Resources for the

EmpowerED Superintendent

In partnership with AASA The Superintendents Association

The Importance of Cybersecurity

With the growing concerns about security among families, school systems, and legislators, and with an increased teacher and student reliance on Internet accessibility, school cybersecurity is subject to more scrutiny than ever. Alarmingly, many school systems are not being sufficiently aggressive in getting ahead of cybersecurity problems.

TOP 5 REASONS why school system tech leaders must make cybersecurity a priority

1 • Liability

School systems and technology leaders may be held liable for network security incidents. The costs of these incidents can be extremely high and can include the cost of determining the cause, preventing future breaches, legal counsel, public relations to regain trust, and remediation. In the case of ransomware, there may be the cost of ransom itself if the school system chooses to pay, though that is often not recommended by law enforcement. Further, school system leaders as individuals may be sued by families whose data was compromised by a security breach.

2 • Legal requirements

Depending on the state, there may be legal requirements for how data is secured, generally requiring reasonable security measures. As concerns about data privacy continue to multiply, more state-level legislative action is being taken, creating a patchwork of privacy and security laws nationwide. Some of these laws are more restrictive than others, with some requiring school systems to keep all data stored within the state. At the federal level, regulators require "reasonable security," leaving the data holder to determine what that requires, depending on their systems security standards, best practices, and sensitivity of the data.

3 • Professional reputation

The reputation of both the school system and the technology leader are damaged when the network or school system data is compromised. Network breaches often become the subject of media focus, creating a much bigger public relations disaster and leading to overall trust being compromised.

4 • Teaching and learning

When the network is unavailable, as with a Distributed Denial of Service (DDOS) attack, schools lose precious instructional hours. Teachers who are prepared to use technology in the classroom need to take the time to find and fall back on non-digital resources.

5 • Student digital records

Student records may be breached and maliciously modified. The risk is not only external hackers, but students themselves. Breached student records may negatively impact future college applications or employment. Student identities may be stolen with no one the wiser until the students apply for college financial aid.

The Cybersecurity initiative is a CoSN focus area. For a comprehensive collection of downloadable resources, toolkits, and more, go to **https://www.cosn.org/edtech-topics/cybersecurity/**.

Student Data Privacy

A SCHOOL SYSTEM PRIORITY. AN ESSENTIAL COMMITMENT.

As citizens, students, educators, parents, employees, and consumers, we all have concerns about maintaining the privacy of our personal data. For school school systems, data privacy is a multi-stakeholder priority, and it touches every aspect of operations—from student transportation to instruction, assessment to athletics, and counseling to community initiatives. Today and going forward, student data privacy policies and their implementation are hard-wired for governance, discipline, purchasing, and communications processes. Assessing privacy and compliance policies and practices related to your system-wide use of technology is a continual priority.

FIVE CRITICAL GUIDELINES for ensuring data privacy in your use of technology

1 • Stay current and compliant with federal and state laws.

Working with your school system's legal counsel and coordinating compliance with your technology, assessment, curriculum, student services, human resources, and all technology vendors, is the first priority. While technology programs, employee behavior, and products and services are key components in compliance, the mandate begins at the school system's executive level. Many school systems designate a single senior leader or leadership team to lead the efforts on legal compliance.

2 • Address community and stakeholder expecta-tions early and often.

Provide a clear review of your data privacy policy and compliance practices on your website, student handbook, parent communications, staff policies, vendor documents, etc. At the same time, ask stakeholders about their expectations for data privacy and take those concerns into consideration when developing your policy. Communications and clarity go a long way in preventing issues, mitigating confusion, and in some cases, protecting against potential legal challenges.

3 • Keep instructional impacts in the picture.

Student data is essential in supporting learning and success. Data enhances continuous academic improvement and the power to personalize learning. The challenge is balancing instructional needs and opportunities with the need for privacy. Students, families, educators, school leaders, and vendors alike, all play a role in striking the appropriate balance between access to learning resources and services, and privacy.

4 • Responsive, responsible privacy administration & management mitigates risk.

