Forum Guide to Technology Management in Education

National Forum on Education Statistics

National Forum on Education Statistics

Mission: To plan, recommend, and develop education data resources that support local, state, and national efforts to improve public and private education throughout the United States.

Members:

- Representatives of offices of the U.S. Department of Education and other federal agencies

- Representatives of state and local education agencies (SEAs and LEAs)

- Associate members from U.S. territories, Regional Educational Laboratories (RELs), and national education associations
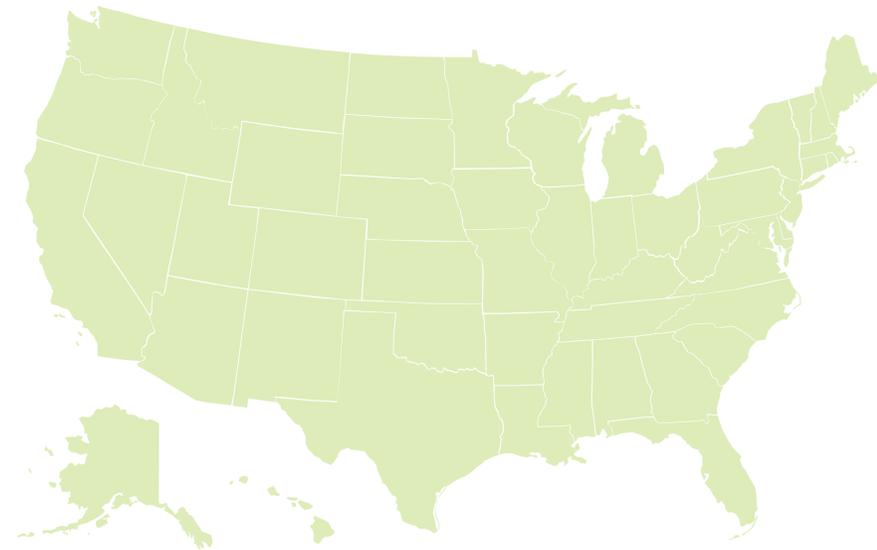
Education Technology Working Group Motivation

- Forum members identified a need for information to help LEAs select and evaluate technology tools.

- Many of the topics were covered in the 2005 Forum publication *Forum Unified Education Technology Suite.*

