



# Technology Plan

## 2013-2016

**Dorsey Hopson, II Esq.**  
**Interim Superintendent**

Shelby County Schools  
160 South Hollywood  
Memphis, TN 38112  
901.321.2500

[www.scsk12.org](http://www.scsk12.org)

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# Shelby County Schools Technology Plan

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## Executive Summary

Shelby County Schools 2013-2016 Technology Plan supports the Vision, Mission, and Core Beliefs of the Shelby County School Board. This multi-year plan outlines six goals that provide direction for the use of technology in pursuing the District's primary goal of student achievement. This plan is submitted to meet Universal Service Administrative Company (USAC) and State of Tennessee requirements.

The Shelby County School System acknowledges that to work, learn, and function successfully in a technological society, teachers and students must be empowered with technology tools and the skills to use technology effectively. The district believes that ongoing and sustained staff development is imperative to equip teachers and administrators with the skills needed to challenge technology savvy students and to prepare them for success in a global economy. A robust network, including wireless connectivity, is a necessity in all classrooms and workspaces in order to deliver appropriate technology resources instruction and for business services.

This Technology Plan is designed to support and reinforce all efforts to create a challenging, supportive, educational environment that results in higher levels of achievement for all students. Student success is the most critical focus for the entire school district. In order to make this success a reality for each student, the availability and effective use of technology is paramount. By combining technology with research-based, best practice approaches to teaching and learning, Shelby County Schools will provide an education that meets the needs of our students and exceeds the expectations of our parents and community.

Six major goals were identified and defined with stakeholder input.

1. **Student Achievement** - Provide quality tools, resources, and support to enhance student learning and achievement in order to ensure college and career readiness.
2. **Employee Resources** - Equip teachers, administrators, and staff with the tools, resources, and support necessary to promote student achievement and teacher effectiveness.
3. **Communications** - Promote communication and partnerships that actively engage stakeholders in educational issues and ongoing improvement.
4. **Infrastructure** - Ensure that all facilities are adequately equipped in order to provide a secure and robust environment for learning and for work.
5. **Business Information Systems** - Implement and maintain business information systems that meet the needs of the district.
6. **Support Services** - Deliver an effective and efficient service management system that focuses on continuous improvement.

The District is committed to meeting these goals and the Technology Plan outlines steps for measuring progress. Ongoing communication and assessment will make the District accountable to meet the objectives set forth in the plan. A comprehensive commitment to technology will be necessary to continue to move the Shelby County Schools forward.

## District Overview

Shelby County Schools is a newly merged and diverse district that includes urban, suburban, and rural schools, which serve over 150,000 students. Approximately 200 of the 238 schools in the District are supplemented with federal funds and are generally well equipped with technology. The remaining schools face budgetary challenges, which result in limited, dated equipment. While the amount and type of equipment at each school varies, hardware purchases are standardized to allow for more efficient technical support. Schools are allowed flexibility in choosing approved hardware based on their academic needs. Efforts continue to standardize software applications that meet the needs of students and improve the productivity of staff. An IT Governance Board exists to assist with standardization.

The current District technology profile reflects approximately:

- 110,000+ desktop and laptop computers
- 23,000+ network and peripheral devices
- 6,000+ tablet computing devices

Shelby County Schools has worked to be innovative in its use of technology. Most certificated staff have had access to mobile computing devices for more than ten years to enhance their teaching and work productivity. The District has also provided exemplary instructional support for teachers and students integrating technology with subject specific areas in the classroom. Strides have been made in providing multiple training modalities, including producing original videos to assist with instructional and technical support. Students are provided with hardware (desktops, laptops, tablets, student response systems, interactive whiteboards, etc.) within budgetary constraints. Pilot student BYOD programs are currently being monitored to determine use District-wide.

Shelby County Schools currently provides wired and wireless connectivity to all schools and work locations including a 1500Mb egress to the Internet. School LAN bandwidth capabilities fall within a range of 100Mb – 1000Mb wired, and 11Mb – 130Mb wireless. The Internet connection is funded, in part, with E-Rate monies and provided by Education Networks of America (ENA). Increased Internet and network use generated by applications, web resources, online assessments, and potential BYOD initiatives will require greater network bandwidth.

Implementation has begun on a technology lifecycle management system and a mobile device management system for support. While a hands-on technical support system has been effective in the past, recent reductions in personnel have prompted the District to move toward remote support. Staffing is undergoing a redesign process to ensure the best possible instructional and technical support within the reduced budget.

There are three guiding principles for implementing this Technology Plan

- Students' needs must be the basis for decisions regarding all technologies;
- Instruction and operation components must function collaboratively to serve the needs of students, teachers, and administrators and
- Service delivery must be designed to effectively respond to customer's needs in a timely manner.

Anticipation of new technologies, educational approaches, and requirements is needed to effectively plan and implement hardware, software, and support to ensure success. Collaboration with other departments, parents, community, businesses, and higher education entities is necessary for success. The Technology Plan has been developed to support technology embedded within the Mission, Vision, and Core Beliefs of the District's School Board.

### **Mission**

Preparing all students for success in learning, leadership and life.

### **Vision Statement**

Our District will be the premier school district attracting a diverse student population and effective teachers, leaders, and staff all committed to excellence.

### **Core Beliefs**

*We believe that all students can achieve at high global academic standards that will prepare them to become successful in life.*

- We commit to prepare all students to achieve at high global academic standards.
- We commit to closing the achievement gap.
- We commit to be accountable for successfully implementing rigorous standards.