Continual management of a compliance program that designates rules, procedures, and appointing an individual or group responsible for decisions is a starting point. The Student Data Principles, created by CoSN and the Data Quality Campaign offer 10 critical guidelines to serve as the foundation of administration and management practices.

5 • Training. Training. Training.

Anyone who collects or has access to students' personal information needs and deserves training and resources. From the swimming coach to school bus driver, school librarian to the nurse, teachers, counselors, and administrators in every department...everyone should learn how to use student data securely, effectively, legally, and ethically, in keeping with your school system's policies and requirements.

Student data privacy is a long-standing area of CoSN engagement, expertise, and experience. You can access CoSN's comprehensive portfolio of resources at **CoSN.org/privacy and CoSN.org/Trusted**.

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Leadership for Digital Learning

HOW CAN SCHOOL SYSTEMS FIND SUCCESS WITH 1:1 IMPLEMENTATIONS? START WITH THE "WHY"!

Too many school systems haven't thought through the fundamental reasons why they need 1:1 devices for their students–they start with superficial reasons such as keeping up with the digital natives, or fulfilling a board mandate. Without a coherent, shared reason for implementing 1:1, the project is likely to be diluted and not have as strong an impact. But when school systems rally around reasons like "preparing students for life and work in modern times," their decision-making grows stronger, and their impact is multiplied.

FOR MAXIMUM IMPACT, school systems need to prepare both their technological and human platforms for new ways of doing things and for continual, ongoing improvement.

Technological platforms

- Adequate bandwidth for current needs and future growth
- Robust, data protected, reliable infrastructure
- Resilient networks with multiple paths
- Personal, connected devices for each student
- Efficient cloud strategy
- Provide just-in-time learning for device care and student accountability
- Stabilize and protect the network

Human platforms

- Shared goals and metrics that align to the "why" of 1:1 implementation
- Prioritize continual improvement and support for teachers
- Student-centered approaches
- Data-informed instruction and decision-making
- Place curriculum at the forefront
- Provide after hours help desk support for families

SCHOOL SYSTEMS ALSO NEED to execute the nuts and bolts of delivering the program

Program management

- Planning
- Implementation
- Continual improvement
- Learn from successes and previous challenges

Communications

- Marketing to press, community, parents, students, and school system staff
- Clear lines of communication within school system
- Feedback obtained from students, teachers, parents, and other stakeholders

Leadership for Digital Learning is a CoSN initiative. For a comprehensive collection of downloadable resources, videos, case studies, and more, go to **https://www.cosn.org/edtech-topics/state-of-edtech-leadership**.

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Cloud Computing

EMAIL, LEARNING MANAGEMENT SYSTEMS, AND PRODUCTIVITY TOOLS—YOU'VE MADE IT TO THE CLOUD! NOW WHAT?

The majority of IT workloads are already running in the cloud as school systems turn to software-as-a-service (SaaS) for email and other productivity tools, learning management systems, and other learning solutions. But SaaS is only one way to engage with the cloud—there are many other ways!

- Solving a particular pain point, such as backups to protect against ransomware

- Providing for disaster recovery

- Trying new software and services quickly and easily

- Simplifying network management

- Refocusing on education and getting out of the data center business

New technologies and applications are being developed in the cloud for numerous industries, with many now becoming available to schools and school systems.

- Data sharing across applications

- Data analytics solutions using disparate data from multiple sources to create insights about improving learning

- Management and innovation in the Internet of Things (IoT)

- Data-informed personalization technologies

Moving to the cloud offers great benefits, but also requires new skills and analysis to determine what, when, and how to move.

