



School Board Meeting – April 17, 2023



Rockford Area Schools

*presented by,
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April 17, 2023

#ROCKETS883





District Technology Services

This presentation will outline and begin a discussion about the planning of district technology services for school years: 2023 to 2028.



Mission:

In partnership with our communities and families, Rockford Area Schools provides challenging opportunities to engage, inspire, and educate globally-minded citizens.

Vision:

Rockford Area Schools provides a supportive, rigorous, and relevant learning culture producing courageous learners prepared to enter a global society.

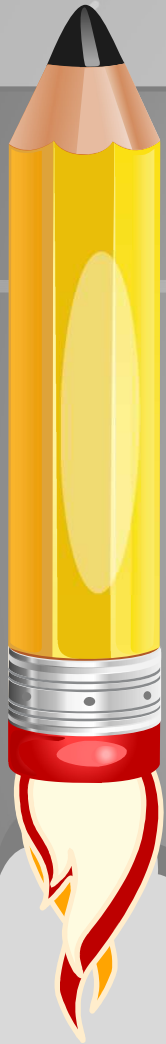
Technology Vision:

Empowering stakeholders with equitable access to high-quality instructional practices through a secure digital environment, while providing exceptional support and customer service, is the overarching vision of the technology services department at Rockford Area Schools.



Launching Innovation

Governance – Digital Curriculum



Instruction

- Digital content standards
- Device Requirements
- Professional Development
- School Inventory Management
- Digital Divide – home access

Information Management

- Device acquisition & supply
- Content Repository & storage
- Device Support
- Broadband expansion/Wi-fi Density
- Interoperability and data exchanges

Human Resources

- Personnel Action Files (PAF)
- Contracts development
- Employment application

Facilities

- Classroom and Facility Design
- School cabling and installations

Finance & Risk Management

- Reallocation of budgets to fund program
- Centralization of device budgets
- Procurement, acquisition, PCI compliance
- Grant writing and servicing

Operations

- School building security cameras/locks
- Theft management and recovery
- Business continuity

Communications & Marketing

- Legislative initiatives & agency collaboration
- Parent, student, staff communications
- Community reports, social media, web sites
- Media and conference opportunities

Security and Identity Management

- Personal Identifiable Information
- Single Sign-On
- Numerous Data Privacy laws and regulations
- Best Practices and cybersecurity



Enable
Equitable
Access &
Effective Use

Environment
Safe and
Secure

Engage
and
Empower

Educational
Technology
Support

Basic Core Strategies

Our stakeholders will be informed about how we will establish and maintain best practice in the following areas:

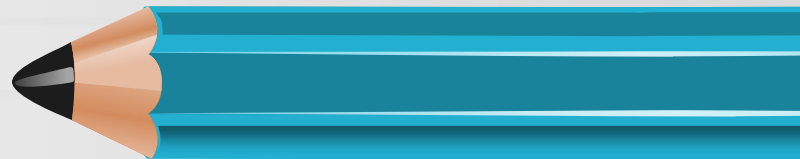
Sustain 1:1

How to sustain and improve a one-to-one digital learning program.



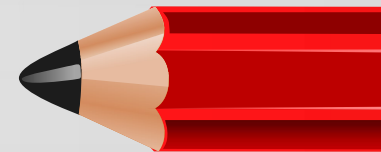
Instructional Practices

How to leverage technology to enrich instructional practices and foster student engagement.



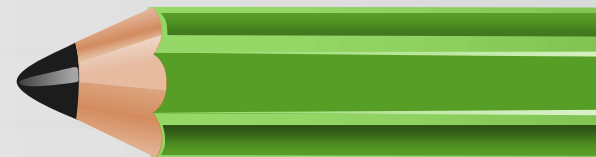
Assess Student Needs

How to assess students' needs using different methods and respond appropriately.



Digital Citizenship

The significance of their online behavior and the importance of being a positive digital citizen within a diverse global community.



