

**School District of Clay County**  
**District Technology Plan**  
**July 2013 – June 2016**

**1. VISION AND MISSION**

**1.1**

The mission of the School District of Clay County (SDCC) is to work collaboratively with all stakeholders to provide a public education experience that is motivating, challenging and rewarding for all children. We will increase student achievement by providing students with learning opportunities that are rigorous, relevant and transcend beyond the boundaries of the school walls. We will ensure a working and learning environment built upon honesty, integrity and respect. Through these values, we will maximize student potential and promote individual responsibility.

The vision/purpose of the Instructional Division Instructional Technology program is to provide instruction that meets the individual needs of all students in preparing them to be productive in the global workplace and in acquiring applicable life skills. The District is committed to providing equal access to the latest in instructional technology to develop technologically literate staff and students who demonstrate prerequisite technology skills needed to succeed in a technological world.

**2. GENERAL INTRODUCTION/BACKGROUND**

**2.1**

Clay County is a diverse mixture of suburban and rural areas covering 592 square miles. The county is bordered by Jacksonville to the north, St. Augustine to the east, and Palatka and Gainesville to the south. Orange Park, Middleburg, Green Cove Springs, Penney Farms and Keystone Heights are the towns comprising the county. The location of Keystone Heights presents unique challenges to the District's infrastructure requirements.

**2.2**

The District Technology Plan is guided by a District Strategic Plan and is composed by a District Technology Committee comprised of teachers, administrators, non-instructional staff and lay members who represent all curriculum areas including ESOL, ESE, Drop-Out Prevention, and Career & Technical Education. The District has developed a three-year plan that addresses both current and future needs. The technology component of the Strategic Plan addresses technology integration, infrastructure, and personnel. The Plan is reviewed annually by the District Technology Committee and revised as necessary. Local and state universities, library and state education consortiums, and Career & Technical Education community and business partners were included in the planning process and continue to assist in the execution of the Plan.

**2.3**

Clay County's Adult & Community Education Program and the Career & Technical Education Department collaborate and share facilities with the Clay Literacy Coalition.

### **3. NEEDS ASSESSMENT/GOALS**

#### **3.1**

In a continuing effort to assess the current state of technology for the School District of Clay County, we use multiple sources of data to evaluate and guide our planning and decision-making. Sources include the results from the annual Florida Innovates District Survey, the State of Florida Technology Plan, the Florida DOE LIIS Minimum Standards Survey Report, the Florida DOE Digital Learning Readiness Gauge, and the PARCC Technology Readiness Tool. SDCC also conducts internal surveys of needs such as the School Administrator Technology Survey, the Teacher of the Year Technology Survey, and the Information Services Satisfaction Survey for Teachers and Staff. In addition to state and internal survey data, SDCC has contracted with consultants to conduct independent audits of technology covering areas from policies and procedures to hardware and environmental conditions. SDCC uses these data and guiding documents to align our planning to meet needs based on available resources and industry trends.

#### **3.2**

##### **Identification of Needs**

##### **3.2.1 Telecommunications**

###### **3.2.1.1**

###### **Wide Area Network and Internet**

The Department of Education has increased the need for both Wide Area Network and Internet capacity with the move to online testing and assessment. The time-critical nature of the online programs requires that the available bandwidth be increased from the current level and the efficiency of the network be increased.

###### **Telephony**

- a) Approximately 40% of the current phone system has been converted to VoIP. The remaining 60% will need to be converted by the 2015/16 school year. Phone systems at W. E. Cherry and S. Bryan Jennings elementary schools are failing frequently and will be replaced when funding is available. Other phone systems may be replaced if they fail unexpectedly.
- b) 911 Emergency Responder support is required across the district.
- c) Supporting multiple phone systems is a management and support challenge, and is not fiscally feasible. The system must be standardized.

##### **3.2.2 Infrastructure**

###### **3.2.2.1 Wireless Zones**

- a) The District has made a commitment to develop a wireless infrastructure to cover each of our campuses to support student and staff devices in accordance with FLDOE Technology Guidelines attached to this document. *(See Appendix B)*
- b) Wireless Zones require that the District define a strategy for allowing student devices to use networking resources without exposing the network to an outage, but still allowing access to Internet resources.

### **3.2.2.2 Internet Connections**

The District needs to identify and purchase devices that can be managed centrally. The use of school-based access directly to the Internet will require that the District Strategy for Content Filtering be reviewed.

## **3.2.3 Hardware**

### **3.2.3.1 Computer Labs**

- a) Funding levels for the replacement of aging computers are not sufficient to replace existing laptops. The District has defined possible approaches to resolving the problem of aging systems and operating systems that includes thin client and cloud-based solutions.
- b) The expiration of the Microsoft Operating System XP will render many of our lab desktops inoperable.

### **3.2.3.2 Media Centers**

The District anticipates using Media Centers as a hub for managing and supporting existing technologies and the expansion of student devices such as tablets. A possible solution for the replacement of aging computers identified for the specified use of Media Centers is a thin client solution.

### **3.2.3.3 Administrative Devices**

Aging hardware combined with the need for mobile computing will result in the replacement of administrative computers with laptops, tablets, and/or thin client devices.

### **3.2.3.4 Teacher Devices**

Aging hardware combined with the need for mobile computing will result in the replacement of instructor computers with laptops, tablets, and/or thin client devices.

### **3.2.3.5 Classroom Devices**

Aging hardware combined with the need for mobile computing will result in the replacement of instructional computers with tablets, and/or thin client devices.

## **3.2.4 Assistive Technology**

New user devices are being developed that present new challenges to the support team. The District will continue an ongoing process to pilot new assistive technology devices to determine what is needed for support. District, state, and federal mandates require the District to support the selection, acquisition, and implementation of adaptive and assistive technology devices and resources recommended for a student with a disability by an IEP team.

## **3.2.5 Programming and Analyst Services**

A conversion of Student Information Systems has resulted in a shift of skill set needs for programming and analyst activities that the District has not previously experienced. Training

and contracted support will be needed to build internal capacity and supplement existing resources.

### **3.2.6 Software**

#### **3.2.6.1 Portal**

The District will continue to develop a cloud-based portal presence that will serve as a single source for students, parents, and staff to access individualized instructional and employee resources.

#### **3.2.6.2 E-mail**

E-mail services will be supported using MS Office 365. This solution will greatly reduce the burden for support from district staff while increasing functionality and offering to student and staff.

#### **3.2.6.3 Microsoft**

The District will continue to utilize Enterprise Agreements with Microsoft to cover licensing needs where appropriate. The District will attempt to leverage and exhaust such agreements as a primary solution.

#### **3.2.6.4 Adobe**

The District will continue to utilize Enterprise Agreements with Adobe to cover licensing needs where appropriate. The District will attempt to leverage and exhaust such agreements as a primary solution.

#### **3.2.6.5 Other**

The District will continue to explore Enterprise Agreements with additional software and application providers to cover licensing needs where appropriate. The District will attempt to leverage and exhaust such agreements as a primary solution.

#### **3.2.6.6 SIS**

The District currently purchases maintenance and support under an annual contract for the Student Information System (SIS), including hosting services.

#### **3.2.6.7 Finance, Payroll, and Purchasing System**

The District currently purchases maintenance and support under an annual contract for the Finance, Payroll and Purchasing System. The system will need to be replaced to align with current technologies and with both Federal and State mandates. The District will begin the exploration of potential replacement.

#### **3.2.6.8 Remote Support**

In order to reduce the number of onsite support people needed to match the growing number of devices, the District will utilize remote support software.

### **3.2.6.9 Ticket Tracking and Change Management**

The District will continue to use a ticket tracking and change management system to enter, manage, and evaluate workflow and quality assurance.

### **3.2.7 Technical Support**

The District is divided into nine regions with personnel being assigned based on volume of need. The 2011/12 consolidation of onsite technical support personnel with the Information Services Department has allowed for sharing of personnel and positioning of resources during critical times. The District will continue to expand its Service Desk to support an increasing number of users through the centralization and standardization of service.

### **3.2.8 Training**

There is a need for the District to increase the training efforts utilizing various methodologies to meet strategies for users of all levels, spanning from basic to high technical or specified. The following broad issues must be addressed:

#### **SUPPORT and LEADERSHIP**

- Continue to improve communication, coordination, and collaboration
- Continue to centralize operations and coordinate funding
- Continue to standardize processes and procedures
- Continue to support ICT (Information and Communication Technology) training for educators to enhance instruction
- Continue to utilize data as basis for technology and curriculum decisions

#### **ACCESS**

- Continue to improve infrastructure (routers, servers and UPS's, switches, wireless LAN controllers, wireless access points, telecommunication systems)
- Continue to provide modern hardware in classrooms, labs, media centers, and administrative locations
- Continue to upgrade and align Finance, Payroll, and Purchasing System with data reporting requirements for accurate and easy accessibility for staff to make informed business decisions
- Continue to provide trained instructional technology staff and expand roles and responsibilities to enhance usability and access to resources
- Continue to ensure utilization of technology-based assessments

#### **LEARNING ENVIRONMENT**

- Continue to increase access to digital tools
- Continue to enhance the integration of technology in curricula
- Continue to strengthen student ICT skills
- Continue to utilize technology to differentiate instruction
- Continue to maintain current programs, hardware, software, communication devices, and other technology for Career & Technical Education/Industry Certification

### 3.3

#### **District Technology Goals**

##### **Goal 1**

Expand Career & Technical Education academies and programs to provide small-themed learning communities for all students at all high schools. A rigorous, relevant curriculum that includes 21<sup>st</sup> Century skills preparing students to be college and career ready will be in place. Inquiry-based, project-based learning will be an integral part of instruction that includes strategies for differentiated instruction and usage of instructional technology and is based on data on students and careers. Infrastructure and data will be available and in place to support instructional technology, interventions for student performance and teachers' work in professional learning communities.