- The Education Technology Working Group was tasked with reviewing and updating the 2005 document.
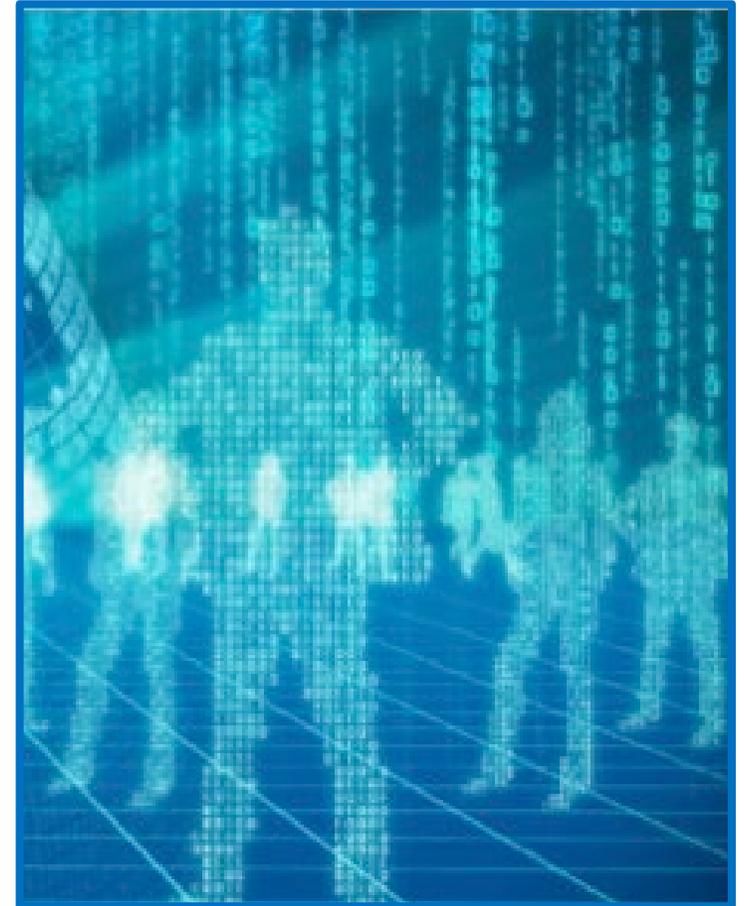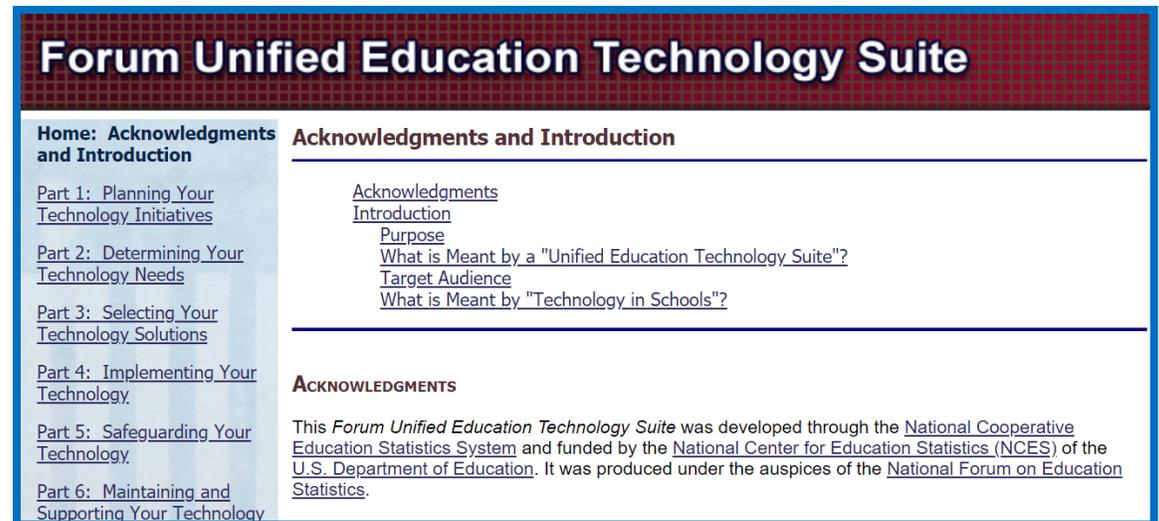

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Purpose and Audience

- **Purpose:** To assist SEAs and LEAs in identifying best practices for selecting and implementing technology and address the widespread use and integration of technology in SEAs and LEAs, including administration (such as human resources and finances), reporting, infrastructure, and student information systems.

- **Audience:** SEA and LEA staff who are involved in technology decisionmaking.

Useful Concepts From the 2005 Guide

The new resource maintains the structure and many of the concepts from the 2005 document, including these:

- How to do a technology needs assessment

- The importance of planning, including technology plans

- Best practices for the following:

  - Reviewing technology options

  - Implementing and integrating technology

  - Maintaining and supporting technology

  - Providing professional development

New and Expanded Content

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- Real-world examples of technology plans

- New information on technology governance

- Examples of needs assessments in practice

- Expanded information when thinking through technology options

- Expanded information for analyzing costs and establishing a budget

- Expanded information on evaluating technology

Website Sections

1. Technology Governance and Planning

2. Reviewing Your Technology Options

3. Implementing and Integrating Your Technology

4. Training for Your Technology

5. Maintaining and Supporting Your Technology

6. Privacy and Security

Appendix: Guiding Questions for a Technology Needs Assessment

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Introduction

Technology in Education

- There is a full range of technology that supports overall SEA and LEA goals related to teaching and learning.
- This includes a wide range of devices, systems, and networks.
- Systems are increasingly integrated.

Engaging With Technology in Education

- Parents … use an online portal to know when their child's assignments are due.
- Principals … use student information systems.
- Technology staff … understand the system criticality to create disaster recovery plans.
- Teachers … understand how their selection/use of technologies may enhance student learning.
- Students … are aware of and understand acceptable use policies.

Section 1: Technology Governance and Planning

Technology Governance: The process that agencies use to make decisions about current and future uses of technology *(International Standards Organization)*

Practices for effective governance:

- Encourage close collaboration between technology, contracts, procurement, and other specialists.
- Involve technology staff in decisionmaking.
- Allow enough flexibility in planning and implementation for systems to evolve.