Engage and Empower

Our stakeholders will have confidence that we will implement best practices in the following areas:

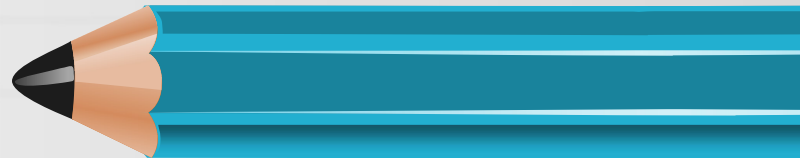
Infrastructure

The function and operation of our infrastructure and the different systems required for its success.



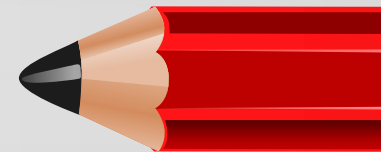
Resource Management

How to locate and utilize available resources for productive learning and knowledge.



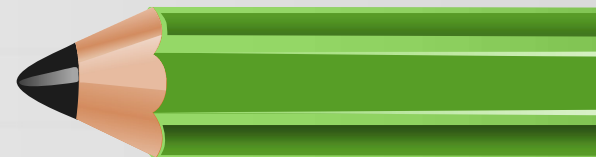
Personalized & Meaningful

The purpose and benefits of a program about personalizing the individual learning needs for our students through digital and technological tools, including student devices to bolster student self-esteem, career tracts, and further lifelong learning.



Accessibility

How accessibility options can remove obstacles and create an all-inclusive environment.



Enabling Equitable Access & Effective Use

Environment – Safe and Secure

We will establish and review best practices regarding:

Cyber Security Practices

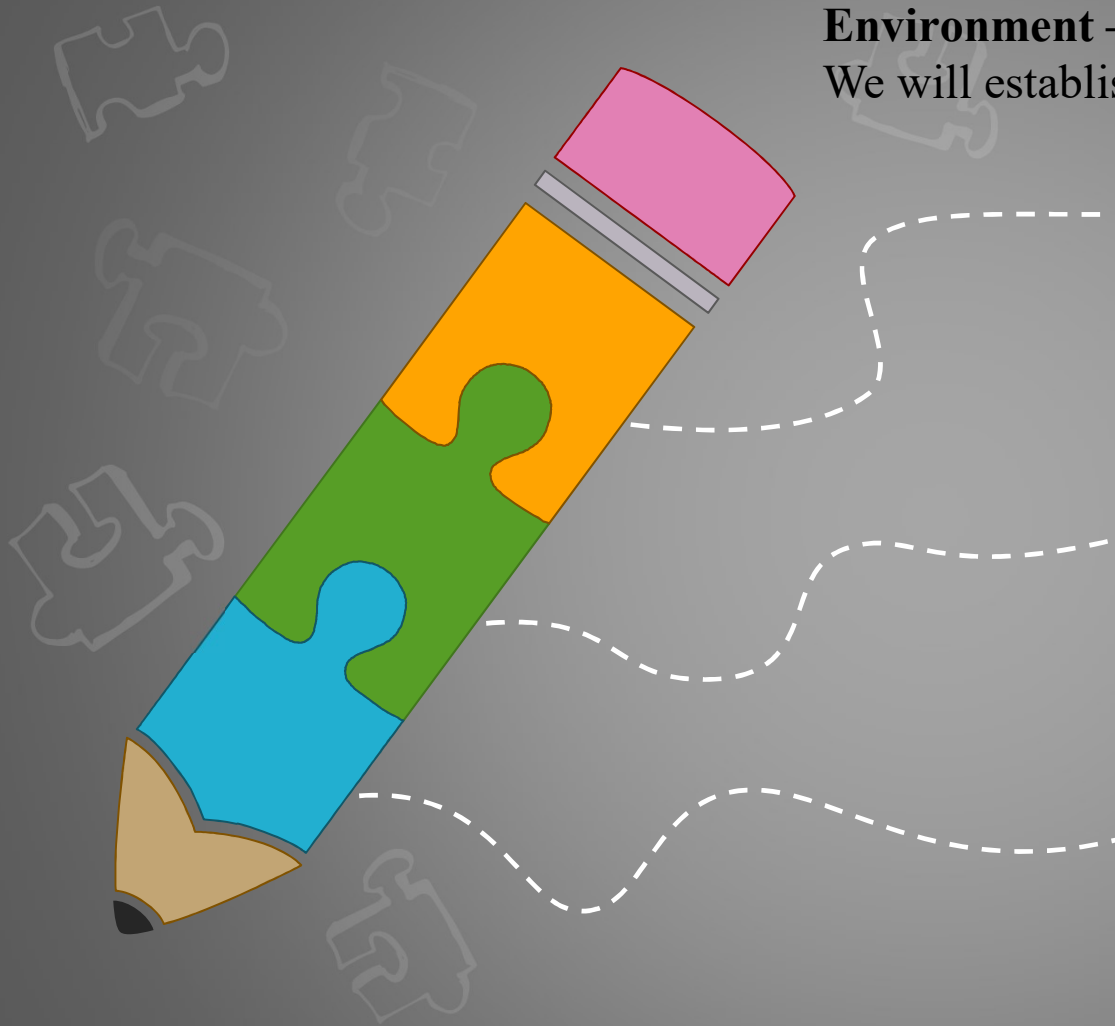
The importance of cyber security practices, including device security, data privacy, and managing digital footprints.