##### **Goal 2**

Provide teaching and learning tools and access resources to support student mastery of the Common Core Standards. Teachers will have and utilize digital teaching tools to engage students in higher levels of learning. Students will use and employ technology thoughtfully to enhance their reading, writing, speaking, listening, and language use. They will tailor their searches online to acquire useful information efficiently, and integrate what they learn using technology with what they learn offline. They will be familiar with the strengths and limitations of various technological tools and mediums, and will select and use those best suited to their communication goals.

##### **Goal 3**

Ensure that the district is prepared to fully implement the Digital Learning Now Act. Students will have access to digital learning at a 2:1 ratio. Students will have access to high-quality digital content, instructional materials, and online and blended learning courses.

##### **Goal 4**

Ensure all schools have adequate computers to administer all computer-based assessments within the timeline provided by the FLDOE. Teachers will administer online assessments to monitor student progress toward mastery of the standards and to differentiate instruction. Teachers and administrators will have access to data from formative, summative and benchmark assessments to identify the needs of students and drive instructional decisions.

##### **Goal 5**

Ensure that the District continues to support daily business operations, extracts to supplemental resources, and FLDOE reporting. School and District personnel will have the necessary tools to conduct finance and personnel business that utilizes technology. The District will continue to enhance its ability to meet the demands of technology-based systems that require data extracts, and produce accurate data for state reporting and measures to assist in management of fiscal and personnel resources.

### 3.4

#### **Short-Term Priorities (categorized in importance as A or B)**

##### **“A” Priorities**

- Comply with federal, state, and local mandates (i.e., Americans with Disabilities Act) to provide assistive technology devices and resources to meet requirements of students and staff with

special needs while aligning with Universal Design for Learning to meet Common Core Standards for students with disabilities.

- Improve community involvement. Technology enhances the ability of schools and teachers to communicate and increase parental involvement. Research, identification and/or development of appropriate matrix for use in evaluation of stakeholders' satisfaction to be conducted as needed.
- Research and develop a comprehensive professional development plan including online components for all technology initiatives to ensure all stakeholders are proficient technology users.
- Research and develop a cost analysis and funding plan to construct an industry compatible data center sufficient to support the district.
- Conduct a Business Impact Analysis to drive the refinement of a Business Continuity Plan and Disaster Recovery including the identification, implementation and maintenance of an alternate disaster recovery site with appropriate disaster recovery equipment and procedures for critical hardware and applications necessary for core district office and school functionality.
- Increase bandwidth in those schools that are exceeding 80% of the bandwidth available for critical operational use.
- Continue to equip schools with student devices capable of supporting the growing need for computer-based testing, assessment, and legislative mandates.
- Develop, deliver and support a continuum of rigorous academic courses including extended learning, blended learning, hybrid learning, virtual learning, and personalized learning.
- Research and develop a plan to consolidate funding and standardize purchasing procedures for technology (i.e., hardware, software, web-based services, and telecommunications) with a recommended refresh date.
- Research and develop a plan to deliver district resources utilizing cloud technologies that align with Florida Local Instruction Improvement System standards.
- Research and develop a plan for acquisition, implementation, and support of infrastructure to support learning, including access to reliable wireless networks throughout all classrooms and learning areas.

#### **“B” Priorities**

- Research and implement a cost effective, web-based, workflow driven (with paperwork reduction) solution to replace current time- and labor-intensive business system for Human Resources, Payroll, Finance, Warehouse, Asset Management, and Maintenance.
- Research and develop policies and procedures for mobile device management.
- Research and develop a district-wide instructional and technical support model.
- Research and develop a plan to acquire, support, and maintain district provided student devices.
- Maintain and enhance customer service using the centralized service desk and call center.
- Research and develop a district-wide evaluative process determining current software used in all schools to meet student academic needs and Common Core Standards.
- Enhance centralized notification system for all schools, departments, and employees to deliver important information during district and school crises, student safety related events, important school related information, and ongoing issues and concerns.
- Continue to expand the use of IP Telephony at schools and other district sites.
- Establish criteria and implement 21<sup>st</sup> Century learning environments that serve to combine new technologies and traditional resources, and support student collaboration with study space,

group space, digital content, trained staff, and student creation tools provided for equitable access.

### 3.5

#### **Long-Term Priorities (listed in priority order)**

1. Increase all student achievement while expanding educational opportunities.
2. Increase organizational effectiveness and communication through alignment of resources and transition to a student-focused instructional technology organization.
3. Communicate effectively both internally and externally.
4. Foster innovative practices that ensure a high-performing culture.
5. All stakeholders are knowledgeable about and can access all available resources.
6. Provide all students with technology to foster mobile learning and delivery of digital content.

## **4. FUNDING PLAN**

### 4.1

The School District of Clay County supports district-wide technology needs with numerous sources, including:

#### **General Funds – Recurring**

- Salary/technology support personnel
- Maintenance for infrastructure
- Software licensing/maintenance
- Computer repair
- Equipment
- Computer hardware
- Software
- Wiring
- Telecommunications
- Other purchased services

#### **Public School Technology Funds – Identified by District from FEFP**

- Software licensing/maintenance
- Equipment
- Computer hardware

#### **County 1/10 of ½ Cent Sales Tax – Recurring**

- Capital purchases with at least a 5-year useful life
- Computer hardware
- Routers, servers, switches, wireless access points
- Permanent facility modifications

#### **State Instructional Materials Funds – Recurring if State Appropriated**

- Software

**State Library Media Funds – Recurring if State Appropriated**

- Online databases

**Title II, Part A – Recurring**

- Technology integration staff
- Training
- Substitutes
- Stipends
- Computer hardware for training
- Other purchased services
- Conferences/travel

**Title III, Part A - ESOL**

- Computer hardware
- Software

**District Strategic Planning – Non-Recurring**

- Software licensing
- Computer hardware
- Phone systems
- Personnel

**E-Rate – Recurring if Federally Appropriated**

- Telecommunications

In addition, other funds designated for technology-related purposes, such as Title I funds and ESE assistive technology, are expended at school sites and not included above.

<b>Project</b>	<b>REVENUE</b>	<b>2013-2014</b>	<b>2014-2015</b>	<b>2015-2016</b>
3154	2013-2014 Sales Tax	1,400,000.00	1,400,000.00	1,400,000.00
3153	2012-2013 Sales Tax Roll Forward	269,567.74		
3152	2011-2012 Sales Tax Roll Forward	176,739.61		
1854	2013-2014 E-Rate	690,940.00		
1853	2012-2013 E-Rate Roll Forward	2,808.00		
1852	2011-2012 E-Rate Roll Forward	28,350.00		
0000	2013-2014 General Funds	2,072,900.00		
	<b>TOTAL FUNDING</b>	<b>\$4,641,305.35</b>	<b>\$1,400,000.00</b>	<b>\$1,400,000.00</b>

Due to fluctuation in budgets and changes in legislation, the figures below are projected amounts in percentage of SDCC Department of Information Services budgets.

**4.2.1 Telecommunications** (Wide Area Network, Internet, and Telephony)  
**15 to 20%** (2013/2014 = Approximately \$750,000)

**4.2.2 Infrastructure** (Wireless, Internet, Network)  
**20 to 25%** (2013/2014 = Approximately \$1,000,000)

**4.2.3 Hardware** (Computer Labs, Media Centers, Devices – Student, Teacher, Administrator)  
**20 to 25%** (2013/2014 = Approximately \$1,000,000)

**4.2.4 Assistive Technology**

In addition, other funds designated for technology-related purposes such as Title I funds and ESE assistive technology, are expended at school sites and not included above.