Washington State Policy: Managing Information Technology Portfolios
https://ocio.wa.gov/policy/managing-information-technology-portfolios

Creighton University Information Technology Governance Model
https://doit.creighton.edu/services-provided-doit/project-management-office/project-governance/it-governance-model

Technology Plans

Technology Plans help establish goals for technology use.

Characteristics of good plans:

- Aligned with the agency's vision
- Specify how technology will be used to support the agency's strategic goals
- Demonstrate that planners have considered long-range funding issues
- Provide timelines and milestones
- Address technology integration
- Include measures for evaluation

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National Education Technology Plan

Reimagining the Role of Technology in Education: 2017 National Education Technology Plan Update
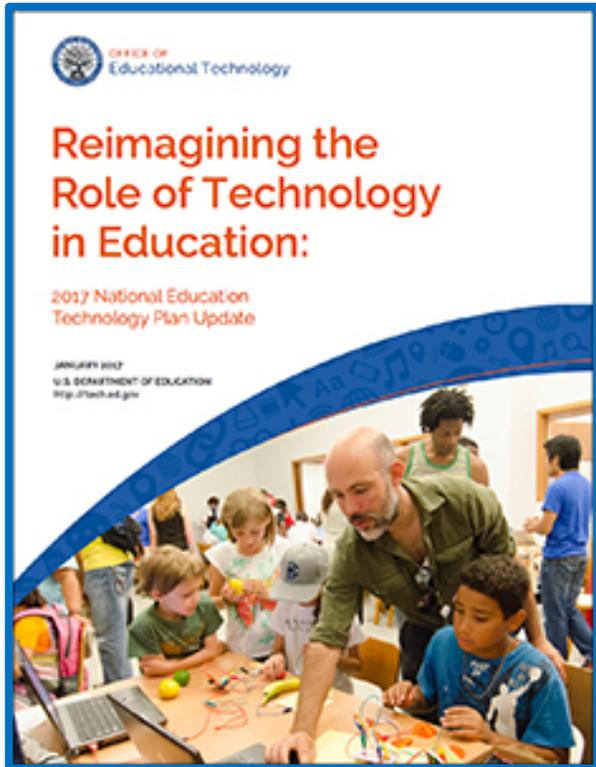
The National Education Technology Plan is regularly updated by the U.S. Department of Education Office of Educational Technology. The 2017 plan, available at https://tech.ed.gov/netp/, sets a national vision and plan for learning enabled by technology and focuses on five major areas:

1. Learning—Engaging and Empowering Learning through Technology

2. Teaching—Teaching with Technology

3. Leadership—Creating a Culture and Conditions for Innovation and Change

4. Assessment—Measuring for Learning

5. Infrastructure—Enabling Access and Effective Use

Technology Needs Assessments

The Technology Needs Assessment

- focuses on the organization's current capabilities;

- identifies capabilities that are needed; and

- determines how additional or newer technology can best meet those needs.

Technology Needs Assessment Steps:

- Gathering needs-related information

- Reviewing and prioritizing needs

- Documenting results

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Needs Assessments in Practice

Let's consider three scenarios:

1. The "Big Bang": Your Agency Needs to Replace a Large, Integral System

2. A Teacher Needs a New App for Classroom Use

3. Your Agency Receives a Directive to Implement a New Initiative

How can the needs assessment process help agencies in each scenario?

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Section 2: Reviewing Your Technology Options

Four questions should guide the technology review:

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1. What is the best approach to meeting the requirements (that is, filling the identified need)?

2. How much will the solution cost?

3. Will the benefit be worth the cost to the agency?

4. Is the solution sustainable?

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Reviewing Your Technology Options: Common Considerations

- Reviewing Agency Guidelines and Procedures
- Performing a Build-Versus-Buy Analysis
- Cloud Versus On-Premises Solutions
- Purchasing Versus Leasing Equipment
- Selecting Software for Classrooms
- Evaluating Human Resources
- Engaging Users in the Selection Process

- Interoperability/Standards
- Documentation
- Analyzing Costs and Establishing a Budget
- Making a Final Decision
- Documenting the Decision
- Communicating the Decision to Stakeholders

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Protecting Student Privacy While Using Online Education Services

U.S. Department of Education Privacy Technical Assistance Center (PTAC)

- Model Terms of Service
  https://studentprivacy.ed.gov/resources/protecting-student-privacy-while-using-online-educational-services-model-terms-service