Digital Security & Privacy

Rockford Area Schools is committed to providing the highest levels of digital security possible while maintaining academic freedom.

Integrity of Data

How to assess the credibility of online resources, communications, and websites – and how to realize and report any suspicious activities.



Educational Technology Support

Stakeholders will be knowledgeable about:

Communicate/Collaborate

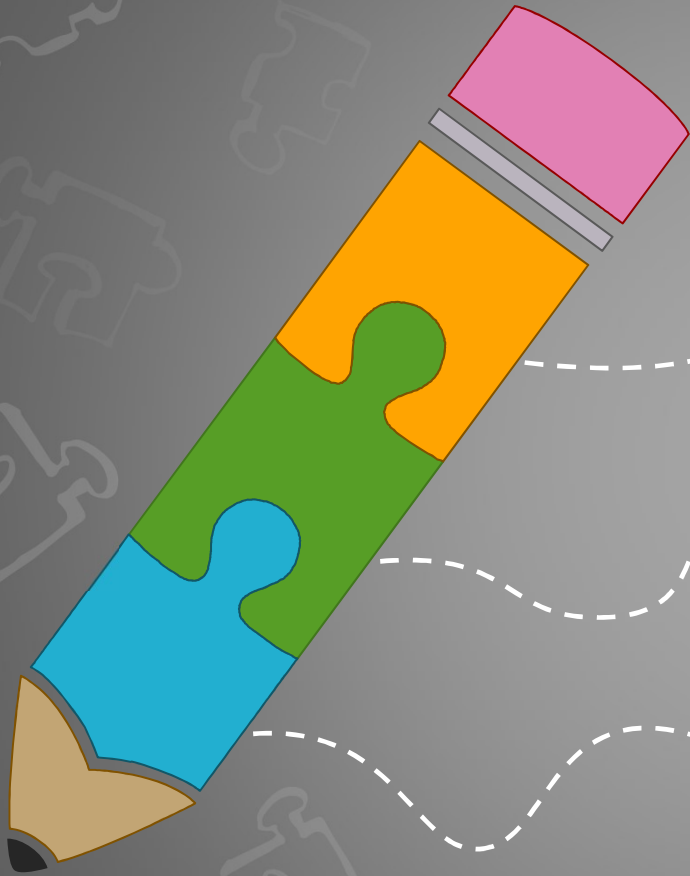
How to communicate and collaborate with members of the technology department to obtain assistance with their questions and concerns.

Utilize Tools & Resources

How to utilize the tools and resources available to support learning among stakeholders.

Access Materials

Where to access on demand articles, videos, and other informational materials to receive additional support and learning opportunities.