*We believe that all students require quality resources and supports to achieve high levels of success.*

- We commit to equitable distribution of quality resources and supports to all students.
- We commit to providing a safe and nurturing school environment for all students.

*We believe that effective teachers and school leaders are essential to high student achievement.*

- We commit to recruiting, hiring, training, retaining, and supporting effective teachers and school leaders.
- We commit to create and sustain a culture of high expectations.

*We believe that strong public support and community partnerships are essential for all students to excel.*

- We commit to meaningfully engaging families in the education of their children.
- We commit to working collaboratively with all community stakeholders.

*We believe that our school system can be a high performing, accountable, and transparent organization.*

- We commit to being a high performing, accountable, and transparent organization.

In addition to satisfying the Board's mission the International Society for Technology in Education (ISTE) promotes fourteen essential conditions they believe are required to create learning environments conducive to powerful uses of technology. By addressing each of these fourteen essential conditions, this technology plan demonstrates Shelby County's commitment to meeting and exceeding local, state, and national expectations for technology in education.

**Shelby County Schools Mission:** Preparing all students for success in learning, leadership and life.

**Shelby County Schools Vision Statement:** Our District will be the premier school district attracting a diverse student population and effective teachers, leaders, and staff all committed to excellence.

**Shelby County Schools Core Beliefs:**

**ISTE NETS Essential Conditions**

We believe that...	Shared Vision	Empowered Leaders	Implementation Planning	Consistent and Adequate Funding	Equitable Access	Skilled Personnel	Ongoing Professional Learning	Technical Support	Curriculum Framework	Student-Centered Learning	Assessment and Evaluation	Engaged Communities	Support Policies	Supportive External Content
...all students can achieve at high global academic standards that will prepare them to become successful in life.	X		X					X	X	X				
...all students require quality resources and supports to achieve high levels of success.			X	X	X	X	X						X	
...effective teachers and school leaders are essential to high student achievement.	X	X				X	X				X			X
...strong public support and community partnerships are essential for all students to excel.	X	X										X		
...our school system can be a high performing, accountable, and transparent organization.			X	X							X	X		

## **Strategic Technology Goals**

The Technology Leadership Team shaped six broad goals to clarify the role of technology in education for the Shelby County School District. With assistance from a variety of stakeholders, these goals were refined and specific objectives were written for accomplishing the goals. Key performance indicators were developed for each objective as well as metrics and measures to gauge progress and allow for course correction.

Progress will be monitored at regular intervals determined by the objective, but at a minimum, on a yearly basis. These six goals will provide a roadmap and a timeline as they guide the work of the Shelby County Schools Technology Department for the next three years.

## Student Achievement

**Focus Area: Student Achievement**

Provide quality tools, resources, and support to enhance student learning and achievement in order to ensure college and career readiness.

<b>Objective #1</b>	Provide adequate and appropriate instructional tools (hardware) for students and teachers.	
Key Performance Indicators	Metrics	Measurement
Provide mobile computing devices to all certificated staff with a four year replacement cycle.	Review inventory of devices.	Devices provided to 100% of certificated staff and replaced within four years.
Provide adequate equipment to support academic programs at all grade levels with a five-year replacement cycle.	Review inventory of devices, individual school needs, and District recommendations.	School survey indicates 80% satisfaction within three years. Appropriate devices provided and replaced within five years.
Provide and maintain large screen projection capabilities in all instructional spaces.	Review inventory of projection devices.	Devices provided in 100% of instructional spaces and replaced as needed.
Investigate and recommend innovative technology solutions for future implementation.	Research best-practices and analyze annual technology survey results. Establish District Innovative Technology Committee to review recommendations.	Innovative technology solution purchases reflect consensus of Committee.
Provide resources to meet ongoing PARCC requirements.	Update and review school information in the PARCC Readiness Tool.	100% of PARCC recommendations met in all schools within three years.



## Student Achievement

<b>Objective #2</b>	Incorporate quality resources (i.e. software, online tools, storage) to support district instructional goals.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Provide electronic communication and adequate multi-year storage for students and staff.	Review usage logs for communication and storage to establish a benchmark.	Usage indicates annual increase of 10% each year.
Investigate and recommend electronic resources that enhance traditional class materials.	Research best-practices and analyze annual technology survey results. Establish District Resource Advisory Committee to review recommendations.	Resource purchases reflect consensus of Committee.
Support District provided assessment tools and management systems that guide instruction.	Collaborate with other departments to analyze availability and analyze reports to benchmark use of resources.	Statistics indicate annual increase in usage. Tools are available at least 95% of the time.
Provide and maintain a service catalog of applications, resources, and operating systems with available licenses.	Create and communicate catalog of current licenses.	Feedback indicates 75%, 80%, and 85% awareness of catalog contents.
Provide digital citizenship resources to promote Internet safety and to meet district, state, and federal guidelines.	Review of school and electronic logs.	100% of students complete Internet safety requirements.
Promote a teacher web presence that facilitates communication with students, parents, and stakeholders.	Review and benchmark current teacher web presence.	10% web presence increase annually.

