Leaders*	Innovative budget comparisons	
	Design professional development to support district, school and classroom leaders as they use technology effectively *Responsible:* *Chief Information Office* *Chief Academic Office*	Design and implement professional development to support district, school and classroom leaders as they use technology effectively *Responsible:* *Chief Information Office* *Chief Academic Office*	Professional development evaluations	
	Utilize technology to maximize efficiency (allocating time & resources)	Utilize technology to maximize efficiency (allocating time & resources)	Innovative budget comparisons	

	Responsible: *All Leaders*	*Responsible:* *All Leaders*	
Charlotte-Mecklenburg Schools will build leaders that recognize the tenets of culture and strategic planning in order to maximize student performance.	Develop leadership skills in the areas of: -Change management -Project management -Collaborative decision making *Responsible:* *Chief Academic Office* Support the infrastructure of the leaders in CMS in the areas of: -Policies -Technology -Resource management -Research based practices -Accessing community resources -21st century skills *Responsible:* *Chief Information Office* *Chief Academic Office* *Legal Dept.* *Communications Dept.*	Continue to develop leadership skills in the areas of: -Change management -Project management -Collaborative decision making *Responsible:* *Chief Academic Office* Continue to support the infrastructure of the leaders in CMS in the areas of: -Policies -Technology -Resource management -Research based practices -Accessing community resources -21st century skills *Responsible:* *Chief Information Office* *Chief Academic Office* *Legal Dept.* *Communications Dept*	Professional development evaluations School Improvement Plans
The global digital leader will promote, model and facilitate responsible use of technology in	Develop a principal toolkit to promote and ensure appropriate use of technology.	Create a professional learning community that is focused upon the development of global digital	PLC Plans

learning, professional and social environments.	*Responsible:* *Chief Information Office* Model effective technology integration during leadership meetings. *Responsible:* *Chief Information Office* *Chief Academic Office*	leadership. *Responsible:* *Chief Information Office* Continue to model effective technology integration during leadership meetings. *Responsible:* *Chief Information Office* *Chief Academic Office*	District survey results
Develop 21st century leaders who will create a shared vision of technology integration to promote excellence in Charlotte-Mecklenburg Schools that aligns with Strategic Plan 2014 and other district-wide initiatives.	Promote the ISTE/NETS for all CMS educators and students *Responsible:* *Chief Information Office* *Chief Academic Office* Create opportunities to develop the skills of administrators to facilitate teaching, learning, and working in a 21st century education environment *Responsible:* *Chief Information Office* *Chief Academic Office* Develop strategic partnerships with community and businesses to promote 21st Century learning	Integrate the ISTE/NETS for all CMS educators and students *Responsible:* *Chief Information Office* *Chief Academic Office* Continue to provide opportunities that develop the skills of administrators to facilitate teaching, learning, and working in a 21st century education environment *Responsible:* *Chief Information Office* *Chief Academic Office* Enhance strategic partnerships with community and businesses to promote 21st Century learning	School Improvement Plans Professional development evaluations Partnership survey data

	Responsible: *Communications Dept.* Engage in an ongoing process to develop, implement, monitor, communicate and adjust technology-infused strategic plans *Responsible:* *Chief Information Office* *Communications Dept.*	*Responsible:* *Communications Dept.* Continue the ongoing process to develop, implement, monitor, communicate and adjust technology-infused strategic plans *Responsible:* *Chief Information Office* *Communications Dept.*	School Improvement Plans/CMS Strategic Plan 2014

Appendix A: Policies and Procedures
Charlotte-Mecklenburg Technology Plan
Policy, Procedure, & Guidelines Implementation Chart

Policies, Procedures, & Guidelines All Policies, procedures and guidelines should be updated to include the fundamentals of 21st Century Education and Information & Technology Skills. Policies should be translated into predominant languages of students and parents. Policies, procedures and guidelines should be displayed along with the STP and other referenced LEA/Charter plans. Make sure links have navigations that are user friendly.	**LEA Policy Code or Procedure**	**LEA Adoption, Implementation or Revision Date**
Policies Required		
A. Materials Selection Policy including internet resources (GS §115c-98(b))	IJL-P IJL-R	11/01 3/03
B. Disposal of Equipment / Replacement of Obsolete Equipment (GS §115c-518)	DNB	10/04
C. Hardware and Software Procurement (GS § 115c-522, 115c-522.1)	DJ	2/05
D. Copyright and Plagiarism Policy (PL §94-553, 90 Stat. 2541),	DFE	4/00
E. Acceptable Use Policy (PL §106-554) (including existing 1:1, bring your own device)	IJNDB-R EGA-R	6/8/2005 5/29/2009
F. Equipment/Materials Donation Policy (GS §115C-518)	DNB	10/04
G. Data Privacy Policy (20 U.S.C. § 1232g; 34 CFR Part 99 (FERPA))	EGA EGA-R EGD	12/02 5/09 12/02
H. Inventory Control Policy (GS §115c-539, 115c-102.6A-C(5))	DNB	10/04
I. Access to Services Policy (GS §115c-106.2)	IHBA	9/91
J. Online Assessment and Instruction Policy	IKF IKF-R	1/12 5/10
K. Advertising and Commercialism Policy (GS §115c-98) (Procurement and gifts ethics)	GBEA KCD-R	12/10/2002 6/1/2005
L. Internet Safety and Ethical Use including Cyber-bullying and Harassment (Protecting Children in the 21st Century Act, CIPA, FERPA, GS 115C-407)	IJNDB-R JICK-R	6/8/2005 4/1/2010
Procedures		
A. Hardware and Software Deployment	Instructional Computer Procedure	8/1/08
B. Equipment maintenance and repairs	Telecommunications Repair Procedure	8/1/08
C. Outdated Resources and Equipment Replacement	Instructional Computer Charter	8/1/08
D. Disaster Recovery of Data and Hardware	Operations Disaster Procedures	8/1/08
E. Administration of Online Courses	Professional Development Manual	8/1/08
F. Administration of Online Assessment		

Guidelines		
A. Policy Translation	Public Information	Update as needed
B. Use of Digital Media and Resources	Public Information	Update as needed
C. Instructional Use of Videos	Forms – Section 10	4/18/05
D. Development of Online Resources	Professional Development Dept.	8/1/05