Engage and Empower Goals

Strategic Goal 1: How to define, sustain, and improve a one-to-one digital learning program.

Strategic Goal 2: How to replace, integrate, and train stakeholders with classroom interactive boards in grades K-12.

Strategic Goal 3: Our goal is to establish and maintain a safe, secure, and technologically advanced learning environment that fosters personalized learning, student engagement, and digital responsibility for all stakeholders. We will provide access to high-quality digital resources and support the development of best practices for technology integration and online behavior. We will strive to ensure that our stakeholders have the necessary tools, skills, and knowledge to succeed in a rapidly changing digital world, while also promoting collaboration, creativity, and innovation.

Strategic Goal 4: Review and Improve the ability for stakeholders in different disciplines to utilize integrity-based data - driven analytics.

Strategic Goal 5: How to determine, implement, and monitor adaptive and individualized learning based on student needs and activities.



Enabling Equitable Access and Effective Use (Enterprise Systems) - Goals

Strategic Goal 1: To achieve a more efficient and scalable technology infrastructure, the district will evaluate current and ongoing investments in legacy systems and hardware and prioritize the replacement of outdated technology with innovative solutions.

Strategic Goal 2: To ensure effective management and support of district K-12 school operations, the technology services department will review and upgrade enterprise systems, including legacy systems approaching end of life, to meet current and future needs, and to provide the necessary infrastructure for secure and efficient data management, communication, and learning.

Strategic Goal 3: Establish a comprehensive enterprise level program that leverages digital and technological tools, including student devices, to personalize learning for each student, bolster their self-esteem, and prepare them for future career paths and lifelong learning opportunities. The program will comply with the MN Student Data Privacy Act and focus on providing students with resources and applications to develop their unique talents, strengths, and learning styles, while promoting a growth mindset and equipping them with critical digital literacy and citizenship skills. The ultimate goal is to improve academic outcomes, increase student engagement, and prepare students for success in a rapidly changing digital world.



Enabling Equitable Access and Effective Use (Enterprise Systems) - Goals

Strategic Goal 4: To ensure the reliability and efficiency of all critical school infrastructure, the strategic goal is to implement a comprehensive maintenance program that includes regular checks, upgrades, and replacements of phone systems, public address systems, point of sale terminals, servers, and wireless networks to ensure they are always up-to-date and meet the evolving needs of the K-12 school community.

Strategic Goal 5: To ensure the reliability and efficiency of all critical school infrastructure, the strategic goal is to implement a comprehensive maintenance program that includes regular checks, upgrades, and replacements of phone systems, public address systems, point of sale terminals, servers, and wireless networks to ensure they are always up-to-date and meet the evolving needs of the K-12 school community.



Environment – Safe and Secure (Operations and Infrastructure) Goals

Strategic Goal 1: Develop and implement Action Plans and Best Practices to assess risks based on industry standards and prioritizing cybersecurity resources to address the greatest risks is an essential step in ensuring the security and privacy of student data.

Strategic Goal 2: Determine and implement adequate resources to effectively manage the security program and reduced risk and vulnerability of the organization's information systems.



Environment – Safe and Secure (Operations and Infrastructure)

Strategic Goal 3: Rockford Schools aims to upgrade its information systems to comply with regulatory reporting requirements. This includes staff development and implementation of modern and efficient enterprise systems to enable secure and accurate data collection, analysis, and reporting. By enhancing data reliability and accuracy, we can improve decision-making, enhance student achievement, and foster transparency and accountability. We will need to allocate necessary resources and establish clear timelines for system upgrades and data uploads.

Strategic Goal 4: To enhance the safety and security of all stakeholders in K-12 schools, the strategic goal is to upgrade, replace, maintain, and provide appropriate access to security camera systems and door control systems. This goal aims to ensure that all school facilities are equipped with state-of-the-art security camera and door control technology that provides comprehensive coverage of critical areas, enables timely detection of potential security threats, and allows for quick and effective response to emergency situations. The program will include regular maintenance and updates of existing systems, replacement of outdated or malfunctioning equipment, and the provision of appropriate access to authorized personnel to ensure effective monitoring of school facilities. By achieving this goal, we aim to create a secure learning environment that supports student success and well-being.