- Requirements and Best Practices
  https://studentprivacy.ed.gov/resources/protecting-student-privacy-while-using-online-educational-services-requirements-and-best

- Webinar
  https://studentprivacy.ed.gov/training/protecting-student-privacy-while-using-online-educational-services-march-2014

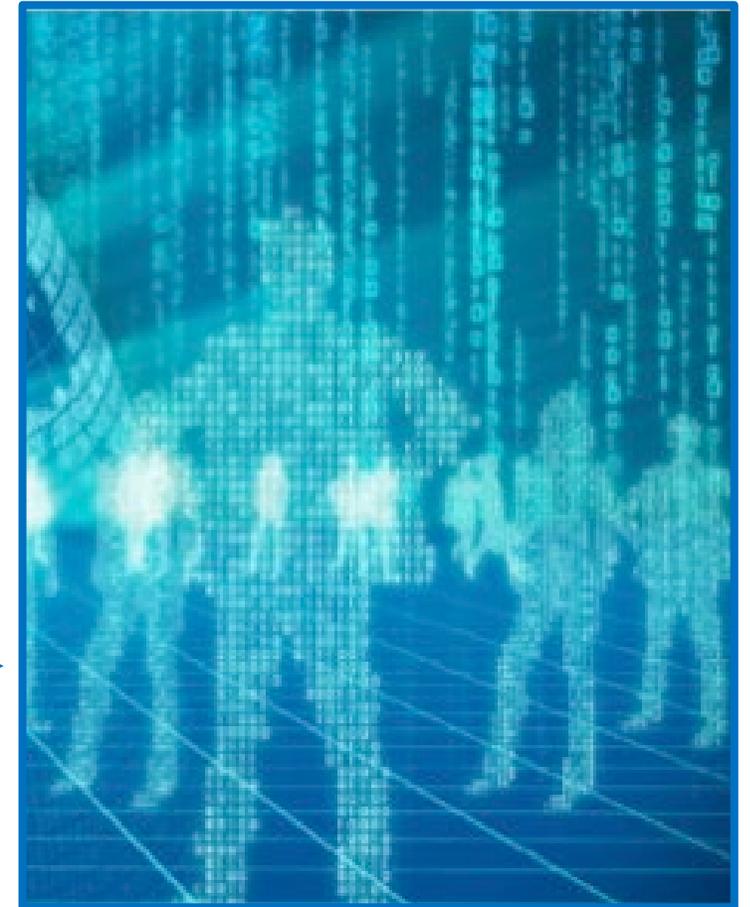# Section 3: Implementing and Integrating Your Technology

Once an agency has made a final decision about a new technology, the next step is to plan the process for implementing the technology and integrating it with existing systems and ongoing agency work.

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Project Planning

- Identifying the project sponsor
- Identifying a project manager, team leader, or co-leader
- Establishing a project team
- Appointing a steering committee
- Developing a project management plan
- Collecting requirements and defining the scope
- Establishing a schedule
- Conducting a risk assessment
- Monitoring project progress
- Handling common risks