**4.2.5 Programming and Analyst Services** (Core Systems – Student, Business, HR)  
**5 to 10%** (2013/2014 = Approximately \$275,000)

**4.2.6 Software** (LMS, LMS, Communications, Enterprise Agreements – Student, Staff, Support)  
**10 to 15%** (2013/2014 = Approximately \$500,000)

**4.2.7 Technical Support** (Onsite, Service Desk, Consulted)  
**3 to 5%** (2013/2014 = Approximately \$150,000)  
SDCC personnel cost is reflected in this amount

**4.2.8 Training** (Systems and Processes)  
**3 to 5%** (2013/2014 = Approximately \$150,000)  
Additional training opportunities can be included with purchase of systems or equipment

**4.3**

The District has identified funds from FEFP to continue former state allocated categorical funds and public school technology funds to support school use of educational technology. Each school receives an allocation of the funds based on unweighted FTE. The District purchases computers, printers, software, and infrastructure for any new classrooms. Maintenance agreements for software used at the school sites are also purchased by the District using funds identified on a yearly basis.

**5. TECHNOLOGY ACQUISITION PLAN**

**5.1**

Identification of appropriate technologies to meet the goals of the district instructional program as identified by the needs assessment procedures.

Selection of hardware and software as noted in the Needs Assessment section of this Plan is a collaborative effort between the Instructional Division and the Information Services Department. These staff members are called on to share their expertise in the selection of any new product. Their collective knowledge of evolving technologies and instructional needs is used to evaluate any new hardware, software, or infrastructure investment.

## **5.2**

The District plans to acquire software and technology-based educational materials which are usable by students with the widest range of abilities to deliver technology-based instructional programs in support of the Sunshine State Standards.

The Instructional Division, in cooperation with the Information Services Department, will make recommendations to acquire software appropriate for all levels of student use based on meeting the Sunshine State Standards and the New Common Core Standards.

## **5.3**

Timetable for acquisition of grade-appropriate, up-to-date technologies in sufficient quantities to accommodate student and staff needs for instruction and assessment.

### **5.3.1 Computer Purchases**

Computer purchases will focus on mobility and move rapidly in the direction of student access to digital learning at a 2:1 ratio. Staff and teacher computers will be refreshed as needed. Teacher computers will generally be refreshed with laptops. Some staff members will receive laptops and others will receive desktops based on needs of the user.

### **5.3.2 Computer Labs**

Computer labs will be transitioned to thin client as the need for replacement arises. Existing computer lab desktop or laptop computers will be repurposed with the District to meet other needs.

### **5.3.3 Enhanced Classrooms**

The Enhanced Classroom concept will continue with the current standards until all designated classrooms have been enhanced.

### **5.3.4 Network Infrastructure**

Network infrastructure will continue to be updated as needed to accommodate the ever-expanding need for bandwidth in the schools. While this is not a problem for older wired computers and older WIFI standards, it will be more of a limitation as newer computers and the latest WIFI access points are added to the network. Wireless infrastructure will need to be substantially improved to accommodate the large increase in wireless devices.

### **5.3.5 Telephony**

Telephony Systems will need to be updated within the next 3 years. We currently have a mix of phone systems, and support for the oldest of the systems is becoming more of an issue. Moving forward, a single system solution will be looked into to meet the district needs and reduce annual costs.

### **5.3.6 Servers and Storage**

Data Center servers and storage will continue to be updated as needed to support the processing and storage needs of the District.

## 5.4

Appropriate technology acquisition policies that address the following areas:

- Consistency and interoperability with existing and planned technology delivery systems
- Upward migration to emerging technology standards
- Support and maintenance requirements

The District has established a Technology Project Review procedure to ensure continuous improvement for technology throughout the District. A district committee comprised of representatives from all divisions and stakeholders reviews all proposals and either approves, denies, or holds the project for further review. After a proof of concept test period, projects are then implemented through a standardized project management template and progress can be monitored by all stakeholders.

## 5.5

Provision for technical guidance to school and district personnel responsible for making strategic technology related purchasing decisions.

The Information Services Department provides technical assistance to individual departments and schools regarding the purchase of technology related hardware and software. In addition, ongoing technical assistance is available to school and district personnel through the school-level Technical Support Specialists.

# 6. ACCESS

## 6.1

### **Equitable and Effective Access**

#### **6.1.1 Equitable distribution to ensure student achievement:**

- Ensure that every school is provided with campus-wide wireless access.
- Equitable distribution will take place across the district as aging technology is replaced with laptops, tablets, and/or thin clients for teacher and classroom use.
- Provide access to data-driven research-based resources to support achievement of the standards.
- Make digital materials available to all students to enable the acquisition of digital skills to include those necessary for academic work as well as future employment.
- Support the acquisition to Florida technology recognition programs for all students by supporting access to materials for teaching and assessing digital skills.
- Students in grades 6, 7 and 8 will complete an Internet-based course to assist students in determining educational and career options and goals that will emphasize technology in career fields.
- All high schools will provide student access to coursework in technology to include industry certification curriculum.

**6.1.2 Access to curriculum resources:**

- Continue to provide online access to all curriculum instructional materials and increase access to digital instructional materials to take the place of traditional textbooks and instructional materials.
- Support access to resources that emphasize advanced and differentiated instructional strategies in reading and all subject areas.
- Provide instruction for elementary students in cyber-safe practices.
- Students will have instruction in digital skills to include word processing, spreadsheet display, and creation of presentations that include sound, text, and graphic representations in alignment with industry certification.
- Support access to open access materials for teaching and assessing the skills necessary to earn industry certification in technology skills.
- Support the integrated use of classroom technology that enhances teaching and learning, classroom management, parent involvement, and school safety.
- Provide for delivery of professional development by distance learning and other technology-based delivery systems to reach more educators.

**6.1.3 Access for students with special needs:**

- Support the selection, acquisition, and implementation of assistive technology devices and resources identified for a student with a disability identified by the IEP team in accordance with district, state and federal mandates.
- Each school will identify specific current devices capable of online testing as well as preparation for students requiring accommodations.
- Continue to utilize a language acquisition program to meet the language development needs of English Language Learners.
- Provide digital and instructional materials, including software applications, to student with disabilities.

**6.1.4 Access to external resources:**

- Continue to work with public libraries to provide access to technology resources.
- Clay Virtual Academy will provide access to online courses.
- Students will have access to blended learning instruction, which combines traditional classroom as well as online instructional techniques.

**6.1.5 Access to information for decision-making:**

- Provide teachers and administrators with easily accessible management systems that increase access to the analysis of student achievement data.
- Support access to online resources that provide ongoing formal and informal assessment of student achievement.
- Continue to utilize online surveys for decision-making purposes.

## **6.2**

### **Acceptable Use Policy (AUP)**

**6.2.1** The district Information Services Department will develop with input from stakeholders AUPs for staff and students. The “Student Responsible Use Guidelines for Technology” policy will be reviewed and updated at least annually and will address the following issues:

**6.2.1.1** Protection of the confidentiality of students, including following FERPA guidelines about the protection of identification of exceptional students

**6.2.1.2** Protection of the intellectual property rights, licensing agreements, and legal/ethical standards for sharing of resources with other educational entities

**6.2.1.4** Access by minors to inappropriate matter on the Internet and the World Wide Web

**6.2.1.5** The safety and security of minors when using electronic mail, chat rooms, and other forms of direct electronic communications

**6.2.1.6** Unauthorized access, including so-called “hacking,” and other unlawful activities by minors online

**6.2.1.7** Unauthorized disclosure, use, and dissemination of personal information regarding minors

**6.2.1.8** Measures designed to restrict minors’ access to materials harmful to minors

**6.2.2** The current Agreement for Student Use of Device Policy will be reviewed and updated at least annually.

## **6.3**

### **Technology Protection Measure**

Technology that blocks or filters Internet access will be provided for the district network. It will protect against access by adults and minors to visual depictions that are obscene, child pornography, or material harmful to minors. There will be a process developed to disable the filter for adults engaged in appropriate research or lawful activities.

## **7. USER SUPPORT PLAN**

### **7.1**

Network security and monitoring, and support and maintenance are provided by Information Services Department. All new computers are purchased with a 3-year warranty, after which time Information Services evaluates hardware and makes repairs when appropriate. Software maintenance for district-wide applications is provided by the District.

While unable to staff additional support for end-users in classrooms, the following changes will be implemented for 2013/2014 to provide additional just-in-time support:

- Information Services technicians will be assigned to regions to equally support all schools.
- Information Services will provide training for Information Services staff to support technology in the schools.

## **8. PROFESSIONAL DEVELOPMENT PLAN**

### 8.1

Provisions for increasing the use of technology in the classroom and media center:

- Development and acquisition of new programs and software that promotes the integration of technology into everyday curricular needs
- Integration of technology as a meaningful component within all curriculum training
- District-level coordination of training and support
- Ensuring adequate facilities, instructors, materials, equipment and funding for staff development
- Identification and acquisition of technology-based professional development delivery systems that minimize teacher time away from the classroom
- Delivery and training in the most cost-effective manner

Professional development in the twenty-first century should be designed to function as an ongoing team approach focused on enhancing student performance. Team members should be those who impact student learning, including parents, teachers, administrators, and any others who fall into this category. Professional development should be thought of as continuous learning. It should facilitate participants with developing the skills, knowledge, practices, and dispositions they need to best help students continually perform at higher levels.