- Leveraging enterprise cloud security tools to better safeguard data

- Re-skilling of the IT team to move from hardware maintenance to customer-facing support

- Careful analysis of actual utilization of existing hardware, rather than a complete lift-and-shift, to determine a valid estimate of potential cost savings in the cloud

CoSN has developed comprehensive **resources** to support your technology and leadership teams in making critical decisions about the move to cloud computing. You can access this valuable resource at **https://www.cosn.org/edtech-topics/network-design/#cloud**

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Network Systems & Design for Transformation and Innovation

Education networks have evolved from addressing school system operational and administrative needs to serving students and teachers in and beyond the classroom, anywhere and anytime. Innovative technologies, more access to the Internet, and powerful communication, creation, and collaboration tools are driving instructional transformation. Rapid change is increasing demand for greater network capacity and reliability. Innovations in data visualization, embedded digital formative assessment, immersive, adaptive digital content, and interoperability place additional demands on school system networks. And all this comes in an uncertain funding environment.

How can school system leaders make high-stakes infrastructure investment decisions when technology, teaching and learning priorities, and funding are changing so rapidly and so constantly? Here are six core characteristics of the "new" network to include in your network design and architecture planning.

The **NEW NETWORK DESIGN** at a glance

1 • Multiple paths to the Internet

The Internet is a destination for every education stakeholder. The new network will offer higher capacity and reliability through multiple connection points, either through multiple providers or multiple paths from a single provider.

2 • Two or more data centers and/or cloud services

The goal is to increase reliability, ensure disaster recovery, reduce costs, and add agility to ensure future-ready design.

3 • Reduction in single points of failure

School system WAN is designed to deliver increased reliability and to reduce the impact of any outages on students.

4 • Software and services hosted in the cloud

This provides greater Internet bandwidth, gives students reliable anywhere/anytime access, and streamlines access control requirements.

5 • Near-term requirements are met with a clear vision for the future

Your LAN is designed to meet near and mid-term performance demand and a roadmap is established to address long term demand.

6 • Support for students' use of devices

Your network supports not only 1:1 but 1:3-5 student devices and the accompanying high density Wi-Fi demand and delivery, streamlined support, and security for BYOD devices.

As school systems experience growing demand for capacity, reliability, and mobility, the need for the new network is critical. That's where *CoSN's Network Systems & Design* resources are on point and valuable for both your leadership and technology teams. Visit https://www.cosn.org/edtech-topics/network-design/

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Strategic Technology Planning and Investment

ALIGNING PRIORITIES. BALANCING CHOICE, COST & OUTCOMES.

Technology investments can be complicated and more often than not, the challenges begin almost from the moment a school system begins to consider next steps in the overarching technology plan. With tight budgets and multiple stakeholders involved, each with valid concerns, a framework for evaluating technology initiatives and tools for arriving at well-supported decisions are more important than ever before. The CoSN resources give school system leaders tools and resources to evaluate, rethink and strengthen technology decision-making, aligning investments with your strategic goals, financial and human resources, and improvements in student learning.

THREE ESSENTIAL FOCAL POINTS

When technology initiatives are viewed as investments rather than simply costs, we have the opportunity to apply decision-making analytics that are meaningful in an education context. With this framework, we can think of investment planning as a triangle, with three equally important, interdependent perspectives.

1 • Total cost of ownership

Educational technology comes with direct and indirect costs. Using Total Cost of Ownership (TCO) analysis addresses the initial investment and the operational and support costs over the life of the investment for your entire technology environment. A TCO perspective helps all decision-makers holistically understand the costs of implementing and maintaining devices and related infrastructure. A sound TCO assessment will give you and your team the data you need to make informed decisions about technology initiatives and investments going forward.

CoSN offers a comprehensive set of TCO tools at **https://www.cosn.org/edtech-topics/empowered-superintendents/** under *Financing Technology Innovations* to assist in calculating the TCO of your school system's entire IT environment, including the costs of acquiring and maintaining the school system's entire IT infrastructure and operations. The tools cover all infrastructure, user hardware and software, staff support costs, and user-related costs. This kind of comprehensive assessment will help you articulate the overall effects of proposed budget cuts, investments in new initiatives, delays in previously established plans, and other strategic decisions.

