

**2007-2010**

# Clark County School District K-12 Technology Plan



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# CLARK COUNTY SCHOOL DISTRICT K-12 TECHNOLOGY PLAN

## TECHNOLOGY VISION STATEMENT

It is the vision of the Clark County School District that information and communication technologies are essential for improving student achievement.

## GOAL 1: ALL STUDENTS, TEACHERS, AND STAFF WILL HAVE ACCESS TO INFORMATION TECHNOLOGY IN THEIR CLASSROOMS AND SCHOOLS.

### **Background:**

The Clark County School District has an active commitment to educational technology in both acquiring and supporting technology in the classrooms, labs, libraries, and other instructional areas. Some major characteristics:

- Standards for new schools include a multimedia computer for each classroom, at least one computer lab per school, and student computers in each library.
- A bond-funded computer refreshment program has provided updated computers for school labs and libraries where the computers are at least five years old. (Appendix E)
- A document that outlines district levels of support for hardware is revised and approved annually by the Technology Standards Committee. (Appendix D)
- A unified Help Desk is in place to provide service to schools for technology-related problems. Schools make one call to request the appropriate service or assistance. (Appendices J & K)
- Every school has access to the internet and an Acceptable Use Policy is in place. (Appendix B)
- A gigabit wide area network (WAN) connects 285 schools in the district. This WAN provides video streaming, voice, and video conferencing services. It provides sufficient bandwidth to allow the use of new and emerging applications.
- Schools outside the metropolitan Las Vegas area are provided enhanced bandwidth via local providers.
- More than 27,000 telephones are supported via the WAN.
- 911 and E911 services are utilized at schools.
- Over 300 schools currently have video streaming/video on demand (VOD) programs and services.
- During the 2006-07 biennium, the state awarded technology grant funds to the district to upgrade classroom computers in schools where those computers were at least five years old. The grant also provided funds to replace school servers that were equally outdated. (Appendix C)

## OBJECTIVES AND ACTION STEPS

### 1.1 Maintain support for the WAN which provides data, voice, and video services.

Action Step	Timeline	Financial Resources	Staff Responsible
Lease fiber for all schools and offices to provide backbone for WAN	Ongoing	Approximately \$3 million/year	Technology and Information Systems: Networking Services: Telecommunications Unit
Implement 911 and E911 at each new site	As new schools are built	No additional cost—included in the cost of the phone system installed in a new school	Technology and Information Systems: Networking Services: Telecommunications Unit
Provide sufficient bandwidth to support increasing access to the Internet and Internet applications	Ongoing	Approximately \$300,000/year	Superintendent Schools: Technical Resources
Provide alternative data network where core network is too costly or inefficient	Ongoing	Approximately \$150,000/year	Technology and Information Systems: Networking Services
Provide proven filtering software and firewall solutions to protect students from objectionable web content in accordance with the Children's Internet Protection Act	Ongoing	Approximately \$330,000/year for filtering subscription, additional hardware, and hardware maintenance	Superintendent Schools: Technical Resources

### 1.2 Implement and monitor district plan for the purchase, upgrade, and replacement of infrastructure, hardware, and software.

Action Step	Timeline	Financial Resources	Staff Responsible
Fund refreshment of outdated technology, including, but not limited to, desktop computers and network infrastructure	Ongoing	Approximately \$3.5 million/year; action step completed with existing staff	Technology and Information Systems: Networking Services and School Technology Deployment
Upgrade and maintain district-wide web-based library management system	August 2007, then ongoing	Approximately \$62,000 to upgrade; then no additional cost	Technology and Information Systems: Networking Services; Curriculum and Professional Development: Library Services

Action Step	Timeline	Financial Resources	Staff Responsible
Upgrade headend equipment to improve classroom connectivity in schools that need a major facility upgrade	June 2007, then ongoing	Approximately \$1 million/year; action step completed with existing staff	Technology and Information Systems: School Deployment Services; Business and Finance: Facilities
Initiate a Network Operations Center to monitor health of network and infrastructure devices	July 2007, then ongoing	Approximately \$1 million/year	Technology and Information Systems: Networking Services
Annually review repair/response timeframe matrix that corresponds to the level of priority	Ongoing	No additional cost; action step completed with existing staff	Technology and Information Systems Services