At the district level, varied data needed to help develop and implement effective professional development will be gathered from stakeholders annually to determine interests, skills and ability levels. Tools such as professional development surveys, employee technology skills, pre- and post-assessments, and parent surveys will be used. Educators will continue to use student assessment data to evaluate their personal teaching practices and shape their individual training goals. In addition, training will be provided for parents to develop skills that will help them support classroom instruction. A main focus of the District will be to infuse technology into all aspects of professional development. Training at the district and school levels on the district Blackboard portal will be strategic, so users will benefit as enhancements are made to its teaching, learning, and communication capabilities. In addition, there will be training for new technologies that promote integration of technology into everyday curriculum needs as they are developed and acquired. If training is needed to address certain aspects of a particular technology, it will be offered as well.

Levels of proficiency vary on a scale that ranges from basic to high for most of the District's technology users. Professional development and learning will be designed to incorporate strategies to help increase the skill levels of these users. Technology training will be in different forms, and may be either online or onsite. Hybrid training using the Blackboard Learn platform, and conferences at local, state and national levels will be offered. Traditional face-to-face classes will be held at the Teacher Training Center, the Teaching and Leadership Center, and the Professional Development Center. To minimize teacher time away from the classroom, distance learning will be available. This includes teleconferencing, web conferencing using Blackboard Learn and Blackboard Collaborate, independent online training using LearnKey, the educational access channel and

EduVision. When appropriate, funding for substitutes, stipends, trainers, and other training expenses will be provided by the district utilizing Title II, Part A funds.

In order to sustain the learning gains of any professional development, there must be key mechanisms in place. When appropriate, trainers will provide participants access to supportive training materials and resources. A Professional Development organization in Blackboard will be created for facilitators to share these materials online. All district employees have access via username and password to the SDCC Blackboard site at <https://clayschools.blackboard.com>. In addition, district and school level training facilitators will continue to avail themselves to participants to provide ongoing coaching and support.

A Manual for Instructional Technology Use will be available on Blackboard in the OneClay Technology organization.

District and school-based cadres of technology experts will be formed as a means of support. In order to strengthen ICT training, cadre members will participate in and facilitate technology training designed to enhance instruction.

## 8.2

A list of sources of ongoing training and technical assistance available to teachers and administrators served by the district, such as state technology offices, intermediate educational support units, regional education training facilities, or institutions of higher learning.

The training calendar at <http://claycounty.hosted.webevent.com/cgi-bin/webevent.cgi> will be maintained and accessible online. All employees will use the District's staff development management system at <https://navplus.nefec.org/portal> to search and register for trainings that meet their professional development needs.

Below are other sources of training that may be utilized by the District:

- Astronauts Memorial Foundation
- Florida Digital Educators
- Florida Educational Technology Conference (FETC)
- Northeast Florida Education Consortium (NEFEC)
- Northeast Florida Library Information Network (NEFLIN)
- Office of Educational Technology (OET)
- Panhandle Area Educational Consortium (PAEC)
- Textbook publishers' consultants
- The Schultz Center for Teaching & Leadership
- Vendors

## 9. PROGRAM EVALUATION

### 9.1

Evaluation of the effectiveness of how technologies are being integrated into the curriculum and are affecting student achievement is based on utilization statistics, teacher attitudinal surveys, authentic

assessment, and evaluation of student achievement data generated by the program being evaluated, or district pre- and post- student achievement data.

## **9.2**

Based on these assessments, operational problems, or new developments, the District must sometimes change usage goals, selecting from abandonment of use, modifications in operation or use of certain technologies, or additions of new developments. The three-year District Technology Plan is evaluated yearly and decisions for change are made with input from Information Services, the District Technology Committee, administrators, curriculum specialists, classroom teachers, and support personnel.

## **10. E-RATE PROGRAM PLANNING**

### **10.1**

The District will provide Internet connectivity and sufficient bandwidth for connectivity to all schools for distance learning opportunities, and will investigate and implement appropriate technologies to provide for the updating and deployment of software applications. Due to the significant size of deployable software, high-speed local network and wide area networks are required. To promote communication and safety, telephone access will be available at all sites.

Strategies include:

- Continue to provide Internet service to all schools, district offices, and annex sites
- Increase Internet access capacity and create alternate paths to the Internet with load balancing
- Provide additional telephone connections as needed
- Provide cost effective enhanced communications for voice
- Increase bandwidth as needed
- Provide cost efficient mobile voice communications

### **10.2**

The District provides a wide range of professional development activities to ensure that all staff and students know how to use new technologies to improve education and library media services. Training is held throughout the year at all sites in the district. District Technology Integration Specialists and Curriculum Specialists are available upon request.

### **10.3**

The District continually needs to increase telecommunication services. All existing instructional areas have Internet connections and telephone access. We see an approximate 7% increase in needed services annually. As streaming video usage in the classroom increases, it is possible that the need for additional Internet bandwidth may increase exponentially. CISCO WAAS servers were installed at the District office and all secondary schools in 2009, which has served to boost response time and reduce the demand for Internet capacity to the ISP.

Each of the following services may be applied for through E-rate:

#### **10.3.1 Services – Telecommunications 470 One District Application**

The following are covered under State Contract – 470 issued by State

(AT&T)

Telecom and Centrex, and long distance services for the entire district:

- Flat rate business lines: 22 circuits
- T1 Point-to-Point Voice/Data: 2 existing lines
- Central office trunk line
- Centrex/Verizon phone lines, plus 500 lines
- 800 Service: 3 lines
- Long distance service for district

### **10.3.2 Primary Rate Interface (PRI) 470 One District Application**

(AT&T)

Telecom PRI services for select locations:

- PRI-ISDN T1's for Clay High, Fleming Island High, Keystone Heights High, Middleburg High, Orange Park High, Ridgeview High, Oak Leaf schools, District Offices, plus 3 new circuits over the next three years
- Total of 13 PRI circuits

### **10.3.3 Metro-E High Speed Connection 470 One District Application**

(AT&T)

High-speed Internet connections:

- 20 Mbps Fixed Mode data circuits to 31 school sites
- 100 Mbps Fixed Mode data circuits to 7 school sites
- 50 Mbps Network-to-Network Interconnect (NNI) for 3 schools near Keystone Heights
- 250 Mbps Fixed mode to 1 school site
- 500 Mbps Burst mode at the district office

### **10.3.4 High-Speed Internet Connection 470 DOE (FIRN) Application**

Application is necessary because the Florida Department of Education cut funding at the state level and passed the cost on to individual school districts. The School District of Clay County will use the State's 470 for the Internet connection through the Florida Internet Relay Network (FIRN). This action requires that SDCC make a 471 for Internet services that were provided by the State in 2009-2010.

Internet connection from district office in graduated increments beginning at 75 Mbps. (300 Mbps capacity should be used for planning and budgeting purposes.)

Reasons for the increase:

- Increase Internet-based assessment due to Florida Assessment in Reading (FAIR) testing. Three times per year all students are tested online.
- Increase use of FCAT testing online
- Increase in use of streaming video due to Compass and Renaissance Place applications
- Probable use of eBooks at high schools
- Future direction to allow students to bring their own laptops to school
- Increase in the number and bandwidth requirements of hosted instructional applications such as Blackboard, Compass and Renaissance Place.

- Alternate load-balanced Internet connection from an elementary school (distributed storage site) up to 45 Mbps. Sizing will be determined based on results. This circuit will not be eligible for E-Rate funds.
- Content filtering to comply with CIPA, which may replace the present WebSense running on district servers and controlled by the District

#### **Active Electronics Upgrade 470 Specific Schools**

Equipment which has been in place approximately nine years should be replaced as it is not manageable with current tools. Additionally, more recently built schools were equipped with Wireless LAN covering the schools and CISCO WAAS devices to make the best possible use of Internet bandwidth.

- A multi-year bid for Internal Connections is in place with Coleman Technology

#### **Elementary Schools Active Electronics – 471**

- Scope involves the replacement of aging communications equipment, installation of Wireless LAN, and installation of CISCO WAAS at nine elementary schools (Charles E. Bennett, Clay Hill, Grove Park, McRae, Middleburg, Keystone Heights, S. B. Jennings, W. E. Cherry, and Wilkinson)
- Elementary WAAS Server – No. 471 for this
- Servers should be installed due to the predicted increase in Internet traffic with the addition of Florida DOE online testing, streaming video to the classroom, and FCAT testing

#### **10.3.5 Services – MTM Telecommunications 470 One District Application**

(Nextel/Sprint)

- Cellular telephone service for district and schools

#### **10.4**

The School District of Clay County provides a sufficient budget to acquire and support the non-discounted elements requested in the E-Rate Application. Approximately \$1.5 million is allocated for telecommunications in the general budget.