## Student Achievement

<b>Objective #3</b>	Ensure adequate personnel to support a technologically infused curriculum, both instructionally and functionally.	
Key Performance Indicators	Metrics	Measurement
Provide instructional technology personnel to facilitate technology integration that incorporates ISTE standards and promotes student achievement.	Review logs and calendar entries to determine percentage of day spent supporting instruction.	Logs and calendar entries show an annual increase in time spent supporting instruction leading to 90% goal.
Provide adequate repair and technical support to ensure that equipment is ready for academic use.	Review of service requests to determine availability of equipment.	Annual increase leading to 90% goal.
<b>Objective #4</b>	Encourage the use of alternative learning environments to expand academic opportunities for students.	
Key Performance Indicators	Metrics	Measurement
Incorporate virtual learning environments where appropriate.	Review current and future uses of virtual learning to meet district needs.	Accommodate district needs as indicated.
Explore 1:1 options such as Bring Your Own Device (BYOD) to enhance student engagement.	Research best practices, analyze district capabilities, and review District Innovative Technology Committee recommendations.	Make indicated recommendations guided by district policies and Committee consensus.
Utilize distance-learning solutions where appropriate.	Review current and future uses of distance-learning to meet district needs.	Accommodate district needs as indicated.
Promote innovative instructional delivery methods.	Collaborate with the Academic Office, Innovative Office, and District Innovative Technology Committee to promote methods that foster student achievement.	Innovation reflected in teacher planning and principal evaluation evidence.

## Employee Resources

**Focus Area: Employee Resources**

Equip teachers, administrators, and staff with the tools, resources, and support necessary to promote student achievement and teacher effectiveness.

<b>Objective #1</b>	Provide and support Single Sign On (SSO) access to data for informational purposes and decision-making.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Develop and maintain an accurate data repository.	Perform regular data comparisons to PowerSchool, APECs and other sources to ensure that data is accurate.	Data will have a 99% or higher accuracy.
Collaborate with other departments to include frequently used student and employee data.	Survey staff to determine needed data.	100% of users have access to appropriate data.
Provide training and resources to promote the use of the data repository.	Analyze staff feedback concerning training and resources.	Feedback indicates 85% satisfaction with training and resources.
<b>Objective #2</b>	Provide adequate and appropriate hardware for classroom and administrative use.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Provide mobile computing devices for certificated staff with a four-year replacement cycle.	Review inventory of teacher devices.	Devices provided to 100% of certificated staff and replaced within four years.
Provide and maintain large screen projection capabilities in all instructional spaces.	Review inventory of projection devices.	Devices provided in 100% of instructional spaces and replaced as needed.
Maintain adequate hardware for administrative and support personnel with a three- to five- year replacement cycle.	Review equipment inventory for administrative and support personnel.	Devices replaced within three to five years for designated personnel.
Provide appropriate print/scan/fax management solutions.	Research best practices, analyze district needs, and review District Innovative Technology Committee recommendations.	Make indicated recommendations guided by Committee consensus.

## Employee Resources

<b>Objective #3</b>	Provide electronic communication and adequate storage for staff.	
Key Performance Indicators	Metrics	Measurement
Assist teachers in the creation and maintenance of a web presence that facilitates communication with students, parents and stakeholders.	Review and benchmark current teacher web presence.	10% web presence increase annually.
Maintain an employee email system that can be archived and retrieved to meet federal guidelines and employee needs.	Review of current email specifications and survey of employee needs.	100% of federal guidelines met, and survey approval measure of 85% or higher.
Explore alternate communication methods for appropriate staff.	Research best practices, analyze district needs, and review District Innovative Technology Committee recommendations.	Make indicated recommendations guided by Committee consensus.
Provide adequate multi-year storage for staff.	Review storage utilization and survey feedback to establish needs and set benchmark.	Accommodate staff storage needs within District capabilities with an 85% satisfaction goal.

## Employee Resources

<b>Objective #4</b>	Provide sustained, systemic professional development based on research and evidence-based practices in order to improve staff effectiveness.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Align substantive professional development for all staff to District goals, evaluation results and staff surveys.	Analysis of District goals and staff professional development survey results.	80%, 85%, and 90% of professional development will be appropriately aligned.
Deliver training in multiple modalities (face-to-face, online, etc.) with interactive resources when possible.	Analysis of training modalities, supplemental resources, and survey feedback.	Survey indicates 85% satisfaction with delivery modalities provided.
Provide staff training necessary to facilitate online assessment.	Review information submitted in PARCC Readiness Tool and teacher feedback.	90% of teachers express confidence in facilitating online assessments.
Provide staff training to support data driven decisions.	Survey staff to determine proficiency in data analysis and application in order to guide training.	Data analysis and application reflected in teacher planning and principal evaluation evidence.

<b>Objective #5</b>	Promote the standardization of district resources to improve efficiency.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Provide and maintain a service catalog of applications, resources, and operating systems with available licenses.	Create and communicate catalog of current licenses and review District service management reports.	District service management tool indicates less than 5% non-standard installations within three years.
Develop and maintain consistent images for computers across the District that will allow for approved school specific customizations.	Review service management system reports.	District service management tool indicates 95% image consistency within three years.
Promote innovative resources to facilitate sharing and improve efficiency.	Research best practices, analyze district capabilities, and review District Innovative Technology Committee recommendations.	Make indicated recommendations guided by district policies and Committee consensus.
Allow access to instructional and administrative tools from outside the school network.	Survey staff for access to appropriate tools and communicate availability status.	100% of users can successfully access appropriate tools.

## Communications

### Focus Area: Communication

Promote communication and partnerships that actively engage stakeholders in educational issues and ongoing improvement.