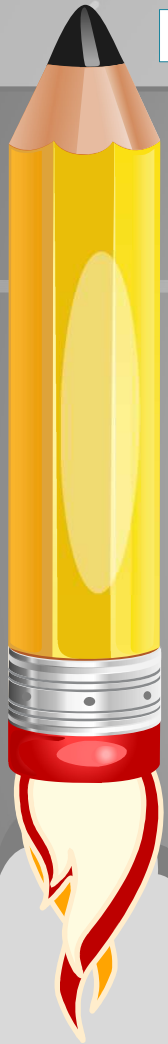


Educational Technology Support Goals

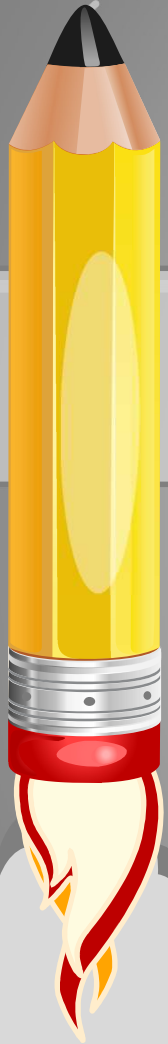
Strategic Goal 1: The strategic goal of the district is to cultivate a culture of exceptional customer service that prioritizes technology as a tool to support student learning and success. The goal is to equip stakeholders with the necessary knowledge and skills to effectively communicate with technology staff, access resources, and efficiently utilize available tools. The technology department will also provide on-demand access to articles, videos, and other informational materials to supplement ongoing support. Improving the customer service experience will enhance student outcomes, increase stakeholder satisfaction, and promote a culture of innovation and excellence in technology.

Strategic Goal 2: To ensure a safe and secure learning environment, Rockford Schools will maintain appropriate staffing levels of technology personnel while also contracting with managed services providers to supplement and enhance the expertise and resources available. By leveraging a combination of in-house staff and external resources, we will ensure that critical systems and infrastructure are monitored and maintained, cybersecurity threats are identified and addressed, and the district is able to respond promptly and effectively to technology-related issues. We will prioritize the allocation of resources to support this goal, including investments in training and professional development for in-house staff and ongoing evaluation of managed services providers to ensure they meet our standards for quality and effectiveness.

Educational Technology Support Goals



Strategic Goal 3: Rockford Schools aims to provide comprehensive technology professional development opportunities to all stakeholders, including administrators, teachers, and staff, to enhance their knowledge and skills related to online safety, cybersecurity, systems training, and other technology-related topics. The goal is to ensure that all stakeholders are equipped with the necessary skills to use technology effectively and safely in the classroom and beyond. This will include training on identifying and preventing phishing scams, addressing cyberbullying, and promoting responsible online behavior. By providing ongoing technology professional development, we can improve the overall quality of instruction and support services, enhance student learning outcomes, and ensure a safe and secure environment for all stakeholders. We will prioritize the allocation of resources to achieve this goal and establish clear metrics to track progress and measure success.



District Technology Services

Budgeting



Generalized Budget – One to One

Sustain District 1:1 programs

Chromebooks - Generally speaking, Chromebooks are designed to last for several years. Google, the company behind the Chromebook operating system, typically offers 5-6 years of software updates for its devices, meaning that even older models can continue to receive security updates and other important software improvements.

However, the hardware lifespan of a Chromebook can be affected by factors such as physical wear and tear, battery life, and performance issues. Over time, components such as the battery and keyboard may need to be replaced or repaired, and the overall speed and responsiveness of the device may decline.

We've been getting about four years.