#### **10.5**

The effectiveness of telecommunications services is reviewed periodically for evaluation and monitoring. Software is in place to evaluate bandwidth usage and communication access. A yearly evaluation determines what technology updates or needs have become prevalent for annual comprehensive planning. The allocation of district funds is driven by this procedure. Network monitoring applications include:

- Graphic representations of key network equipment (routers, servers, switches) that identify status and error conditions. This is present in the Computer Operations Manager's office and is visible throughout the day, thus enabling the Manager or Operations and Help Desk Operators to identify problems as they occur.
- Network traffic graphs are updated every 5 minutes providing utilization and error tracking information for all wide area network circuits. This is reviewed weekly by the Manager of Operations and printed annually for storage in a notebook.

## Appendix A

### School District of Clay County **Student Responsible Use Guidelines for Technology**

(Terms and Conditions for Use of Telecommunications and Networks - Reference School Board Policy 4.59)

The School District of Clay County makes a variety of communications and information technologies available to students through computer/network/Internet access. These technologies, when properly used, promote educational excellence in the District by facilitating resource sharing, innovation, and communication. Illegal, unethical or inappropriate use of these technologies can have devastating consequences, harming the District, its students and its employees. These Student Responsible Use Guidelines for Technology are intended to minimize the likelihood of such harm by educating District students and setting standards of use which will serve to protect the District. The District firmly believes that the advantages of having digital resources, information and interaction available on the computer/network/Internet far outweigh any disadvantages.

**Mandatory Review:** To educate students on proper computer/network/Internet use and conduct, students are required to review these guidelines at the beginning of each school year. All District students shall be required to acknowledge receipt and understanding of all guidelines governing use of the system and shall agree in writing to comply with said guidelines and to allow monitoring of their use of computers and other technology. The parent or legal guardian of a student user is required to acknowledge receipt and understanding of the District's Student Responsible Use Guidelines for Technology (hereinafter referred to as the Responsible Use Guidelines) as part of their review of the *Student Code of Conduct* handbook. Employees supervising students who use the District's computer/network/internet system must provide training emphasizing its appropriate use.

**Definition of District Technology System:** The District's computer systems and enterprise network are any configuration or combination of hardware and software. The system includes, but is not limited to the following:

- Telephones, cellular telephones, and voice-mail technologies
- E-mail accounts
- Servers
- Computer hardware and peripherals
- Software including operating system software and application software
- Digitized information including stored text, data files, e-mail, digital images, and video and audio files
- Internally or externally accessed databases, applications, or tools (Internet- or District-server based)

#### ***Availability of Access***

**Acceptable Use:** Computer/Network/Internet access will be used to enhance learning consistent with the District's educational goals. The District requires legal, ethical and appropriate computer/network/Internet use.

**Privilege:** Access to the District's computer/network/Internet is a privilege, not a right.

**Access to Computer/Network/Internet:** Access to the District's electronic communications system, including the Internet, shall be made available to students for instructional purposes. Each District computer has filtering software that blocks access to visual depictions that are obscene, pornographic, inappropriate for students, or harmful to minors, as defined by the federal Children's Internet Protection Act (CIPA). Filtered Internet access is provided to students as defined by CIPA.

**Student Access:** Computer/network/Internet access is provided to all students unless parents or guardians submit a written request to the campus principal that access be denied. Student Internet access will be under the direction and guidance of a District staff member. Students may also be allowed to use the local network and Wi-Fi with campus permission.

**Students 13 or younger:** For students under the age of 13, the Children’s Online Privacy Protection Act (COPPA) requires additional parental permission for student access to educational software tools. Parents wishing to deny access to these educational tools must submit a request in writing to the campus principal directing that their child should be denied access to these tools. These tools are accessed by the student through the District’s student webpage.

**Security:** A student who gains access to any inappropriate or harmful material is expected to discontinue the access and to report the incident to the supervising staff member. Any student identified as a security risk or as having violated the Responsible Use Guidelines may be denied access to the District’s system. Other consequences may also be assigned. A student who knowingly brings prohibited materials into the school’s electronic environment shall be subject to suspension of access to and/or revocation of privileges on the District’s system, and shall be subject to disciplinary action in accordance with the Board-approved *Student Code of Conduct*.

**Content/Third-Party Supplied Information:** Students and parents of students with access to the District’s system should be aware that use of the system may provide access to other electronic communication systems in the global electronic network which may contain inaccurate and/or objectionable material.

**Subject to Monitoring:** District computer/network/Internet usage is not confidential and is subject to monitoring by designated staff at any time to ensure appropriate use. Students should not use the computer system to send, receive or store any information, including e-mail messages, that they consider personal or confidential and wish to keep private. All electronic files, including e-mail messages, transmitted through or stored in the computer system will be treated no differently than any other electronic file. The District reserves the right to access, review, copy, modify, delete or disclose such files for any purpose. Students should treat the computer system like a shared or common file system with the expectation that electronic files, sent, received or stored anywhere in the computer system will be available for review by any authorized representative of the District for any purpose. Personal telecommunication devices used to connect with District computer/network/Internet systems are subject to examination in accordance with disciplinary guidelines if there is reason to believe that the Responsible Use Guidelines have been violated.

### ***Student Computer/Network/Internet Responsibilities***

District students are bound by all portions of the Responsible Use Guidelines. A student who knowingly violates any portion of the Responsible Use Guidelines shall be subject to suspension of access to and/or revocation of privileges on the District’s system and shall be subject to disciplinary action in accordance with the Board-approved *Student Code of Conduct*.

**Use of Social Networking/Digital Tools:** Students may participate in District-approved social media learning environments related to curricular projects or school activities and use digital tools including, but not limited to, mobile devices, blogs, discussion forums, RSS feeds, podcasts, wikis, and on-line meeting sessions as directed by a teacher or staff member. The use of blogs, wikis, podcasts, and other digital tools is considered an extension of the classroom. Verbal or written language that is considered inappropriate in the classroom is also inappropriate in all uses of blogs, wikis, podcasts, and other District-approved digital tools.

**Use of System Resources:** Students are directed to purge e-mail or outdated files on a regular basis.

**Password Confidentiality:** Students are required to maintain password confidentiality by not sharing their password with others. A student may not use any another person's system account.

**Reporting Security Problem:** If knowledge of inappropriate material or a security problem on the computer/network/Internet is identified, the student shall immediately notify the supervising staff member. The inappropriate material/security problem shall not be shared with others.

### ***Inappropriate Use***

Inappropriate use of the District computer/network/Internet system includes, but is not limited to, those uses that violate federal and state law, that are specifically named as violations in this document, that violate the rules of network etiquette, or that hamper the integrity or security of this computer/network/Internet system or any components that are connected to it. The following actions are considered inappropriate uses, are prohibited, and will result in suspension of access to and/or revocation of the student's privileges on the District's computer/network/Internet system.

- threatening, harassing, defamatory or obscene material;
- unauthorized use of copyrighted material;
- use of plagiarized material;
- unauthorized use of material protected by trade secret; or
- accessing blog posts, web posts, or discussion forum/replies posted to the Internet which violate federal or state law.

Tampering with or theft of components from District systems may be regarded as criminal activity under applicable state and federal laws. Any attempt to break the law through the use of a District computer/network/Internet account may result in prosecution against the offender by the proper authorities. If such an event should occur, the District will fully comply with the authorities to provide any information necessary for legal action.

**Modification of Computer:** Modifying or changing computer settings and/or internal or external configurations without District permission is prohibited.

**Transmitting Confidential Information:** Students may not redistribute or forward confidential information about themselves or any other student without District authorization. Confidential information should never be transmitted, redistributed or forwarded to individuals outside the District who are not expressly authorized by District personnel to receive the information. Revealing personal information about oneself or others, including, but not limited to, home addresses, phone numbers, e-mail addresses, and birthdates is prohibited.

**Commercial Use:** Use of the system for any type of income-generating activity is prohibited. Advertising the sale of products, whether commercial or personal, is prohibited.

**Marketing by Non-SDCC Organizations:** Use of the system for promoting activities or events for individuals or organizations not directly affiliated with or sanctioned by the District is prohibited.

**Vandalism/Mischief:** Any malicious attempt to harm or destroy District equipment, materials or data, or the malicious attempt to harm or destroy data of another user of the District's system or any of the agencies or other networks to which the District has access is prohibited. Deliberate attempts to degrade or disrupt system performance are violations of District policy and administrative regulations and may constitute criminal

activity under applicable state and federal laws. Such prohibited activity includes, but is not limited to, the uploading or creating of computer viruses.

Vandalism as defined above is prohibited and will result in the cancellation of system use privileges. Students committing vandalism will be required to provide restitution for costs associated with system restoration and may be subject to other appropriate consequences as provided for in the Board-approved *Student Code of Conduct*.

**Intellectual Property:** Students shall, at all times, respect copyrights and trademarks of third-parties and their ownership claims in images, text, video and audio material, software, information and inventions. The copying, use, or transfer of others' materials without appropriate authorization is prohibited.

**Copyright Violations:** Downloading or using copyrighted information without following approved District procedures is prohibited.

**Plagiarism:** Fraudulently altering or copying documents or files authored by another individual is prohibited.

**Impersonation:** Attempts to log on to the computer/network/Internet impersonating a system administrator or District employee, student, or individual other than oneself, will result in revocation of the student's access to computer/network/Internet.