## GOAL 2: A VARIETY OF TECHNOLOGIES WILL BE USED TO SUPPORT STUDENT ACHIEVEMENT.

### Background:

Technology tools and environments support student learning when they are integrated within curricula. Clark County School District uses a variety of technologies to support teaching and learning:

- Standards-based curriculum documents outline the technology objectives students must reach and include suggestions for classroom activities. Teachers are held accountable for using the documents in planning, teaching, and assessing. (Appendix F)
- Online proficiency practice tests and remediation modules allow students to become familiar with the content and question format utilized in state-wide proficiency exams as well as providing immediate feedback to the students.
- Planning differentiated instruction is facilitated by the use of an Integrated Data Management System (IDMS). Teachers track student progress and provide instruction based on student needs.
- An increasing number of schools and regions are using handhelds/PDAs and/or web-based data systems to track student assessment results.
- Streaming video and video on demand from Vegas PBS provides over 50,000 segments of instructional video along with other instructional resources such as maps, charts, and tests. (Appendix L)
- Vegas PBS offers analog and digital content to teacher in multiple ways: through video streaming, through media delivered via school mail, and/or through ITFS, the district's internal microwave broadcast system.
- Vegas PBS Educational Media Center (EMC) duplicated 947,769 analog and digital programs for 2005-06. These programs are used in instruction at schools throughout CCSD.
- Collaborative tools are available to allow teachers to use technologies such as online work spaces and conferences to share teaching strategies, resources, and ideas.
- Graphing calculators are included in the equipment list for new secondary schools and are widely used in the district.
- A wide variety of course offerings are available via Distance Education and/or Virtual High School to students who wish to increase their credits, take courses not offered at their local school, or who need a flexible learning environment. (Appendix H)

**OBJECTIVES AND ACTION STEPS**

2.1 Increase the integration of technology into core subject areas.

Action Step	Timeline	Financial Resources	Staff Responsible
Include technology integration strategies in curriculum documents	Science: June 2008, then ongoing Math: June 2009, then ongoing English Language Arts: June 2010, then ongoing	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Math, Science, and Technology
Survey level of technology use annually	March 2008 March 2009 March 2010	Approximately \$20,000; action step completed with existing staff	Curriculum and Professional Development: Math, Science, and Technology

2.2 Increase the use of technology in support of district initiatives.

Action Step	Timeline	Financial Resources	Staff Responsible
Develop an action plan based, on current research, to implement technology-based strategies to retain students in school.	March 2008, then ongoing	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Career and Technical Education
Provide training for teachers to use IDMS and other data systems to access student data for planning instruction in the core content areas	June 2008, then ongoing June 2009, then ongoing June 2010, then ongoing	No additional cost; action step completed with existing staff	Superintendent Schools: Instructional Data Systems

2.3 Implement new technologies to provide instructional content.

Action Step	Timeline	Financial Resources	Staff Responsible
Implement a robust video distribution system for schools built without coax cable to deliver broadcast content	September 2007, then ongoing	Approximately \$400,000 annually; action step completed with existing staff	Vegas PBS; Technology and Information Systems Services: Networking Services
Provide single sign-on server for easy access to digital content	September 2007, then ongoing	Approximately \$115,000 initially; then \$15,000 annually; action step completed with existing staff	Vegas PBS

### GOAL 3: PROFESSIONAL DEVELOPMENT RELATED TO TECHNOLOGY WILL BE PROVIDED TO ALL CCSD EMPLOYEES.

#### Background:

The Clark County School District believes that all staff should have the technology skills necessary for them to be efficient and productive in their roles to promote student achievement. To that end, CCSD provides a variety of technology-related training:

- Over 200 Educational Computing Strategists (ECSs) provide professional development and one-on-one support to teachers at the school level.
- The Curriculum and Professional Development Division staff provides on-going staff development in infusing technology into the content areas. These trainings are offered in a variety of ways: face-to-face, through collaborative tools such as *Centra*, and on-line courses.
- Support staff who provide school-based services serve a critical role in maintaining accurate student information. Over 150 professional development classes for support staff who use the student information system were offered in 2006-07. (Appendix N)
- Because CCSD encompasses a geographic area of almost 8,000 square miles, the district leverages technology to reach staff no matter their physical location. Online collaboration tools have been used to provide content classes for students, via distance learning and Virtual High School; teachers, through on-line and collaborative tools; and support staff via collaborative tools such as *Centra*.
- A district-wide Professional Development Consortium meets semi-annually to share highlights and initiatives. These meetings keep all the departments who provide training apprised of what each is doing.
- Technology-related professional development courses are available for salary or recertification credit through Curriculum and Professional Development: Professional Development Education. Over 850 people were able to take advantage of the classes offered in 2006-07. (Appendix N)
- Vegas PBS offers both site-based training and online graduate-level courses incorporating digital content.

## OBJECTIVES AND ACTION STEPS

### 3.1 Increase course offerings for school-based staff, both online and face-to-face.

Action Step	Timeline	Financial Resources	Staff Responsible
Assess teachers' and administrators' technology skills	October 2007, then ongoing	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Math, Science, and Technology
Offer focused site-based professional development at school sites by Educational Computing Specialists (ECSs) to meet the identified needs	Ongoing	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Math, Science, and Technology
Use online resources to provide professional development activities for teachers and administrators	Ongoing	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Math, Science, and Technology; Vegas PBS
Provide training on incorporating broadcast digital video in classroom instruction	September 2007, then ongoing	No additional cost; action step completed with existing staff	Vegas PBS

### 3.2 Increase the number of courses, both on-line and face-to-face, taught for non-classroom populations.

Action Step	Timeline	Financial Resources	Staff Responsible
Provide technology course for administrators as part of administrator training	February 2008 February 2009 February 2010	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Administrative Training
Continue professional development for ECSs focused on classroom integration.	Ongoing	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Math, Science, and Technology
Coordinate a Summer Technology Institute with administrator and ECS strands	June 2008 June 2009 June 2010	\$300,000 annually; action step completed with existing staff	Curriculum and Professional Development: Math, Science, and Technology
Provide training in technology skills for all professional development instructors	December 2007	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Math, Science, and Technology
Develop online courses for support staff personnel	July 2008, then ongoing	No additional cost; action step completed with existing staff	Business and Finance: ERP Training Unit Technology and Information Systems Services: Information Systems Training

## GOAL 4: TECHNOLOGY WILL BE USED TO ENHANCE COMMUNICATION AMONG CCSD STAKEHOLDERS, INCLUDING STUDENTS, TEACHERS, ADMINISTRATORS, SUPPORT STAFF, PARENTS, AND THE COMMUNITY.

### Background:

Keeping all stakeholders informed and involved is of major importance in the Clark County School District. CCSD uses a variety of technologies to promote communication among stakeholders. Some examples are:

- Web sites have become a key source of information for the CCSD stakeholder community. District, department, and school web sites provide a wealth of information including, but not limited to, activities, calendars, data, meetings, and news.
- A parent communication system implemented by many secondary schools allows parents to follow student assignments, attendance, and grades.
- A single district-wide standards-based report card is used throughout all elementary schools.
- A centralized data management system for student data and testing data provides accountability and progress information.
- *Pathlore*, a registration and tracking system for professional development, permits all staff to register for courses and monitor transcripts showing the courses they have completed.
- An intranet collaborative system provides e-mail capabilities for all CCSD employees. This system also features conferences for site-specific or district-wide communications.

**OBJECTIVES AND ACTION STEPS**

4.1 Continue to use technology to provide improved communication with parents.

Action Step	Timeline	Financial Resources	Staff Responsible
Implement a district-wide parent communication system	July 2007, then ongoing	Approximately \$1 million initially; then \$300,000 annually	Technology and Information Systems Services; Instruction Unit
Expand teacher use of myccsd.net	January 2009, then ongoing	No additional cost; action step completed with existing staff	Research, Accountability, and Innovations: Technology Resources

4.2 Utilize a committee to communicate technology initiatives, needs, and roadmaps across all technology providing divisions.