<b>Objective #1</b>	Provide communication to stakeholders via social media, email, mobile platforms, text messaging and websites.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Develop database with as many accurate contact numbers for parents and guardians as possible.	Survey parents/guardians to determine their preferred method of contact.	Improvement in positive parent communication.
Examine current social media methods and websites used to see which are utilized heavily or not at all.	Review web analytics and social followers.	Stakeholders will begin utilizing fewer "portals" to gain information about education.
Establish social media policy for students and staff.	Research existing social media policies.	Board approved policy by September 30, 2013.
<b>Objective #2</b>	Enable data accessibility to students, parents and the community through community partnerships, training classes, increasing online services and adding mobile platform capability to as many services (registration, open enrollment) as possible.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Community centers, regional offices and churches will allow SCS technology opportunities.	Students and parents who do not have computer access outside school will have better access.	Online class participation will increase; parent participation in online services and information will increase.
Work with Community Engagement to offer classes District-wide for parents specific to online efforts (registration, open enrollment) and add classes about utilizing the District website, CNC lunch menus, etc.	Classes will be scheduled on at least two Saturdays in each region.	Attendance logs and evaluation of classes will demonstrate interest and use.
Integrate mobile platform ability into as many District services as possible.	Review staffing and programming capability.	Web analytics and online participation in these services.

## Communications

<b>Objective #3</b>	Expand internal communication efforts by maintaining current efforts and implementing instant messaging; adding a school point of contact to help with technology language for school-based support, and utilizing focus groups for as many technology roll-outs as possible.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Add instant messaging to as many District administrative staff as practical.	Review budget and hardware issues.	Increased staff communication.
Add a point of contact individual at each school who will receive clear information, and instructions regarding technology initiatives.	Administrators at each school will be contacted for recommendation of point of contact individual(s).	Decrease in tickets and staff has better grasp of implementations as evidenced in survey feedback.
<b>Objective #4</b>	Continue active promotion on anti-bullying (hotline, web, text, news promotion and printed collateral), and add a “forced” video series on the topic, continue printed advertisements about CIPA and expand Internet safety presentations to parents and students.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Contact schools to continue active promotion on anti-bullying providing information on current resources.	Add a "forced" video watch session for students; analyze data for benchmark measure of bullying.	Bullying numbers decrease by 10%.
Begin conducting Internet safety presentations throughout the District.	Review staffing capability and academic staff acceptance.	Parents and students become more engaged in the topic and there are less staff incidents.

## Infrastructure

**Focus Area: Infrastructure**

Ensure that all facilities are adequately equipped in order to provide a secure and robust environment for learning and for work.

<b>Objective #1</b>	Expand and enhance the wireless infrastructure to support an expected increase in the number of mobile endpoints.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Provide increased wireless density and additional coverage.	Number of additional access points deployed and number of additional spaces covered.	Number of active devices. Number of additional classrooms/spaces covered.
Provide wireless endpoint/mobile device management.	Number of wireless endpoint devices managed.	Number of managed devices. 100% SCS assets goal.
<b>Objective #2</b>	Provide infrastructure to support online assessment requirements.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Provide required LAN infrastructure for online assessment initiatives.	Review simultaneous testing station infrastructure availability.	100% of schools meeting minimum testing requirements.
Provide required WAN bandwidth for online assessment.	WAN Bandwidth Utilization	100 % of Schools with at least 90% school hours utilization. Number/Percentage of locations with acceptable WAN bandwidth.
Provide required Internet bandwidth for online assessment.	Internet Bandwidth Utilization	At least 90% of schools hours utilized.



## Infrastructure

<b>Objective #3</b>	Expand and enhance VOIP telecommunication services throughout the District.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Provide LAN infrastructure required for VOIP telecommunication services.	Additional locations VOIP ready	Measure number of additional locations made ready for VOIP service. (100% is goal)
Provide required WAN infrastructure and bandwidth for for VOIP telecommunication services.	Additional locations VOIP ready	Locations prepared for VOIP. Measure number of locations prepared for VOIP service. (100% is goal)
<b>Objective #4</b>	Enhance throughout, network security, business continuity services, and filtering options	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Provide bandwidth and throughout levels to meet academic and business requirements.	Infrastructure Utilization Metrics	Percentage of locations with at least 90% school day utilization. (100% is goal)
Provide improved network security.	Threat prevention, threat detection	Measure threats mitigated
Provide secondary business continuity location(s).	Secondary physical and/or service locations	Number of business continuity locations. One on-network and one off network minimum.
Provide enhanced and customized filtering solution.	Custom Filter Service Locations	Percentage of locations with custom filtering capability. (100% is goal)

## Infrastructure

<b>Objective #5</b>	Enhance infrastructure monitoring and support processes in order to maximize network availability.	
Key Performance Indicators	Metrics	Measurement
Network and Systems infrastructure health and availability	Device Availability, Bandwidth Utilization, Link Availability, Link Quality, System Uptime, Service Availability, Resource Availability, Application Availability	Capture statistics and set threshold alerts for all metrics using automated performance tools. (100% is goal)
Provide improved SLAs for internal and external services	Established process/customer requirements, SLA and Process Targets	70% of Service Level Agreements (SLA) achieved.

## Business Information Systems

**Focus Area: Business Information Systems**

Implement and maintain business information systems that meet the needs of the district.

<b>Objective #1</b>	Provide and support self-service functionality for employees and parents.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Define employee/student data that can be updated by users.	Review core systems for appropriate data fields.	Provide list of fields.
Provide a web-based portal to allow updating.	Utilize existing modules in core systems or provide an in-house written interface.	Successful implementation of portals/interfaces. Survey users for availability, and ease of use of self-service portals and interfaces.
Provide kiosks at locations and references to other locations where free computer/internet access is available.	Review site locations for appropriate equipment and provide a list of public locations.	Utilization of locations.
Determine usefulness of self-service functionality.	Survey users for accessibility to self-service portals.	Meet annual benchmarks of 75%, 80% and 85% of users.