Technology Plans and Project Management Plans

- ***Technology Plans*** establish the overarching vision and goals for an agency's technology use.
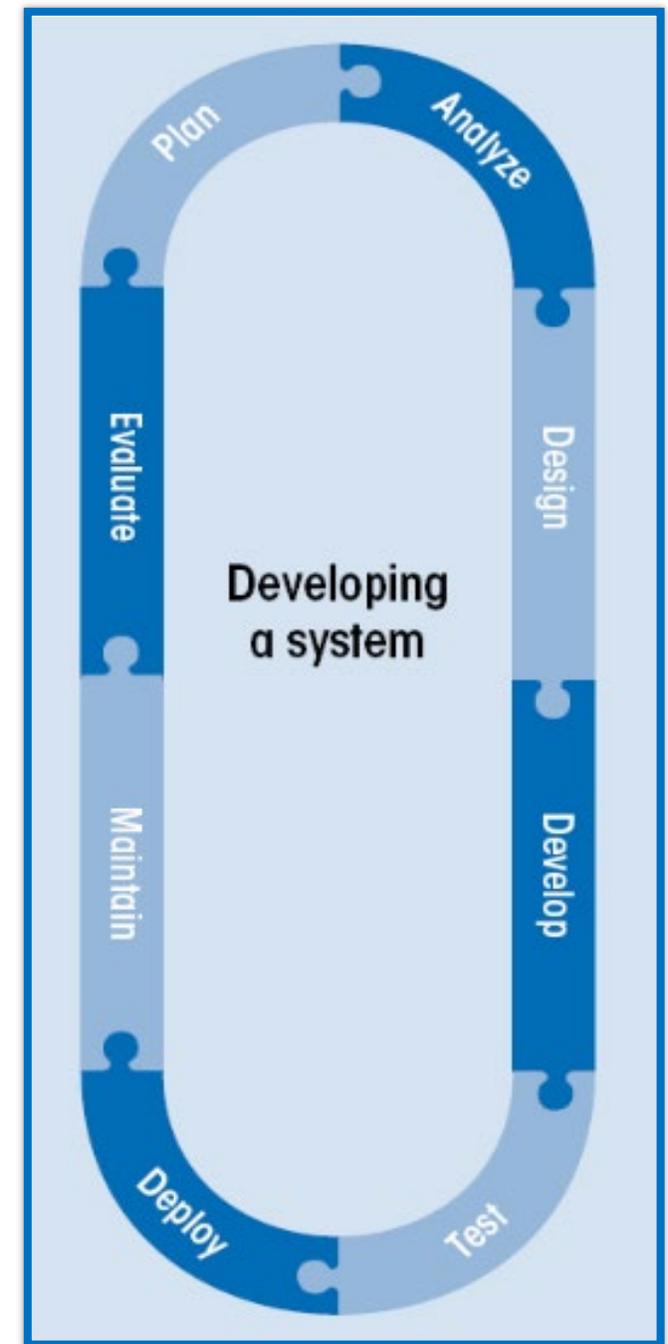

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- ***Project Management Plans*** are plans that specify how an individual project, such as the design and implementation of a new system, will be carried out.

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The System Development Life Cycle

When planning technology projects, agencies often incorporate the system development life cycle (SDLC) in their approach to project management.

Organizational Change Management

Regardless of how seamless a new technology is integrated, there is often a period of time when staff must learn how to use the new technology.

Strategies for Successful Organizational Change Management:

- Invite volunteers to implement a new technology first and then serve as mentors to other staff.

- Create sandboxes, or test sites, for hands-on learning.

- Implement pilot programs.

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Implementing and Integrating: Additional Key Considerations

- Converting From Old Information Systems

  Conversion is the process of moving information from an existing system to a new system. Conversions should be well planned and implemented to avoid costly delays and loss of productivity.

- Quality Assurance Testing

  New systems should be extensively tested prior to delivery to verify that they are functioning properly.

- Arranging for Handover

  Handover is the point in time at which the organization deems that the technology system is complete and ready for routine usage.

Measures of Implementation Success

- How many users have been trained? How many are using the system successfully (or on a regular basis)?

- What unexpected costs occurred? Has efficiency improved?

- Is the technology being used, and what statistics are available to document use?

- What feedback have technology users provided?

- Were the agency's goals for the new technology achieved?

- Do stakeholders consider the project to be successful when surveyed about the change? If so, why, and if not, what aspects of the project should be improved?

Section 4: Training for Your Technology

Professional development is an ongoing process; as systems are enhanced, replaced, or upgraded, users need additional training to maintain their knowledge of the systems and learn new capabilities.

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Training for Your Technology: Key Questions

- What Are Your Professional Development Goals?

- Who Should Receive Professional Development?

- What Types of Professional Development Are Needed?

- What Format Is Best?

- When Should Professional Development Be Provided?

- Who Should Deliver Professional Development?

- When Is Additional Training Needed?

- How Will You Evaluate Professional Development Programs?

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Section 5: Maintaining and Supporting Your Technology

- Considering Maintenance Services

- Establishing Support Services

- Sustainability

- Upgrades and Enhancements

- Evaluating Your Technology

Sustainability: The ability to keep systems running effectively over time

○ *Funding*

○ *Staffing*

○ *Refresh Cycles*

○ *Vendor Changes*

Re-deploying Tech: secondlaunchwv

"SecondlaunchWV is technology recycling at its best. Through the initiative, which was launched by the West Virginia Department of Education in June 2015, computers and other technology equipment no longer being used by state agencies are donated to the West Virginia Department of Education...."