2 • Student outcomes & budget management

Making technology central to the teaching and learning mission supports the drive to increase student achievement even as budgets shrink. While short-term cuts in IT funding may seem prudent when budgets are on the chopping block, too often this leads to increased expenses for the school system in terms of computer down-time and end user time dealing with technology issues. Reframe budget challenges as an opportunity to rethink and strengthen technology investments, operations, programs, staffing plans, and results.

3 • Value of investment

The decision to approve or amend a specific technology project also deserves strategic thought. For investments focused on educationally critical, yet qualitative benefits, Value of Investment (VOI) is a helpful perspective when working to gain school board approval, articulating costs and benefits, comparing cost/benefit among competing projects, and determining if a project should be continued.

CoSN offers two helpful resources, the Project Cost Workbook and the Project Benefits Tool to help school system leaders measure the quantitative and qualitative costs and benefits of proposed technology projects. The tools help you connect projected benefits to your school system's mission, goals, and mandates. This can be found at **https://www.cosn.org/edtech-topics/empowered-superintendents/** under *Financing Technology Innovations.*

Creating Equitable Opportunities for ALL Learners

DIGITAL EQUITY STRATEGIES FOR LEARNING INSIDE & OUTSIDE THE CLASSROOM

Digital technologies have opened up new learning opportunities for students, providing them with access to resources, experts, communities, and creative possibilities. However, the promise of anywhere, anytime learning requires two critical conditions: that we ensure equitable access to devices and high-speed Internet both inside and outside of school for ALL students as well as their families and guardians; and that students have equitable access to learning experiences that include creative, transformative uses of technology.

THINK OUTSIDE THE BOX to achieve digital equity

Create a Common Vision

Too often, conversations about digital equity center around hardware and infrastructure. While this is a critical component, school system leaders also need to be able to communicate a shared understanding around the possibilities for student learning. A clearly defined vision for how devices and expanded broadband access intends to augment and expand students' learning opportunities will help school system leadership teams to gain buy-in and support from stakeholders including teachers, families, students, local officials, and the broader community.

Convening Your Community for Action

Libraries, community centers, community-based organizations, and faith-based organizations can make great partners for school leaders in the drive to improve digital equity. Banding together with community partners can expand access to broadband as well as devices and serve families who are under-connected. Beyond access, these organizations can also help to build critical digital literacy skills with families and guardians.

Get Creative About Wi-Fi & Device Deployment

Whether through creating your own wireless network, providing wireless hotspots to students, or extending school hours, think about how to ensure that students might have more equitable access to devices and then Internet. Consider mapping out locations where students might access free Wi-Fi in your community, installing Wi-Fi on school buses to increase time for students to do homework while in transit, and partnering with local libraries or community centers for students to check out devices and mobile hotspots.

Everyone Needs to be a Digital Learner

Digital equity requires more than a device and a fast connection as students need the opportunity to develop as expert learners. Beyond providing opportunities for teachers to engage in professional learning, families and guardians also need additional support. Consider partnering with libraries, nonprofits, or community centers to provide training on how to navigate the Internet, use software, model appropriate use, and connect with their child's school.

Learn How Others Are Closing the Homework Gap

See examples and get underway with CoSN's free, Digital Equity Action Toolkit.

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Accessibility

Enhancing the Use of Technology to Implement Inclusive Systems

No matter where the learning is occurring, the adoption of inclusive technology strategies and tools creates empowerment and belonging for many learners, but for some, access to these tools is a civil right. When learning experiences are accessible, students with and without disabilities have the opportunity to gain the same information, engage in the same interactions, and enjoy the same services as students without disabilities with substantially equivalent ease of use. U.S. Department of Justice and the U.S. Department of Education.

Four Compelling Steps to Address Accessibility

1. Cultivate an inclusive culture:

An inclusive culture starts with a shared belief that all students can learn at high levels and ensuring inclusion becomes just the way business is done. Encourage an accessibility mindset so that educators think in terms of how they ensure that all learning is accessible by providing accessible educational materials (AEM) and assistive technologies (AT), to meet the needs of each student. Demonstrate accessibility in your communications.