Action Step	Timeline	Financial Resources	Staff Responsible
A committee of technology providers will meet quarterly to discuss departmental initiatives, needs, and roadmaps	January 2008, then ongoing	No additional cost; action step completed with existing staff	Technology and Information Systems Services lead; representatives from Assessment & Accountability; Curriculum and Professional Development; Student Support Services
Review district hardware and software standards annually and publish standards	February 2008 February 2009 February 2010	No additional cost; action step completed with existing staff	Technology Standards Committee

4.3 Increase the use of video conferencing and other synchronous/asynchronous tools.

Action Step	Timeline	Financial Resources	Staff Responsible
Provide training and support for schools and departments with access to video conferencing systems	August 2007, then ongoing	No additional cost; action step completed with existing staff	Technology and Information Systems Services
Increase intradistrict collaboration on best practices for using video resources and online learning activities	January 2009, then ongoing	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Math, Science, and Technology; Superintendent Schools: Technical Services; Technology and Information Systems Services; Vegas PBS

**GOAL 5: EDUCATIONAL SOFTWARE, DIGITAL CONTENT, AND HARDWARE WILL BE IMPLEMENTED BASED ON NEEDS ASSESSMENTS, RESEARCH, AND/OR DEMONSTRATED EFFECTIVENESS IN CURRICULUM, INSTRUCTIONAL CLASSROOMS, AND SCHOOL ADMINISTRATION.**

**Background:**

The Clark County School District seeks best practices in delivery of curriculum as well as in business support. Some activities in this area:

- Curriculum and Professional Development has developed a collection of video resources for best practices in classroom teaching.
- East Region creating a centralize list of effective software and hardware used to support the curriculum
- The Business and Finance department has begun the Implementation of an ERP in July 2007 to promote greater efficiency and functionality in the business processes of the district
- Software and hardware selections have been purchased based on research showing positive results. Such technologies include applications such as *Read 180*, *Criterion*, *Lexia*, *Waterford*, and *Compass Math*.

## OBJECTIVES AND ACTION STEPS

5.1 Develop list of recommended technology-based instructional tools, data or assessment tools and curriculum programs which support classroom instruction.

<b>Action Step</b>	<b>Timeline</b>	<b>Financial Resources</b>	<b>Staff Responsible</b>
Create a district-wide list of effective software to guide school- and department-based purchasing decisions	December 2008, then ongoing	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Math, Science and Technology
Research findings supporting the use and publish list of recommended software and hardware	July 2009, then ongoing	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Math, Science and Technology & Literacy

5.2 New technologies will be sought, evaluated for effectiveness, and incorporated where appropriate.

<b>Action Step</b>	<b>Timeline</b>	<b>Financial Resources</b>	<b>Staff Responsible</b>
Pursue additional grant opportunities	July 2007, then ongoing	No additional cost; action step completed with existing staff	Student Support Services: Grants Development and Administration
Increase hand-held technologies for assessment	July 2008, then ongoing	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Literacy
Develop a tool for evaluating pilot projects	June 2010, then ongoing	No additional cost; action step completed with existing staff	Superintendent Schools: Research

## GOAL 6: THE CCSD TECHNOLOGY PLAN WILL BE REVIEWED AND EVALUATED ON AN ANNUAL BASIS.

### **Background:**

Part of Clark County School District's active commitment to educational technology is the understanding that goals and objectives must be regularly reviewed and evaluated to be effective. The major components are:

- School technology plans are reviewed on an annual basis. (Appendix I)
- Strong connections between school technology plans and school improvement plans are in place.
- The CCSD Technology Plan is evaluated annually and mid-course corrections are provided.