Generalized Budget – One to One

Sustain District 1:1 programs

Location	Type	Available	Out	End of Life
Elementary	Acer Spin	616	616	Jun 2027
Elementary	Acer Spin	24	0	June 2026
MS/HS	HP14 G5	173	74	June 2024
MS/HS	HP14A G5	1178	1008	June 2026
		1991	1698	(293 available)
				Carts, staff, in repair, spare registration, media ctr.



Generalized Budget – One to One

Sustain District 1:1 programs:

Chromebook – unit cost is about \$340 which is the item and a license fee (\$30.00).

4 Year Cycle:

1991 units at \$340.00 is \$676,940.00.

Google for Education: \$4,500 annually for 5 years is \$22,500.00

Aristotle K-12 Management is \$12,500.00 annually for 5 years is \$62,500.00

Repairs – currently estimated at \$15,000 annually and over 5 years is \$75,000.00

Estimated: \$836,940.00 (based on current prices)



Generalized Budget – Interactive Panels

Complete classroom Interactive Boards Replacement/Installation:

Clever Touch: Generally speaking, Clevertouch interactive boards are built with durable materials and designed to withstand heavy use in educational settings. The company provides a 5-year warranty on their products, which suggests that they expect their devices to last for at least that long. With proper care and maintenance, it's possible for a Clevertouch interactive board to last for several years beyond its warranty period.

MS/HS – HS readied by fall 2022, MS will be readied by fall 2023 and the hope is for the elementary to be readied by fall of 2023 or fall of 2024.

Afterwards we can work to integrate into the public address system and emergency communications system.

Cost to complete is at \$130,000.



Generalized Budget – Phone

Phone System:

Mitel phone system – cloud based currently with phones exceeding several years in age. The systems have reached end of life and we are forced to look at the dwindling used market for replacement parts.

In speaking with a phone vendor – plan on about \$1,000.00 per extension.

Estimated cost to complete is at \$285,000.

E911 – Would require an additional \$16,000.00 investment with a \$1300 annual fee thereafter. This is mandated by new legislation and we are currently not in compliance.

Note: District is supporting about \$6,000 annually in mobile phone technology. (not included in this cost)

Phone system and E911 compliance is estimated at \$310,000.



Generalized Budget – Public Address

Classroom Amplification – Public Address systems

Juno system: The systems have reached end of (5 year) warranty a few years ago. With proper care and maintenance, it's possible for a Juno classroom amplification system to last for several years beyond its warranty period. We need to begin the process of planning replacement.

Server side: (3 buildings) Estimated cost for replacement if servers, software, and installation is \$73,800.00

Classroom side: Each unit cost is \$2450 and we currently have 140 units in classrooms: \$343,000.

Consulting/Installation guidance is \$10,000.

Cost of PA system replacement in kind: \$426,800.00

(This doesn't account for additional units, cabling, or switch capacity.)



Generalized Budget – Servers/Software

Server infrastructure and core software:

Server systems – The servers are expected to last several years. The previous servers were replaced about the 9 year mark.

Previous main server cost was \$95,000.00 (Summer 2023)

Secondary Servers cost about \$8000.00 each. (SY 2022 for backup systems)

Storage Area Network – each unit is about \$30,000 and we have three, but may reduce to 2. (SY2022 and SY2023)

Microsoft Licensing runs about \$6,577, Backup about \$1800, Vmware about \$3100 annually or est. \$60,000 over five years at current cost.

Servers and core software: \$240,000.00



Generalized Budget – Devices

General computers/devices:

We strive to maintain several years of use:

100 desktops and other various items, i.e. iPads, Tablets – estimate \$900 per unit – (most are end of life)

170 staff Laptops – estimate \$1000.00 per unit (SY2022)

Device replacement: \$260,000



Generalized Budget – Wireless Network

Wireless Network:

We strive to maintain several years of use: (SY2019)

Today 116 Access Points (AP's)

Anticipated 130 in the near future. Cost today is 710.76 per AP and 155.56 for licensing (3 year)

Cost doesn't reflect outdoor AP's.