**Illegally Accessing or Hacking Violations:** Intentional or unauthorized access or attempted access of any portion of the District's computer systems, networks, or private databases to view, obtain, manipulate, or transmit information, programs, or codes is prohibited.

**File/Data Violations:** Deleting, examining, copying, or modifying files and/or data belonging to other users without their permission is prohibited.

**System Interference/Alteration:** Deliberate attempts to exceed, evade or change resource quotas are prohibited. Deliberately causing network congestion through mass consumption of system resources is prohibited.

### ***E-mail and Communication Tools***

E-mail and other digital tools including, but not limited to, blogs and wikis, are tools used to communicate within the District. The use of these communication tools shall be limited to instructional, school-related activities, or administrative needs.

All students in grades 6-12 will be issued e-mail accounts. Students should check e-mail frequently, delete unwanted messages promptly, and stay within the e-mail server space allocations. E-mail attachments are limited to 20MB or smaller. Internet access to personal e-mail accounts is prohibited.

Students should keep the following points in mind:

**Perceived Representation:** Using school-related e-mail address, blogs, wikis, and other communication tools might cause some recipients or other readers of the e-mail to assume that the student's comments represent the District or school, whether or not that was the student's intention.

**Privacy:** E-mail, blogs, wikis, and other communication within these tools are not considered a private, personal form of communication. Private information, such as home addresses, phone numbers, last names, pictures, or e-mail addresses shall not be divulged. To avoid disclosing e-mail addresses that are protected, all

e-mail communications to multiple recipients shall be sent using the blind carbon copy (bcc) feature.

**Inappropriate Language:** Using obscene, profane, lewd, vulgar, rude, inflammatory, threatening, or disrespectful language in e-mails, blogs, wikis, or other communication tools is prohibited. Sending messages that could cause danger or disruption, including personal attacks and prejudicial or discriminatory attacks, is prohibited.

**Political Lobbying:** Consistent with State ethics laws, District resources and equipment, including but not limited to, e-mails, blogs, wikis, or other communication tools shall not be used to conduct any political activity, including political advertising or lobbying. This prohibition includes using District e-mail, blogs, wikis, or other communication tools to create, distribute, forward, or reply to messages from either internal or external sources, which expressly or implicitly support or oppose a candidate for nomination or election to either a public office or an office of a political party or which support or oppose an officeholder, a political party, or a measure (a ballot proposition). These guidelines prohibit direct communications as well as the transmission or forwarding of e-mails, hyperlinks, or other external references within e-mails, blogs, or wikis regarding any political advertising or other political or lobbying activity prohibited by this paragraph.

**Forgery:** Forgery or attempted forgery of e-mail messages is prohibited. Attempts to read, delete, copy or modify the e-mail of other system users, deliberate interference with the ability of other system users to send/receive e-mail, or the use of another person's user ID and/or password is prohibited.

**Junk Mail/Chain Letters:** Students shall refrain from forwarding e-mails which do not relate to the educational purposes of the District. Chain letters or other similar e-mails intended for forwarding or distributing to others are prohibited. Creating, distributing or forwarding any annoying or unnecessary message to a large number of people (spamming) is prohibited.

### ***Student E-mail Accounts and Electronic Communication Tools***

Electronic communication is an important skill for twenty-first century students. By providing this tool, the District is equipping students with the skills necessary for success in the business world. Students enrolled in grades 6-12 of a Clay County school are provided a district e-mail account which is set up using the student's user ID. Students must abide by e-mail and communications guidelines established by the District. Parents wishing to deny access to District e-mail must submit a written request for such denial to the campus principal. Project e-mail accounts may be granted for educational activities for students in grades K-5 as deemed appropriate by, and at the request of, District Administration. Student e-mail accounts may be provided directly by the District, through the content management system of an approved online course, or through a District-approved provider.

### ***Consequences of Agreement Violation***

Any attempt to violate the provisions of this agreement may result in revocation of the student's access to the computer/network/Internet, regardless of the success or failure of the attempt. In addition, school disciplinary and/or appropriate legal action may be taken.

**Denial, Revocation, or Suspension of Access Privileges:** With just cause, the system administrator and/or building principal may deny, revoke, or suspend computer/network/Internet access as required, pending an investigation.

**Failure to Adhere to Academic Integrity of Online Courses:** Florida Statue 1002.321(5) states, *"It is unlawful for any person to knowingly and willfully take an online course or examination on behalf of another person for*

*compensation. Any person who violates this subsection commits a misdemeanor of the second degree, punishable as provided in s. [775.082](#) or s. [775.083](#).”*

### ***Warning***

Sites accessible via the computer/network/Internet may contain material that is illegal, defamatory, inaccurate or controversial. Each District computer with Internet access has filtering software that blocks access to visual depictions that are obscene, pornographic, inappropriate for students, or harmful to minors, as defined by the federal Children’s Internet Protection Act (CIPA). The District makes every effort to limit access to objectionable material; however, controlling all such materials on the computer/network/Internet is impossible, even with filtering in place. With global access to computers and people, a risk exists that students may access material that may not be of educational value in the school setting.

### ***Disclaimer***

The District’s system is provided on an “as-is, as-available” basis. The District does not make any warranties, whether expressed or implied, including, without limitation, those of merchantability and fitness for a particular purpose with respect to any services provided by the system and any information or software contained therein. The District does not guarantee that the functions or services performed by, or that the information or software contained on the system will meet the system user’s requirements, or that the system will be uninterrupted or error free, or that defects will be corrected.

Opinions, advice, services, and all other information expressed by system users, information providers, service providers, or other third-party individuals in the system are those of the providers and not the District.

The District will cooperate fully with local, state, or federal officials in any investigation concerning or relating to misuse of the District’s electronic communications system.

## Florida Department of Education TECHNOLOGY GUIDELINES

The Florida Department of Education (FDOE) is pleased to provide these technology guidelines to inform schools and districts as they make technology decisions to best meet the instructional and assessment needs of their students. The information in this document is intended to answer questions about whether existing computer inventories and new computer purchases will support future Florida Comprehensive Assessment Test 2.0 (FCAT 2.0) and Florida End-of-Course (EOC) Assessments, as well as the implementation of the Partnership for the Assessment of Readiness for College and Careers (PARCC) requirements for computer-based assessment administration under Common Core State Standards. Please note that the specifications and guidance in this document are not necessarily aligned with or supported by the current FCAT 2.0/EOC testing platform (TestNav 6.9) that will be used through the termination of the contract (Summer 2015). Current specifications for these assessments can be found at [www.FLAssessments.com/MinimumSpecs](http://www.FLAssessments.com/MinimumSpecs). The new Request for Proposals (RFP) that will be released for the development of FCAT 2.0/EOC assessments beginning in the fall of 2015 contains technical specifications and requirements consistent with those in this document.

### RECOMMENDED SPECIFICATIONS

The recommended specifications outline the levels of computer and network capacity that are more likely to meet growing demands for school technology that supports digital learning, assessment and administrative uses simultaneously across classrooms.

- The recommended specifications apply to both existing inventory and new hardware purchases.
- Computers meeting the recommended specifications can be expected to satisfy FDOE and PARCC guidelines through the 2018-2019 school year.

### TECHNOLOGY GUIDANCE FOR DECISION-MAKING

While the ongoing processes for assessment and technical platform design continue, **this guide is intended to help districts inform their own readiness preparations and decision-making.** As PARCC test components are piloted through Item Tryouts in 2013 and Field Testing in Spring 2014, FDOE will continue to supplement the guidance in this document to reflect current knowledge about what technology districts will need to administer computer-based assessments and digital learning components.

### BANDWIDTH RECOMMENDATIONS

Minimum bandwidth requirements will be determined based on the final specifications from the PARCC assessment delivery platform and the level of multimedia and technology enhanced items in the final assessment design. PARCC will provide minimum specifications by October 2013.

As schools plan for PARCC assessments concurrent with enhancing bandwidth to support instructional needs, PARCC is modeling their recommended specifications on those advanced by

the State Educational Technology Directors Association in its May 2012 publication *The Broadband Imperative: Recommendations to Address K-12 Education Infrastructure Needs* (<http://www.setda.org/web/guest/broadbandimperative>).

<b>Recommended Bandwidth Specifications</b>	
External Connection to Internet	100 kbps per student or faster
Internal School Network	1000 kbps per student or faster

## **SECURITY REQUIREMENTS**

Eligible devices of any type (desktop, laptop, netbook, tablet, thin client) or operating system (Windows, Mac, Linux, iOS, Android, Chrome) must have the administrative tools and capabilities to “lock down” the device to temporarily disable features, functionalities and applications that could present a security risk during test administration, and should not prevent an FDOE or PARCC secure browser or other test software to place the computer into lock down mode. Features that will need to be controlled during test administration include, but are not limited to, unrestricted Internet access, cameras (still and video), screen capture (live and recorded), email, instant messaging, Bluetooth connections, application switching and printing.