## Business Information Systems

<b>Objective #2</b>	Provide the District continuity by providing the ability to successfully recover information services in the event of a disaster.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Identify major core systems to recover.	Review core systems.	Catalog of core systems against Business Impact Analysis (BIA).
Match core systems with type of recovery method.	Prioritize core systems into hot, warm or cold.	Matching of core systems with budget and BIA.
Perform test of core systems recovery.	Run tests semi-annually in first year and quarterly in successive years.	Successful recovery of Core Systems.
Request adequate funding to maintain disaster recovery sites and recovery process.	Budget adequate funding.	Board approves funding.
<b>Objective #3</b>	Provide a central repository of data from core systems that can be utilized for information purposes and decision-making.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Identify core systems from which to retrieve data.	Review core systems.	Core systems integrated into data warehouse. Twenty percent of systems integrated per year.
Complete the central repository (data warehouse).	Review data in core systems and identify data for data warehouse.	Tables of data created in data warehouse.
Provide appropriate queries based upon job function or needs to ensure decision-making is based upon verifiable data.	Review need of decision makers and write appropriate queries.	Catalog of queries created.

## Business Information Systems

<b>Objective #4</b>	Explore future technology that will enhance daily functionality and improve student and employee experience.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Use publications and Internet resources to explore emerging trends in technology.	Use reputable sources.	Successful and ongoing identification of emerging technology.
Utilize learning platforms such as technology conferences, classroom experiences and collaboration with local businesses and vendors.	Put into action proactive knowledge obtained.	Successful implementation of technologies and processes.
Match the student classroom experience with the emerging technologies to better prepare students for the challenges in the workplace.	Review workplace technologies.	Utilize workplace technology in the classroom.
Investigate document imaging for digitizing paper documents for online storage, retrieval and archival.	Research best-practices and provide information to District Innovative Technology Committee to review recommendations.	Technology solution purchases reflect consensus of Committee.
<b>Objective #5</b>	Maintain consistently updated systems based on the adopted change management procedures.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Collaboration of key personnel to define and adopt change management procedures.	Survey staff for feedback on change management procedures.	Catalog of change management procedures.
Define the term "regular basis" as it relates to each core system.	Analyze needed maintenance of core systems.	100% implementation of maintenance procedures as it relates to "regular basis."
Collaborate with vendor on implementation of updates.	Review vendor update processes.	100% implementation of vendor processes of updates.
Address urgent updates as defined by the process owner.	Establish the definition of urgent.	100% implementation of the urgent update process.

## Support Services

**Focus Area: Support Services**

Deliver an effective, efficient service management system that focuses on continuous improvement.

<b>Objective #1</b>	Structure a Service Operation Management System that clearly defines processes and work flow.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Monitor system for events resulting in incidents that will affect normal service delivery.	Register events into log that includes date and services affected. Review and document affected services.	Incidents resulting from events are resolved within the Service Level Agreement (SLA) with an annual increase to 80% goal.
Restore normal service in established time.	Report incident completion relative to SLA and establish benchmark for future projections.	Annual increase leading to 85% goal.
Determine problems related to events and frequent incidents.	Log Global Incidents according to date and service affected. Review incidents for common resolutions to determine root cause.	The root cause of problems shall be determined and documented with an annual increase to 85% goal.
Fulfill requests for supported services.	Analyze reports of request fulfillment relative to SLA to establish benchmark.	Annual increase leading to 95% goal.

## Support Services

<b>Objective #2</b>	Maintain a Service Level Agreement that ensures timely, quality service and customer satisfaction.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Provide effective phone-based and remote support for all service-related technology issues.	Meet industry standards for satisfactory request and incident resolution.	Annual increase leading to 80% goal.
Vendors meet contract requirements for services.	Review annual vendor report card.	The vendor shall have an average score 90% or higher.
Install software and maintain equipment in a timely and effective manner.	Analyze asset management system reports and customer feedback.	Annual increase leading to 80% goal of computers updated and fully functional.
Provide timely and effective, on-site repair service for administrator, teacher, staff and student computers.	Analyze services based on SLA and customer feedback.	Annual increase leading to 90% goal.
Maintain a secure computing environment.	Analyze antivirus and asset management system reports.	Annual increase leading to 95% goal.
Provide timely and effective support for inter-departmental services (Level 3).	Analyze services based on SLA and customer feedback.	Annual increase leading to 90% goal.

## Support Services

<b>Objective #3</b>	Build a communication channel between Technology Support and its customers that allows for effective incident/request reporting, verification, completion and improvement.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Provide appropriate support at all levels through requests and incidents entered in service management system.	Compare resolution reports to SLA for time to resolve.	Resolution times meet SLA target.
Monitor vendor contracts to gauge customer satisfaction.	Evaluate customer survey feedback.	Survey reflect average vendor rating of 90% or higher.
Create a customer-focused interface for self-service and service requests.	Evaluate customer feedback through focus groups and surveys.	Customer feedback reflects 80% satisfaction with interface.
Conduct surveys to gauge customer satisfaction with district provided services.	Evaluate and communicate survey results.	Annual increase leading to 90% goal.
<b>Objective #4</b>	Provide services that align with current technology district strategic goals and PARCC assessment requirements.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Provide adequate hardware and software support for PARCC assessment.	Update and evaluate surveys in the PARCC Readiness Tool.	100% of PARCC recommendations met in all schools within three years.
Provide adequate wide-area, local-area and wireless networks that meet PARCC requirements.	Update and evaluate surveys in the PARCC Readiness Tool.	100% of PARCC recommendations met in all schools within three years.
Provide adequate on-site support to meet PARCC requirements.	Update and evaluate surveys in the PARCC Readiness Tool.	100% of PARCC recommendations met in all schools within three years.