Estimated Cost (5 Years): \$165,000

Does qualify for Category 2 federal funding which ends June 2025. (60 percent reimbursement)



Generalized Budget – Switched Network

Switched Network:

We strive to maintain several to ten years of use: (SY2017)

Cisco announced the end-of-sale and end-of-life dates for the Cisco Catalyst NW EDU licenses. The last day to order the affected product(s) is December 11, 2020. The older switches (2960) has ended and need replacement. Cutoff in September 2021, the Cisco Catalyst 9300 Series switches are the recommended replacements for the Cisco C9200L-48P-4X switches.

Anticipated 40 in the near future. Est. cost today is 7500 per switch which doesn't include software fees.

Estimated Cost (5 Years): \$300,000.

Does qualify for Category 2 federal funding which ends June 2025. (60 percent reimbursement)



Generalized Budget – Security

Cameras and Door Controls:

We strive to maintain ten years of use:

TruVision – excess of ten years and has reached end of life and is basically without support.

11 Analog and 55 digital

Avigilon – 73 digital and 2 Vape sensors

Total: 139 cameras. (Average cost seems to be \$1,900 per camera. (\$264,100.00)

We will need additional cameras and replace the TruVision systems. (\$125,400 TruVision and \$100,000 for new – which is about 15 per building) - \$225,400.00

Door Controls - \$100,000.00 over 5 years to continue the program

*Estimated Cost (5 Years): \$325,400

*Will need to add security costs for visitor management systems and doesn't include server replacement.



Generalized Budget – CyberSecurity/Internet

Cyber Security and Internet:

End Point Security is currently \$7,000 annual.

Phishing programs is currently \$6,500 annual.

Staff Development Training is currently \$1,500 annually.

Google for Education audits: \$4,000 with an \$1,250 annual collaborative fee (Audit every 2 years)

ECMECC - \$10,000 annual fee for audits. FrSecure was estimated \$20,000 every 2 years.

Internet – State of MN through ECMECC for \$12,408 annually (1Gb)

Hot Spots: Estimate cost for \$12,000 annually – not renewing fully. (est. \$2,000 annual)

Zayo – main line maintenance at \$5,000 annually.

Firewall services: Estimated expense: \$5,000 annually.

Web Hosting: \$8,500 annual

Total is \$61,158 annually or \$305,790 over five years



Generalized Budget – Innovation

Innovation:

Recommend \$20,000 annually for technology related to innovation.

Robotics, Art software, Athletics, STEM, CADD, milling, 3D printing, Augmented Reality, Artificial Intelligence, Career Track, IB programs and more to be determined by a committee.

Total is \$20,000 annually or \$100,000 over five years



Generalized Budget – Cost Breakdown

Cost Breakdown:

One to One:	\$836,940
Interactive Panels:	\$130,000
Phone/E911:	\$310,000
PA system:	\$426,800
Servers:	\$240,000
Devices:	\$260,000
Wireless:	\$165,000
Switches:	\$300,000
Security:	\$325,400
CyberSecurity/Internet:	\$305,790
Innovation:	\$100,000

Estimated Amount: \$3,398,590 over five years or \$679,718 annually

This is not all costs – Staffing, copiers, software (i.e. Adobe, Infinite Campus, SPED, SMART), managed services, technology supplies, ink, tools, repairs, haven't been considered.



Assessment and Evaluation

Assessment and Evaluation:

Due to time constraints on this presentation, the methods that will be used to assess the success of the plan will be outlined at a later time. This may include student and teacher surveys, test scores, and other performance metrics.

Collaboration and Communication:

Highlighting the importance of collaboration and communication between the technology team, administration, teachers, students, parents, and other stakeholders will be necessary. This may include regular progress reports, professional development sessions, and other activities to ensure that everyone is involved and informed.



Sustainability

Sustainability:

This plan strives to provide sustainability of the existing services, highlighting how the technology infrastructure will be maintained and updated over time. This may include ongoing training and support, regular upgrades and replacements, and other measures to ensure the long-term success of the plan.



Thank You.