2. Stay current with federal and state legislation:

Advancements in technology are consistently reshaping how students can engage with educational materials and learning environments. To stay in line with regulations, educational institutions must ensure that all educational tools are accessible as outlined in the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act. Additionally, examine the accessibility policies of your state, other school systems and consider appointing an accessibility coordinator or training in-house staff to provide support for all students.

3. Develop an accessibility policy including guidelines for purchasing:

Establish and clearly convey policies regarding the accessibility needs of students with disabilities to guarantee they receive the necessary support. Furthermore, such guidelines should cover the acquisition of technology tools, content, and programs. A variety of accessible formats should be available based on need including braille, large print, tactile graphics, audio, and digital text.

4. Prioritize professional learning:

Accessibility is a shared responsibility and a system-wide commitment. Professional development programs, along with regular updates will contribute to the capacity of staff and faculty to ensure that every student has an equal opportunity to learn and participate in the educational environment. Building staff capacity not only serves students and staff but also helps protect the school system from liability.

Learn More:

The Center for Inclusive Technology and Education Systems at CAST provides a framework including action steps for inclusive technology practices and supported the development of this resource. CoSN is a CITES sustainability partner.

Learn more: cosn.org/accessibility

Effective Technology Professional Development

THE SECRET SAUCE FOR SUCCESSFUL CLASSROOM TRANSFORMATION

THREE CRITICAL GUIDELINES for professional learning that improves classroom practice

1	**2**	**3**
Focus on specific content areas	**Provide opportunities to engage in hands-on learning**	**Directly connect experience to daily practice**

FACTORS SCHOOL LEADERS MUST CONSIDER when planning for & evaluating professional learning opportunities

- There is a direct correlation between the formation of dedicated learning communities and instructional improvements.

- Teaches need to be engaged in sustained social learning with mentors and peers.

- Professional learning should not be limited to prescribed workshops or independent activities.

- Educators require a combination of focused instruction, opportunities to test out concepts, and a chance to gain meaningful feedback from colleagues.

CoSN recognizes professional learning as a critical component to improving digital literacy and technology capacity for educators, administrators, and students. Viewing it as a necessary component for addressing digital equity and launching K-12 innovation, CoSN advocates that district leaders consider professional learning as a component of all technology initiatives.

When it comes to maximizing technology tools for learning, professional learning for all educators requires a focus not only on specific tools but also on impactful changes in pedagogy which support the sustained effective use of technology tools.

Learn about more professional development opportunities from CoSN at:
https://www.cosn.org/education-events/event-calendar/

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The Role of Leadership in Protecting Student Data Privacy

The need for school systems to demonstrate their commitment to protecting student data has never been greater. School system leaders know that protecting student data privacy is a top concern of parents, legislators and their peers. They also appreciate that developing a data privacy governance program is not the job of one person or one team. It is a multi-stakeholder endeavor that requires executive leadership engagement, commitment and support.

About the TLE seal

CoSN's national Trusted Learning Environment (TLE) Seal Program, launched in 2016, is the only student data privacy seal for school systems and school organizations of all governance structures. Developed through the input of 28 school systems nationwide as well as the School Superintendents Association (AASA), the Association of School Business Officials International (ASBO) and ASCD, the Program provides school systems with a comprehensive approach to protecting the privacy of student information.

The TLE seal promise

TLE Seal recipients signal that they have taken measurable steps to help protect the privacy of student data. The Seal reflects strong leadership driving a holistic data privacy program and a commitment to the continuous examination and evolution of their privacy practices and to building a trusted partnership with parents and other community stakeholders.

Learn more: **https://cosn.org/privacy**

The TLE program sets rigorous, publicly available standards and requirements for school systems in the following areas:

Leadership Manage and collaborate with stakeholders regarding the use and governance of student data to inform instruction

Business Establish acquisition vetting processes and contracts that, at a minimum, address compliance with applicable laws while supporting innovation

Data security Perform regular audits of data privacy and security practices

Professional development Require school staff to conduct privacy and security training, and offer the instruction to all stakeholders, including parents

Classroom Implement educational procedures and processes to ensure transparency while advancing curricular goals

The TLE Program is supported by lead partners:

AASA — THE SCHOOL SUPERINTENDENTS ASSOCIATION

ASBO — ASSOCIATION OF SCHOOL BUSINESS OFFICIALS INTERNATIONAL

ASCD® — LEARN. TEACH. LEAD.