## Support Services

<b>Objective #5</b>	Extend capabilities of Lifecycle Management System to meet current and future district needs.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Automate installation and update processes for application software.	Review incident reports for frequently occurring problem or resolution types. Create processes that can be started by certain request or problem types.	Annual increase leading to 25% of incidents and or requests resolved through automation.
Provide remote support across dual platforms.	Create processes that provide services via remote access.	Annual increase leading to 70% of incidents resolved through remote support.
Explore opportunities to accommodate and manage BYOD environment.	Develop policies and monitor network controllers to establish benchmarks for approved guest owned devices.	BYOD access shall be managed in accordance with District policies.
Provide Power Management of District computer assets.	Discover and configure workstations for power management utilization.	Annual increase leading to 80% of District workstations controlled by power management.
Provide all critical and severe software updates for security on End Point Devices.	Monitor and patch supported systems and applications for security updates and risks.	Annual increase leading to 85% of District IT devices that are up-to-date with critical and severe updates.
Manage user authentication to maintain system integrity.	Establish benchmarks and monitor reports of unauthorized access attempts. Define processes and actions associated with unauthorized attempts.	Security threats should be immediately recognized and appropriate measures shall be taken. All affected areas of the organization shall be notified and their responsibility and/or response must be documented.

## Support Services

<b>Objective #6</b>	Empower schools by establishing areas of support where the customer can be self-servicing.	
<b>Key Performance Indicators</b>	<b>Metrics</b>	<b>Measurement</b>
Identify and train school-based Technology Contact to serve as liaisons to the department.	Analyze incidents and requests for accuracy and complete submission information. Evaluate feedback from Technology Contact training surveys.	Decrease by 10% each year the number of incidents and requests sent back to the requestor for information. Technology Contact survey feedback indicates 80% overall comfort level in resolving low-level technology issues.
Create self-service portal that allows school-based technology contacts to qualify incidents and perform tier 1 troubleshooting steps.	Report statistics regarding portal access and incident resolution from the self-service portal.	Annual increase to 25% of incidents resolved through self-service.
Provide appropriate user account access to resources.	Account access requests should be a declining portion of the incident total.	Less than 5% of total incidents will be related to account access.
Establish process of customer initiated remote support	Review reports for method of remote support initiation.	Annual increase to 50% of remote support sessions are customer generated.

# APPENDIX A

## **Technology Plan Steering Committee**

Richard Valerga, Chair  
Lisa Higgins  
John Simi  
Renee Walker

Jan Perkins  
Melissa Baker  
Heather Danielson  
Peter Hager  
Cleon Franklin

Scott Truitt  
Eric Saunders  
Dorren Ball  
Wade Koon

### **Subcommittee Goal 1: Student Achievement**

John Simi, Chair  
Lisa Higgins  
Melissa Baker  
Michelle Holden  
Lee-Ann Kight

Janie Jackson  
Josh Gettys  
Carmen Lawrence  
Denita Clark  
Pam Ramage  
Cleon Franklin

Gina Bennett  
Shannon Pryor  
Pam Haney  
Dru Davison  
Wade Koon

### **Subcommittee Goal 2: Employee Resources**

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Lisa Higgins  
Sylvia Rhodes

Emily Marquart  
Mason Grace  
Dru Davison  
Gloria Williams

Becky Kenley  
Brett Lawson  
Michael Woods

### **Subcommittee Goal 3: Communications**

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Eric Saunders  
Renee Walker  
John Simi  
Brett Lawson

Dru Davison  
Clementhia Poole  
Michael Woods  
Christian Ross  
Gloria Williams  
LaToya Pugh

Kevin Reed  
Brenda Jones  
Karen Dew  
Bob Labonia  
Becky Kenley

### **Subcommittee Goal 4: Infrastructure**

Eric Saunders, Chair  
Scott Truitt  
Dorren Ball

Lance Burgess  
Bob Southern  
Sylvia Rhodes

Allen Swan  
Zach Gilbrech  
James Hunter

### **Subcommittee Goal 5: Business Information Systems**

Wade Koon, Chair  
Dorren Ball  
Jeri Rudolph

Marsha Landstreet  
Yinghong Wang  
Stephen Wherry  
Trinette Small

Kerry Watkins  
Teresa Winter  
Eric McHaney

### **Subcommittee Goal 6: Support**

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Peter Hager  
Jan Perkins  
Russell Joy  
Pamela McPherson

Laurie Henderson  
Tammy Mason  
Tammy Bradford  
Dee Weedon  
Julie Gerhardt

Gina Bennett  
Page Watson  
Kevin Reed  
Rita White  
James Long

# APPENDIX B

**The ISTE  
National Educational Technology Standards (NETS•S)  
And Performance Indicators for Students**

- 1. Creativity and Innovation** Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.  
Students:

  - a. apply existing knowledge to generate new ideas, products, or processes.
  - b. create original works as a means of personal or group expression.
  - c. use models and simulations to explore complex systems and issues.
  - d. identify trends and forecast possibilities.
  
- 2. Communication and Collaboration** Students 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.  
Students:

  - a. interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
  - b. communicate information and ideas effectively to multiple audiences using a variety of media and formats.
  - c. develop cultural understanding and global awareness by engaging with learners of other cultures.
  - d. contribute to project teams to produce original works or solve problems.
  