The operating systems listed here, as approved for FDOE and PARCC assessments, meet this security requirement, but provide different mechanisms for managing user security settings at the individual device and/or enterprise levels. School technology administrators should be familiar with the particular requirements of the systems they will be using for FDOE and PARCC assessments to ensure test security is maintained.

## **TESTING PLATFORM SOFTWARE / WEB BROWSER REQUIREMENTS**

Software and/or browser requirements will be defined by October 2013, driven by the design choices for test items and the assessment delivery platform for PARCC. The FDOE’s statewide assessment contractor will support the current version of the web browsers listed on the Web Browser Support List below for FCAT 2.0 and EOC assessments within six months of release, as well as two prior versions of the web browsers, as of June 2013. Beyond October 2013, requirements to support web browsers will be aligned with the PARCC Technology Guidelines posted at (<http://www.parcconline.org/technology>).

Web Browser Support List:

- Apple Safari;
- Google Chrome;
- Microsoft Internet Explorer; and
- Mozilla Firefox.

## DEVICE SPECIFICATIONS

Desktops, laptops, netbooks (Windows, Mac, Chrome, Linux), thin client, and tablets (iPad, Windows and Android) will be compatible devices provided they meet the established hardware, operating system and networking specifications — and are able to address the security requirements described in the Security Requirements section of the Technology Guidelines.

<b>Desktop, Laptop, Netbook &amp; Thin Client / Virtual Desktop Infrastructure</b>	
<b>Operating System</b>	<b>Recommended Specifications</b>
Windows	Windows 7 or newer
Mac OS	Mac OS 10.7 or newer
Linux	Linux: Ubuntu 11.10, Fedora 16 or newer
Chrome OS	Chrome OS 19 or newer
Memory	1gb RAM or greater
Connectivity	Computers must be able to connect to the Internet via wired or wireless networks.
Screen Size	9.5 inch screen size or larger
Screen Resolution	1024 x 768 resolution or higher
Input Device Requirements	<p>Keyboard, Mouse, Touchpad or Touchscreen</p> <p>The input device must allow students to select/deselect, drag, and highlight text, objects, and areas. The input device must allow students to enter letters, numbers, and symbols and shift, tab, return, delete, and backspace. To meet security guidelines, each Bluetooth/wireless keyboard and/or mouse must be configured to pair with only a single computer during assessment administration. Other assistive technologies may be needed for students requiring accommodations. PARCC will release Accessibility Guidelines and Accommodations Guidelines in 2013.</p>
Headphone/Earphone and Microphone Requirements	<p>Headphones/earphones are required for all students for all PARCC assessments. Some student accommodations may also require headphones/earphones (e.g., text to speech).</p> <p>Microphones are required for all students taking the Speaking and Listening Assessment. Some student accommodations may also require microphones (e.g., speech to text, voice controls) for other parts of the PARCC assessments.</p>

<b>Desktop, Laptop, Netbook &amp; Thin Client / Virtual Desktop Infrastructure</b>	
<b>Operating System</b>	<b>Recommended Specifications</b>
Additional Guidance	<p>1) Each computer operating in a thin client environment must meet or exceed recommended hardware specifications, as well as bandwidth and security requirements.</p> <p>2) Windows XP will no longer be supported by Microsoft after April 8, 2014, presenting security and support risks for schools (<a href="http://windows.microsoft.com/en-US/windows/end-support-help">http://windows.microsoft.com/en-US/windows/end-support-help</a>).</p> <p>3) Computers running Windows XP-Service Pack 3 may require a web browser other than Internet Explorer due to HTML5 compatibility limitations. FDOE and PARCC will issue specific web browser guidance by October 2013.</p> <p>4) Computers must accommodate the 1024 x 768 screen resolution minimum without panning. FDOE and PARCC recognize that some netbook computers may have screen resolutions slightly less than the 1024 x 768 minimum, yet may meet all other recommended requirements. Depending on netbook model specifics, school technology administrators may be able to reset screen resolution to meet the guidelines. By October 2013, following final test design, FDOE and PARCC will establish a means for schools to evaluate if particular netbook devices are able to display FDOE and PARCC assessment items without requiring students to scroll or pan.</p>

<b>Tablets</b>	
<b>Operating System</b>	<b>Recommended Specifications</b>
Android	Android 4.0 or newer (with 1GB RAM or greater)
Apple OS	iPad 2 or newer running iOS6 or newer (with 512 MB RAM or greater)
Windows	Windows 8 or newer (with 1GB RAM or greater)
Chrome OS	Chrome OS 19 or newer
Memory	By operating system, see above
Connectivity	Devices must be able to connect to the Internet via wireless networks.

Tablets	
Operating System	Recommended Specifications
Screen Size	9.5 inch screen size or larger
Screen Resolution	1024 x 768 resolution or higher
Input Device Requirements	Keyboard, Mouse, Touchpad or Touchscreen
	The input device must allow students to select/deselect, drag, and highlight text, objects, and areas. The input device must allow students to enter letters, numbers, and symbols and shift, tab, return, delete, and backspace. To meet security guidelines, each Bluetooth/wireless keyboard and/or mouse must be configured to pair with only a single computer during assessment administration. Other assistive technologies may be needed for students requiring accommodations. PARCC will release Accessibility Guidelines and Accommodations Guidelines in 2013.
Headphone/Earphone and Microphone Requirements	Headphones/earphones are required for all students for all PARCC assessments. Some student accommodations may also require headphones/earphones (e.g., text to speech). Microphones are required for all students taking the Speaking and Listening Assessment. Some student accommodations may also require microphones (e.g., speech to text, voice controls) for other parts of the PARCC assessments.
Additional Guidance	1) FDOE and PARCC have not yet evaluated the compatibility of Windows RT for 2014-2015. Further information will be issued on Windows RT. 2) Smaller tablets (screen size less than 9.5”), e-readers, and smart phones will not be supported and will not be compatible with FDOE and PARCC assessments.

## Florida Department of Education TECHNOLOGY GUIDELINES

The Florida Department of Education is pleased to provide these wireless technology guidelines to assist schools and districts as they make their wireless infrastructure decisions to best meet the instructional and online assessment needs of their students in a classroom setting. Wireless technology is advancing at tremendous speeds which require educational institutions to maintain robust wireless infrastructures that can scale with the need for increasing bandwidth, security and mobility. The information in this document is intended to provide the Florida Department of Education’s guidelines to assist in answering questions about whether the school’s existing wireless infrastructures will support the future requirements for instruction and computer-based assessment administration as defined under Common Core State Standards. These guidelines are not intended to recommend a brand or model of wireless hardware, or provide information concerning the physical deployment of wireless access hardware on your network. The Florida Department of Education recommends that a wireless site survey be part of any deployment effort.

<b>Recommended Wireless Technology Specifications</b>	
Institute of Electrical and Electronics Engineers (IEEE) Protocol Equipment Standard	802.11n (540 Mbps bandwidth)
Wireless Access Hardware	Ratio of 10-15 students or less per one access point/antenna in a classroom setting
	No structural walls or physical barriers between the access point and the students
	Wireless controller technology to enable access point load-balancing for optimum wireless access point utilization

The key design decision in any wireless network deployment is to determine which areas require coverage and what level of performance are required in those areas. The school environment introduces an additional challenge to the design considerations due to the structured nature of network use. For example, classes start at particular times and teachers often ask their entire class to start an activity at the same time. The structured nature of school network usage can greatly increase the peaks in load upon the wireless network. The general guidance for enterprise access point deployments has been 15 to 20 active clients per access point, but the peaks in demand at schools may require two access points per classroom, where there are 20 to 30 students in that classroom. The number of access points required per classroom depends on many factors, including the number of clients, the type of applications and the expected performance.

Note: All estimates in this document are dependent on ample bandwidth coming into the site and/or to the wireless access unit for distribution out to the instructional technology and/or testing devices.



<b>Recommended Bandwidth Specifications</b>	
External Connection to Internet	100 kbps per student or faster
Internal School Network	1000 kbps per student or faster

## **ADDITIONAL WIRELESS RECOMMENDATIONS**

### **Develop and Maintain a Wireless Network Plan**

Develop a wireless infrastructure plan that defines the strategy for either installing or upgrading your existing wireless network over the next three to five years. Elements such as wireless network security and the deployment, management and control aspects of deploying a wireless network must be included in the plan for successful implementation. This plan must be reviewed annually to keep it current with developing technologies.

### **Conduct a Physical Site Survey**

As many educational institutions must contend with aging structures that contain enclosed classrooms, long hallways, remote and/or temporary buildings and construction materials that may prevent radio frequencies from smoothly passing through walls, it is recommended that a site survey of all instructional buildings in the district be conducted and reviewed annually. A site survey is useful for measuring radio frequencies coverage, which determines the locations in a school campus where the wireless network can be used. In addition to measuring coverage, the site survey is also useful for measuring the saturation point for the number of devices that can be used in a particular location. Both of these elements, coverage and saturation, must be considered as a part of the wireless network requirements.