**16,384**
items have been reinvested within 47 counties

$5,466,637
in technology costs savings to West Virginia

Source: https://wvde.us/infrastructure-and-network-support/second-launch/

Staffing Models to Support Technology

The Kentucky Department of Education published *The People Side of K-12 Tech: A Human Capital Call to Action* to address the finding that the demand for access to digital content and subsequent growth in technology investments continues to outpace the growth rate of the human capital or staffing required.
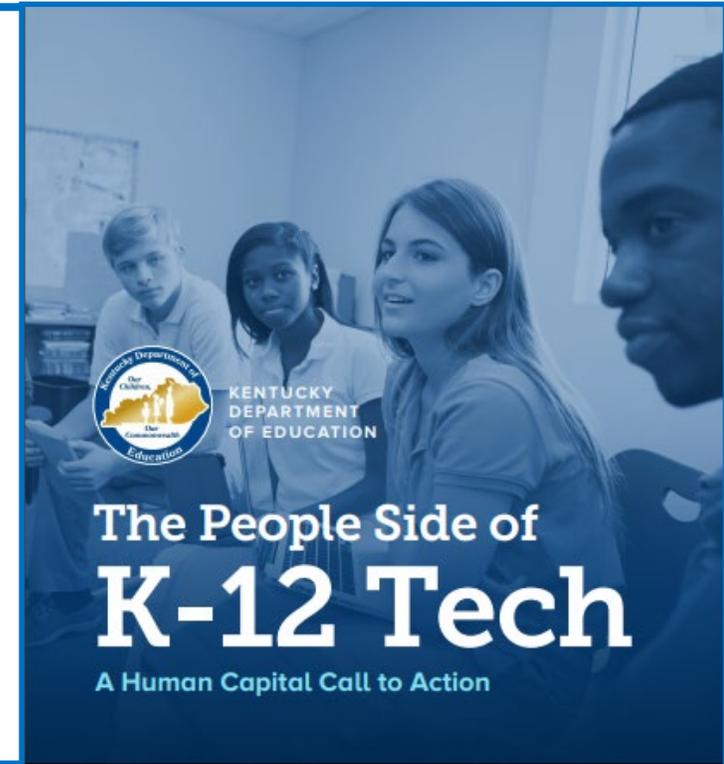
Section 6: Privacy and Security

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Privacy and security are critical aspects of technology governance that should be addressed in an education agency's technology plan (see section 1) and taken into consideration throughout the process of acquiring, integrating, managing, and disposing of technology.

VII. Privacy and Security

The U.S. Department of Education Privacy Technical Assistance Center (PTAC) has published a number of resources that can assist SEAs and LEAs with understanding federal privacy and security requirements and implementing best practices:

- Online training modules

- Videos

- Webinars

- Frequently asked questions

- Resources tailored to specific audiences

Protecting Student Privacy
U.S. DEPARTMENT OF EDUCATION
A Service of the Privacy Technical Assistance Center and the Student Privacy Policy Office

https://studentprivacy.ed.gov/

Appendix: Guiding Questions for a Technology Needs Assessment

Plan the Needs Assessment

- Goal of needs assessment?
- Organizational commitment?
- Available resources?
- Guiding team/committee?
- Timeline?

Gather Needs-Related Information

- Current challenges?
- Most important challenges?
- Current capabilities?
- Organizational goals?
- Requirements?
- Ownership of technology?
- Measures of success?
- Available PD/support?

Appendix: Guiding Questions for a Technology Needs Assessment

Review and Prioritize

- Stakeholders?
- Stakeholder wants/needs?
- Magnitude of gap between current capacity/desired state?
- Most prevalent needs?
- Emergent needs?
- Nonnegotiable needs?

Document Results

- Target audience for results?
- Best method for documentation/presentation?
- Top needs?
- Alignment with strategic plan?
- Key criteria?
- Cost considerations?
- Other factors?

Education Technology Working Group

Chair

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Kristen DeSalvatore, New York State Education Department

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Rachel Johnson, Loudoun County Public Schools (VA)

Jay Pennington, Iowa Department of Education

Peter D. Tamayo, Washington State Office of Superintendent of Public Instruction

Questions?

Forum Resources

- For more information about the Forum, please visit https://nces.ed.gov/forum/index.asp

- Download free Forum resources at http://nces.ed.gov/forum/publications.asp

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