- 3. Research and Information Fluency** Students apply digital tools to gather, evaluate, and use information.  
Students:

  - a. plan strategies to guide inquiry.
  - b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
  - c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
  - d. process data and report results.
  
- 4. Critical Thinking, Problem Solving, and Decision-Making** Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.  
Students:

  - a. identify and define authentic problems and significant questions for investigation.
  - b. plan and manage activities to develop a solution or complete a project.
  - c. collect and analyze data to identify solutions and/or make informed decisions.
  - d. use multiple processes and diverse perspectives to explore alternative solutions.

- 5. Digital Citizenship** Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.  
Students:
- a. advocate and practice safe, legal, and responsible use of information and technology.
  - b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
  - c. demonstrate personal responsibility for lifelong learning.
  - d. exhibit leadership for digital citizenship.
- 6. Technology Operations and Concepts** Students demonstrate a sound understanding of technology concepts, systems, and operations.  
Students:
- a. understand and use technology systems.
  - b. select and use applications effectively and productively.
  - c. troubleshoot systems and applications.
  - d. transfer current knowledge to learning of new technologies.

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**The ISTE  
National Educational Technology Standards (NETS•T)  
And Performance Indicators for Teachers**

Effective teachers model and apply the National Educational Technology Standards for Students (NETS•S) as they design, implement, and assess learning experiences to engage students and improve learning; enrich professional practice; and provide positive models for students, colleagues, and the community. All teachers should meet the following standards and performance indicators.

- 1. 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.  
Teachers:
  - a. promote, support, and model creative and innovative thinking and inventiveness
  - b. engage students in exploring real-world issues and solving authentic problems using digital tools and resources
  - c. promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes
  - d. model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments
  
- 2. 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.  
Teachers:
  - a. design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity
  - b. develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress
  - c. customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources
  - d. provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching



- 3. Model Digital-Age Work and Learning** Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society.
- Teachers:
- a. demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations
  - b. collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation
  - c. communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats
  - d. model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning
- 4. 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.
- Teachers:
- a. advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources
  - b. address the diverse needs of all learners by using learner-centered strategies and providing equitable access to appropriate digital tools and resources
  - c. promote and model digital etiquette and responsible social interactions related to the use of technology and information
  - d. develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital-age communication and collaboration tools
- 5. 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.
- Teachers:
- a. participate in local and global learning communities to explore creative applications of technology to improve student learning
  - b. exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision-making and community building, and developing the leadership and technology skills of others
  - c. evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning
  - d. contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community

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**The ISTE  
National Educational Technology Standards (NETS•A)  
And Performance Indicators for Administrators**

- 1. Visionary Leadership.** Educational Administrators inspire and lead development and implementation of a shared vision for comprehensive integration of technology to promote excellence and support transformation throughout the organization.  
Educational Administrators:

  - a. inspire and facilitate among all stakeholders a shared vision of purposeful change that maximizes use of digital age resources to meet and exceed learning goals, support effective instructional practice, and maximize performance of district and school leaders
  - b. engage in an ongoing process to develop, implement, and communicate technology-infused strategic plans aligned with a shared vision
  - c. advocate on local, state, and national levels for policies, programs, and funding to support implementation of a technology-infused vision and strategic plan
  
- 2. Digital-Age Learning Culture.** Educational Administrators create, promote, and sustain a dynamic, digital-age learning culture that provides a rigorous, relevant, and engaging education for all students.  
Educational Administrators:

  - a. ensure instructional innovation focused on continuous improvement of digital age learning
  - b. model and promote the frequent and effective use of technology for learning
  - c. provide learner-centered environments equipped with technology and learning resources to meet the individual, diverse needs of all learners
  - d. ensure effective practice in the study of technology and its infusion across the curriculum
  - e. promote and participate in local, national, and global learning communities that stimulate innovation, creativity, and digital age collaboration
  
- 3. Excellence in Professional Practice.** Educational Administrators promote an environment of professional learning and innovation that empowers educators to enhance student learning through the infusion of contemporary technologies and digital resources.  
Educational Administrators:

  - a. allocate time, resources, and access to ensure ongoing professional growth in technology fluency and integration
  - b. facilitate and participate in learning communities that stimulate, nurture, and support administrators, faculty, and staff in the study and use of technology
  - c. promote and model effective communication and collaboration among stakeholders using digital-age tools
  - d. stay abreast of educational research and emerging trends regarding effective use of technology and encourage evaluation of new technologies for their potential to improve student learning

- 4. Systemic Improvement.** Educational Administrators provide digital-age leadership and management to continuously improve the organization through the effective use of information and technology resources.

Educational Administrators:

- a. lead purposeful change to maximize the achievement of learning goals through the appropriate use of technology and media-rich resources
- b. collaborate to establish metrics, collect and analyze data, interpret results, and share findings to improve staff performance and student learning
- c. recruit and retain highly competent personnel who use technology creatively and proficiently to advance academic and operational goals
- d. establish and leverage strategic partnerships to support systemic improvement
- e. establish and maintain a robust infrastructure for technology including integrated, interoperable technology systems to support management, operations, teaching, and learning

- 5. Digital Citizenship.** Educational Administrators model and facilitate understanding of social, ethical, and legal issues and responsibilities related to an evolving digital culture.

