



**Additional briefs include:**

Strategies for Improving Academic Achievement and Teacher Effectiveness

Goals

Steps to Increase Accessibility

Promotion of Curricula and Teaching Strategies That Integrate Technology

Professional Development

Coordination with Other Resources

Integration of Technology with Curricula and Instruction

Innovative Delivery Strategies

Parental Involvement

Collaboration with Adult Literacy Service Providers

Accountability Measures

Supporting Resources

Collection of Key Questions to Consider

## Technology Type and Costs

*Local technology applications and plans should include a description of the type and costs of technology to be acquired with Ed Tech funds, including provisions for the interoperability of components.*

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### Overview

The ever-changing technology landscape, with its increased requests for student assessment data from stakeholders and its need to maintain a dynamic teaching and learning environment, dictates that district leaders create a long-term strategic technology plan that is flexible toward new technologies and funding models. Selecting technologies that are cost-effective and provide measurable impact on teaching and learning is a challenge, and the process doesn't stop after the technology has been placed in the hands of students, teachers and support staff. In order to successfully meet this challenge, it is crucial that school leaders understand the total cost of placing technologies into classrooms. In an effort to maximize investment in technology, many districts are rallying around the School Interoperability Framework (SIF), an industry-standard blueprint for K–12 software that acts to ensure that instructional and administrative software applications work together effectively. Understanding and incorporating SIF concepts can help school leaders successfully identify the kinds of technology to consider in system-wide planning and thus navigate the complete implementation cycle.

### Key Questions to Consider

- What technology options effectively support teaching and learning in a variety of classroom and learning environments?
- What are some lower-cost options to providing technological support besides a desktop computer for every student?
- What are the real cost factors involved in successful uses of technology to support teaching and learning?

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## Strategies for Addressing Local Technology Applications and Plans

Recent reports on the use of technology in K–12 education provide evidence that computers are in widespread use in schools. Over 77% of instructional rooms and 98% of schools have access to the Internet (National Center for Education Statistics, 2001).

*“Schools should not focus on technology, but their individual education challenges and then match their technology solutions to those needs.”*  
(John Bailey)

For planning purposes, technology should not be exclusively considered as being the realm of computers. While not an exhaustive list, the following types of technology should also be considered: desktop and portable computers, computer software, CD-ROMs, networking hardware and connectivity (including wireless), local area and wide area networks, server computers, printers, scanners, projectors, and other peripherals, probeware, calculators, personal digital assistants (PDAs), portable word processors (e.g., AlphaSmart), and assistive technologies (e.g., special keyboards, input devices).

While a major portion of funding for school technology is focused on hardware and software (MDR), a closer calculation of the “Total Cost of Ownership” (TCO) of technology advises administrators that, “technology will impact more than your hardware and software budget, it will affect the entire school.” (IAETE) The Total Cost of Ownership model identifies the following areas for which administrators need to prepare in their long-term planning:

- Professional Development
- Support
- Connectivity
- Software
- Replacement Costs
- Retrofitting

Many Internet resources around the Total Cost of Ownership of technology provide administrators with tools for planning and budgeting costs of technology. One such tool is the Texas STaR Chart. (Texas Education Agency, 2001) This valuable resource provides an extensive rubric for evaluating a district’s technology

readiness in four key areas: Teaching and Learning, Educator Preparation and Development, Administration and Support Services, and Infrastructure for Technology. The rubric defines Administrator and Support Services in a “Target Tech” district as follows:

### **Vision and Planning**

- The technology plan is actively supported by the board
- The plan is collaboratively developed, guiding policy and practice, and is updated at least annually
- The campus plan is focused on student success and based on needs, research, proven teaching and learning principles
- Administrators use technology for planning and decision making

### **Technical Support**

- At least one technical staff to 350 computers
- Staff are centrally-deployed and campus-based
- Technical support is on-site and response time is less than four hours

### **Instructional and Administrative Staffing**

- Full-time district level Technology Coordinator/Assistant Superintendent for Technology
- Dedicated campus-based instructional technology support staff: one per campus plus one for every 1,000 students, with additional staff as needed

### **Budget**

- Campus budget for hardware and software purchases, sufficient staffing support, costs for professional development, incentives for professional development, facilities, and other ongoing costs
- Appropriate budget to support the campus technology plan

### **Funding**

- Technology allotment, TIF, other competitive grants, E-Rate

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discounts, locally supplemented through tax dollars

- Other state and federal programs directed to support technology funding, bond funds, business partnerships, donations, foundations, and other local funds designated for technology

## Extended Resources

Building the 21st Century School

<http://archive.ncsa.uiuc.edu/IDT/>

This site is dedicated to helping you and your schools save money and time by coordinating your technology and facilities infrastructure needs.

Network Primer

<http://www.edc.org/LNT/news/Issue14/feature2.htm>

This resource provides a handbook of best practices for educational technology managers who do not have technical backgrounds.

The Texas STaR Chart

<http://www.tea.state.tx.us/technology/etac/>

Modeled after the CEO Forum STaR Chart, the Texas STaR Chart provides districts with planning, budgeting, and evaluating tools.

Taking the TCO to the Classroom

<http://www.classroomtco.org/>

This resource provides resources to school leaders on total cost of ownership of technology.

Technology at Your Fingertips

<http://nces.ed.gov/pubs98/tech/index.asp>

This publication describes a process for getting the best possible technology solution for your organization.

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Technology Briefs for NCLB Planners can be obtained by visiting <http://www.neirtec.org>.

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