Other site survey considerations are

**Access Point Placement** – In general, wireless access points must be located so that no obstructions exist between them and the students. When choosing the location of the wireless access point within the classroom, the Department of Education recommends the following:

- Locate the wireless access point in close proximity to the devices that will be connected;
- Place the device on a high shelf or mount it close to or on the ceiling;
- Ensure that the device is not situated near any metal objects, such as filing cabinets;
- Ensure the wireless antenna is in a vertical position;
- Ensure that you have conformed to the manufacturer’s guidelines; and
- Ensure there are no wireless access points in close proximity using the same or an overlapping channel.

**Interference** – Wi-Fi uses publicly designated radio bands to provide wireless access. Non-Wi-Fi devices like mobile and cordless phones, Bluetooth transmitters and security cameras may use the same radio bands and can interfere with and cause performance issues for a wireless network. Wi-Fi scanning tools cannot detect such interference; therefore, you will need to take these devices into consideration when conducting a site survey.

### **IEEE Standards**

The Florida Department of Education’s minimum recommendation is the IEEE 802.11n equipment protocol standard that can handle radio signals in either 2.4 GHz range or 5 GHz range and bandwidth in the 540 Mbps range.

Consider the following when evaluating hardware devices.

- *GHz and Network Speed:* Higher GHz signals can carry more data than lower GHz signals; assuming that the electric power to the higher frequency radios is maintained at a higher level.
- *GHz and Network Range:* The higher the frequency of a wireless signal, the shorter the range and higher frequencies may not penetrate solid objects nearly as well as lower GHz signals.
- *GHz and Network Interference:* Lower GHz signals may pick up interference more than higher frequency GHz signals.
- *GHz and Network Security:* Higher GHz signals transmit data more securely over wireless Wide Area Networks (WANs).

When purchasing wireless networking hardware from separate vendors, make sure to obtain guarantees from the vendors that the hardware will interoperate with existing equipment and follow the IEEE standards. Older devices in the 802.11b/g/n standard can operate in the 2.4 GHz frequency band range. 802.11a/h/j/n standard devices can operate in the 5 GHz frequency band range. See Figure 1 for a list of IEEE 802.11 network protocols.

When evaluating the IEEE 802.11 standard with the computer devices that your school is using, consider the limits of the device itself in supporting the wireless access point standard that has been deployed. Also examine the demands of simultaneous users accessing online assessments or digital learning curriculum that may use video streaming and real-time learning tools.

**Figure 1: IEEE 802.11 Network Protocols**

802.11 Network Standards						
Protocol	Release Date	Freq.	Bandwidth	Maximum data rate per stream	Allowable MIMO streams (see School Wireless LAN Guidelines – Glossary)	Approximate indoor range
		(GHz)	(MHz)	(Mbit/s)		(Metres)
<b>802.11a</b>	Sep-99	5	20	54	1	35
		3.7				
<b>802.11b</b> (no longer in common use)	Sep-99	2.4	20	11	1	35
<b>802.11g</b>	Jun-03	2.4	20	54	1	38
<b>802.11n</b>	Oct-09	2.4/5	20	72.2	4	70
			40	150		70
<b>802.11ac</b> (DRAFT)	Draft released Nov-11	5	80	867	8	
			160	Between 1.73 Gbit/s and 6.93 Gbit/s		
<b>802.11ad</b> (DRAFT)	Feb-14	2.4/5/60		up to 7000		

Based on [http://en.wikipedia.org/wiki/IEEE\\_802.11](http://en.wikipedia.org/wiki/IEEE_802.11)

### Security and Access Management Policies

The Florida Department of Education recommends that each school implement the proper security protocols to secure and protect the information assets owned by the school. Appropriate security measures include network security monitoring tools, signal encryption, password authentication, firewall protection and virtual private network solutions.

All schools should have an active Acceptable Use Policy approved by their individual school board that includes a wireless communications section. Network filtering applications should be in place to comply with the Children’s Internet Protection Act (CIPA).

At a minimum, the wireless communications section of the Acceptable Use Policy should address seven key areas that establish the basis for deployment, use and management of the wireless network.

1. **Define the User Base**

Identify who can use the Wireless Local Area Networking (WLAN) and what level of access each particular group of users will have on it.

2. **Identify Appropriate Usage**

Identify the type of information that users can and cannot send or receive over the wireless network. Prohibit users from sending personal information via the WLAN. Prohibit ad hoc connections such as peer-to-peer in order to avoid users having non-authorized access to your WLAN.

3. **Prepare for Secure Installation**

Identify which named individuals or internal departments are responsible for deploying wireless within the network. Define minimum physical security standards for Access Point (AP) locations, and determine who will have physical access to the Wireless Access Points (WAPs). Try to place your WAPs in controlled areas on interior walls of the school. Adjust their coverage zone to the limits of your physical boundaries and not beyond.

4. **Establish Wireless Security Standards for the District**

Define the minimum security measures enabled on all WAPs. Disable the service set identifier (SSID) broadcast feature and change the default SSID to something that does not reveal a school or district's name. Make sure that wireless authentication and encryption are enabled.

5. **Outline Contingency Plan for Loss of Equipment**

All security settings within the wireless network, including passwords and encryption keys, should be changed in the event of loss or stolen equipment. Best practices dictate to not store data on mobile devices and end-point security measures should be included. Treat any loss as a compromise to the system.

6. **Plan Appropriate Training for Staff and Users**

Outline minimum training requirements for all IT department staff and district users, and develop a knowledge base for proper WLAN use based on past successful implementations.

7. **Establish Guidelines for Management and Monitoring**

Purchase security monitoring software and define the frequency and scale of security assessments, which should occur on a regular basis to ensure continuity.

If implementing a Bring Your Own Device (BYOD) policy, make sure that Wireless Intrusion Prevention Systems (WIPS) are enabled to detect 'rogue' devices which are not part of your network.

Perform frequent security scanning to pinpoint any source of performance issues caused by interference between wireless access points and interference caused by other devices. Securing the WLAN is a continuous process implemented with regular monitoring.

School districts will need to allocate appropriate resources to manage the wireless network in the same manner as the wired network. A centralized monitoring, configuration, and reporting tool for the network infrastructure, such as a Network Management System or physical controller, is essential. This is especially true in situations where a school has more than two wireless access points servicing a classroom.

As with any network infrastructure, ensure that all wireless network infrastructure components meet or exceed manufactures' recommended environmental requirements in relation to acceptable humidity temperature and power conditions.

## APPENDIX C

### **District Hardware Standards**

Technology-based hardware standards are updated frequently and published by the Information Services Department on the district website. Consult Information Services to obtain quotes and specifications for purchasing.

### **District Hardware Purchases**

All technology-based hardware purchased by the District will meet or exceed the current district standard found in the District Technology Standard Hardware and Pricing. Exceptions must be approved in writing by the Information Services Department.

### **Computer Hardware Purchased for District Use by Other Organizations**

All computer hardware purchased for the District using SAC, PTO, or any other internal funds will meet or exceed the current District standard.

### **Donated Computer Hardware**

The District is very appreciative of all donations. So that the most effective use of donated equipment occurs, minimum standards vent while minimizing maintenance support and reconfiguration costs. Computer or printer equipment donated to the District must meet or exceed the following specifications:

#### **2013/2014 School Year Donation Minimum Standards for Computers/Printers:**

All systems and equipment must be in good working order.

#### **Apple-based Systems**

- Processor Desktops and Notebooks: Intel
- Monitors: Only LCD monitors running Mac OS 10.4 or higher will be accepted
- RAM: 2GB
- Hard Drive: 80 GB or greater
- Ethernet Card built-in
- Documentation verifying licensed copy of operating system

#### **Windows-based Systems**

- Dell OptiPlex 745 or newer
- Intel Core Processor or higher
- Running Windows XP Professional or Windows 7
- RAM: 2 GB (Windows XP Professional); 4 GB (Windows 7 or higher)
- Hard Drive: 80 GB or greater
- Monitors: Only LCD will be accepted
- Documentation verifying licensed copy of operating system

#### **Notebook or Tablet Systems**

- Processor: Intel Centrino or higher
- Running Windows XP Professional or Windows 7
- RAM: 2 GB (Windows XP Professional); 4 GB (Windows 7 or higher)
- Hard Drive: 80 GB or greater
- Ethernet Card built-in
- Documentation verifying licensed copy of operating system

**Printers**

- Laser Printers in good working order only

Other technology-based equipment not listed above must be approved by school administration and Information Services before any acceptance is given. If approved, appropriate asset inventory procedures should be followed.

Often, donated equipment requires unexpected additional costs in both parts and labor to function in our environment. Principals and Department Directors have the option to decline any donated equipment they feel would not be conducive to their work or learning environment.

**Transferred Computer Hardware/Software within the District**

Schools and departments who wish to transfer hardware or software shall receive pre-approval from Information Services for all equipment that is below the donation standard. Equipment transferred (that does not meet the donation standard) without IS approval will not be supported and will be recommended for surplus.