## **OBJECTIVES AND ACTION STEPS**

### 6.1 Evaluate progress in meeting timelines and action steps.

<b>Action Step</b>	<b>Timeline</b>	<b>Financial Resources</b>	<b>Staff Responsible</b>
Develop an instrument to evaluate the CCSD technology plan on an annual basis	January 2008	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Math, Science and Technology; Technology and Information Systems Services
Responsible staff provide response to measure progress toward timelines	March 2008 March 2009 March 2010	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Math, Science and Technology
Committee reviews the plan and responses to produce revisions and corrections	May 2008 May 2009 May 2010	No additional cost; action step completed with existing staff	Technology Planning Review Team

### 6.2 A customer satisfaction survey will be solicited from stakeholders.

<b>Action Step</b>	<b>Timeline</b>	<b>Financial Resources</b>	<b>Staff Responsible</b>
Develop an instrument to be distributed to technology users to determine level of satisfaction of services provided under this plan	January 2008 January 2009 January 2010	No additional cost; action step completed with existing staff	Curriculum and Professional Development: Math, Science and Technology
Review the survey results to inform revisions to the plan	May 2007	No additional cost; action step completed with existing staff	Technology Planning Advisory Team

## BUDGET SUMMARY

<b>Goal 1: All students, teachers, and staff will have access to information technology in their classrooms and schools</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>
1.1 Lease fiber for all schools and offices to provide backbone for WAN	\$3,000,000	\$3,000,000	\$3,000,000
1.1 Provide sufficient bandwidth to support increasing access to the Internet and Internet applications	\$300,000	\$300,000	\$300,000
1.1 Provide alternative data network where core network is too costly or inefficient	\$150,000	\$150,000	\$150,000
1.1 Provide proven filtering software and firewall solutions to protect students from objectionable web content in accordance with the Children's Internet Protection Act	\$330,000	\$330,000	\$330,000
1.2 Fund refreshment of outdated technology, including, but not limited to, desktop computers and network infrastructure	\$3,500,000	\$3,500,000	\$3,500,000
1.2 Upgrade and maintain district-wide web-based library management system	\$62,000	\$0	\$0
1.2 Upgrade headend equipment to improve classroom connectivity in schools that need a major facility upgrade	\$1,000,000	\$1,000,000	\$1,000,000
1.2 Initiate a Network Operations Center to monitor health of network and infrastructure devices	\$1,000,000	\$1,000,000	\$1,000,000
Goal 1 budget subtotal	\$9,342,000	\$9,280,000	\$9,280,000
Other action steps – No additional cost; action steps completed with existing staff			
<b>Total 3-year budget</b>	<b>\$27,902,000</b>		

<b>Goal 2: A variety of technologies will be used to support student achievement</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>
2.1 Survey level of technology use annually	\$20,000	\$10,000	\$10,000
2.3 Implement a robust video distribution system for schools built without coax cable to deliver broadcast content	\$400,000	\$400,000	\$400,000
2.3 Provide single sign-on server for easy access to digital content	\$115,000	\$15,000	\$15,000
Goal 2 budget subtotal	\$535,000	\$425,000	\$425,000
Other action steps – No additional cost; action steps completed with existing staff			
<b>Total 3-year budget</b>	<b>\$1,385,000</b>		

<b>Goal 3: Professional development related to technology will be provided to all CCSD employees.</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>
3.2 Coordinate a Summer Technology Institute with administrator and ECS strands	\$300,000	\$300,000	\$300,000
Other action steps – No additional cost; action steps completed with existing staff			
<b>Total 3-year budget</b>	<b>\$900,000</b>		

<b>Goal 4: Technology will be used to enhance communication among CCSD stakeholders, including students, teachers, administrators, support staff, parents, and the community.</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>
4.1 Implement a district-wide parent communication system	\$1,000,000	\$300,000	\$300,000
Other action steps – No additional cost; action steps completed with existing staff			
<b>Total 3-year budget</b>	<b>\$1,600,000</b>		

<b>Goal 5: Educational software, digital content, and hardware will be implemented based on needs assessments, research, and/or demonstrated effectiveness in curriculum, instructional classrooms, and school administration.</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>
No additional cost; action steps completed with existing staff			

<b>Goal 6: The CCSD Technology Plan will be reviewed and evaluated on an annual basis.</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>
No additional cost; action steps completed with existing staff			

## TECHNOLOGY PLANNING ADVISORY TEAM

Loretta Asay	Coordinator, Curriculum and Professional Development: Math, Science, and Instructional Technology
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Craig Cuddihy	Coordinator, Vegas PBS
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