Educational Administrators:

- a. ensure equitable access to appropriate digital tools and resources to meet the needs of all learners
- b. promote, model, and establish policies for safe, legal, and ethical use of digital information and technology
- c. promote and model responsible social interactions related to the use of technology and information
- d. model and facilitate the development of a shared cultural understanding and involvement in global issues through the use of contemporary communication and collaboration tools

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# APPENDIX C

## ISTE Essential Conditions

According to the International Society for Technology in Education (ISTE) a combination of essential conditions are required to create learning environments conducive to powerful uses of technology, including:

- **Shared Vision** - Proactive leadership in developing a shared vision for educational technology among all education stakeholders including teachers and support staff, school and district administrators, teacher educators, students parents, and the community
- **Empowered Leaders** - Stakeholders at every level empowered to be leaders in effecting change
- **Implementation Planning** – A systematic plan aligned with a shared vision for school effectiveness and student learning through the infusion of Information and Communication Technologies (ICT) and digital learning resources
- **Consistent and Adequate Funding** - Ongoing funding to support technology infrastructure, personnel, digital resources, and staff development
- **Equitable Access** - Robust and reliable access to current and emerging technologies and digital resources, with connectivity for all students, teachers, staff, and school leaders
- **Skilled Personnel** - Educators, support staff, and other leaders skilled in the selection and effective use of appropriate ICT resources
- **Ongoing Professional Learning** - Technology-related professional learning plans and opportunities with dedicated time to practice and share ideas
- **Technical Support** - Consistent and reliable assistance for maintaining, renewing, and using ICT and digital learning resources
- **Curriculum Framework** - Content standards and related digital curriculum resources that are aligned with and support digital-age learning and work
- **Student-Centered Learning** - Planning, teaching, and assessment centered around the needs and abilities of students
- **Assessment and Evaluation** - Continuous assessment of teaching, learning, and leadership, and evaluation of the use of ICT and digital resources
- **Engaged Communities** - Partnerships and collaboration within communities to support and fund the use of ICT and digital learning for resources for learning and in district school operations
- **Support Policies** - Policies, financial plans, accountability measures, and incentive structures to support the use of ICT and digital learning resources
- **Supportive External Content** - Policies and initiatives at the national, regional, and local levels to support schools and teacher preparation programs in effective implementation of technology for achieving curriculum and learning technology ICT standards

# APPENDIX D

## **E-Rate**

Shelby County Schools Technology Plan includes the E-Ratable products and services listed below. The need for these products and services will be required during the term of this technology plan and future plans.

### **Products and Services for E-Rate Reimbursement**

- Eligible Network Equipment Maintenance (CiscoBase or equivalent)
- Emergency and Security Telephone Services
- Hosted E-mail Services
- Internet Access Services
- Wireless Cellular and Data Services
- Voice/telephony Services
- Wide Area Network Data Services
- Wired and Wireless Local Area Network (LAN) Equipment and Services
- Cabling and Cabling Maintenance to support Network Infrastructure

# APPENDIX E



## Glossary

### **Business Continuity**

The processes and procedures an organization puts in place to ensure that essential functions can continue during and after a disaster. Business continuity planning seeks to prevent interruption of mission-critical services, and to re-establish full functioning as swiftly and smoothly as possible.

### **BYOD**

Bring Your Own Device

### **CIPA**

Children's Internet Protection Act

### **Data Center**

A facility used to house computer systems and associated network components.

### **Data Warehouse**

A database designed to support decision making in an organization. Data from the many databases are copied to the data warehouse so that queries can be performed without disturbing the performance or the stability of the production systems.

### **Disaster Recovery Plan**

A plan used to restore the entire organization's ability to operate.

### **Distance Learning**

Education in which students take academic courses by accessing information and communicating with the instructor asynchronously over a computer network.

### **E-Rate**

The Telecommunications Act of 1996 established requirements to provide discounted telecommunications services to K-12 schools and libraries. In response to this Act, the FCC issued the Universal Service Order on May 7, 1997, implementing a discount plan for schools and libraries. Contributions from telecommunications companies provide discounts of 20-90% on the cost of telecommunications, Internet access, and network wiring within library and school buildings. The discounts are paid directly to the companies that provide libraries and schools with these services.

### **ENA**

Education Networks of America (SCS Internet Provider)

### **File Server**

A high-speed computer in a network that stores the programs and data files shared by users.

### **ICT**

Information and Communication Technologies

### **Infrastructure**

The fundamental structure of a system or network as it relates to information technology.

### **ISTE**

International Society for Technology in Education

**Local Area Network (LAN)**

A local area network supplies networking capability to a group of computers in close proximity to each other, such as in an office building or school, etc.

**Network**

A system that transmits any combination of voice, video and/or data between users.

**NETS**

National Educational Technology Standards

**PARCC**

Partnership for Assessment of Readiness for College and Careers

**Platform**

Refers to server hardware.

**Portal**

A Web "supersite" that provides a variety of services including Web search, news, free e-mail, discussion groups, shopping and links to other sites.

**Project Management**

The management processes for organizing a series of projects into a single portfolio consisting of reports that capture project objectives, costs, timelines, etc.

**Resumption Plan**

The process of re-opening each of the organization's business functions/components and testing and revising the process based upon the results.

**SLA**

Service Level Agreement

**Server**

A network server is a computer designed to process requests and deliver data to other computers over a local network or the Internet

**Telephony**

Meaning, "sound over distance," it refers to electronically transmitting the human voice.

**USAC**

Universal Service Administrative Company - A non-profit corporation that administers the Universal Service Fund to distribute E-Rate funding to schools and libraries.

**Wide Area Network (WAN)**

A communications network that covers a wide geographic area, such as metro city, state, regional or country.