CoSN — Leading Education Innovation

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The Importance of Interoperability in School Systems

INTEROPER—WHAT?

Interoperability is the seamless sharing of data, content and services among systems or applications. Anyone who's traveled overseas and didn't bring a power adapter understands interoperability, or rather the lack of it. An analogous situation exists in districts' digital ecosystems. Most systems were not designed to work together. IT departments spend a lot of time and their school systems' money connecting systems that need to work together. Michigan did an extensive study and found the lack of interoperability costs the state $163,000,000 per year.*

As districts' ecosystems become increasingly digital, the need for interoperability between systems becomes increasingly apparent— for cost efficiencies as well as teaching and learning effectiveness. The IT world is shifting from a product-oriented to a service-oriented environment while schools struggle to make ends meet. Therefore, it is essential for K–12 leaders to learn how to maximize the benefits of existing enterprise systems while adding new solutions that are cost-effective and scalable.

The key to understanding interoperability is contained in the word itself—"ABILITY." Interoperability is the ability to…

- Roster students on day one
- Readily access data
- Reallocate resources
- Give your teachers (and IT department!) their evenings and Sundays back
- Keep data secure
- Ensure data quality

Unless we solve this interoperability challenge, the education sector will continue to have siloed data, difficulties in student rostering, inaccuracies in data transfer, end-user frustration of managing multiple log-ins, and unnecessary and costly expense retrofitting solutions together, as well as inherently inefficient systems. That's why understanding interoperability is crucial for any edtech leader.

CoSN has developed an interoperability toolkit to support your technology and leadership. **cosn.org/ interoperability**.

*The Michigan Data Hub: A strategic Alignment and ROI Study
https://www.midatahub.org/downloads/data_integration/michigan_data_hub_roi_study.pdf

Artificial Intelligence & Generative AI

Empowering a Deeper Conversation

Artificial Intelligence

Artificial Intelligence (AI) is the intellect shown by machines which is based on the synthesized and predictive inferences of the information with which they are trained. In other words, smart machines can be programmed to process data and perform human-like tasks.

Generative AI

Generative AI is a type of artificial intelligence that uses algorithms to produce new data, often in the form of images or text. It is the natural language and informed response capabilities of generative AI that has been surprising educators. We've witnessed the leapfrogging from Google Searches providing hyperlinks to a GPT (Chat Generative Pre-trained Transformer) chatting back and refining plausible answers.

Essential Leadership Guidelines

Generative AI has ushered in a paradigm shift in society that K-12 institutions can shepherd. Superintendents and school district administrators are encouraged to implement these essential guidelines when working with leadership teams and staff to create actionable steps and policies around AI and Generative AI.

Awareness: Ensure that users are aware of the AI tools and their potential benefits for K-12 education. Focusing on how to use Generative AI as a way to develop higher-order thinking skills is a good start.

Limitations: Explain the limitations of the AI tools and the potential for errors or inaccuracies. Teach critical thinking skills to assess and validate AI output.

Ethics and Etiquette: Promote good online etiquette, including proofreading and fact-checking. Teach Ethics in relationship to AI created or assisted work products.

Ongoing Training: Provide ongoing innovation training and reinforcement on the best ways to use AI tools in a safe and responsible manner.

Reporting: Educate the school community about how to report incidents or concerns.

Policies: Set policies to create a culture of safe and responsible use to mitigate the potential risks associated with using AI tools in a school environment while iterating effective ways to leverage the power of generative AI.

Privacy and Security Measures: Review your student data privacy policy, practices, and security measures and consider how they relate when using AI tools.

CoSN Resources

https://www.cosn.org/ai/