Hebron Public Schools
Technology Advancement Plan
Updated September 2023

High Expectations, Bright Futures

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Introduction

Technology is an ever-changing, powerful tool that can be used to transform learning spaces and allow students and teachers to extend the four walls of the classroom. It is in our public schools, where students learn to use technology and use technology to learn. This symbiotic relationship with these learning tools will prepare our learners for a lifetime of healthy and productive interaction with technology where access to information is limitless and use of technology serves as an aide to a well-rounded educational experience.

To ensure continued growth and support of our competence in the use of technology to educate our students, Hebron Public Schools has designed this Technology Advancement Plan to serve as a multi-year guide for decision-making. This guide has been developed to ensure alignment with the District Advancement plan to ensure support of the district's ultimate vision, mission and goals. This document ensures that the district's technology continues to support the district advancement plan as well as keeps pace with advancements in the field of technology.

As with the District Advancement Plan, each strategy within the Technology Advancement Plan will have defined indicators of success balancing implementation measures and outcome measures so we can monitor our fidelity and impact along the way. Each year we will summarize and communicate our progress for each strategy and make adjustments for the upcoming academic year.

Technology Goals

Goal 1: Staff, Student, and Classroom Devices

Theory of Action: If we stay abreast of the life-cycle in operating systems and establish long-term plans for replacement of student and staff devices, we will ensure all district equipment capable of running current educational and testing software to support the academic progress of all students.

Goal 2: Technology Infrastructure

Theory of Action: If we ensure the hardware to support our technology infrastructure is current, updated, and supported, our network will be more secure and reliable, which will increase time for teaching and learning.

Goal 3: Security

Theory of Action: If we use modern technology to support our security infrastructure within and around the building, staff and students will be safe and ready to learn.

Goal and Strategy Overview	
Goals	**Strategies**
Goal 1: Staff, Student, and Classroom Devices	A. Stay abreast of published guidelines for system obsolescence of equipment primarily used by staff and students with a focus on a 5-year refresh cycle. B. Implement and budget for the appropriate life cycle of equipment used in the classroom. Classroom devices such as laptops, Chromebooks, and iPads traditionally require a 5-year refresh cycle, while interactive whiteboards are on a longer 10-year cycle that may be in part funded by PEGPETIA grant funds.
Goal 2: Technology Infrastructure	A. Migrate on-site firewall to a co-managed setup. B. Support district infrastructure such as network switches, servers, firewall environmental systems, and wireless with appropriate upgrades to ensure reliability and security needs are met. C. Implement and budget for the appropriate life cycle of equipment used to support the network using board funds in conjunction with E-Rate funding.
Goal 3: Security	A. Support, test, and maintain hardware such as portable radios, classroom phones, cameras, door entry system, panic buttons, and visitor management system. B. Deploy digital security tools such as multi factor authentication (MFA) and endpoint detection and response (EDR) to district computer systems while following industry best practices. C. Implement and budget for the appropriate life cycle of equipment and software used to secure district data and buildings.

Goal 1: Staff, Student, and Classroom Devices

	A. Stay abreast of published guidelines for system obsolescence of equipment primarily used by staff and students with a focus on a 5-year refresh cycle.
Indicators of Success	- Staff and students are able to access digital learning tools experiencing minimal frustrations due to unsupported software - Staff and students experience minimal disruptions to learning caused by aging equipment - District devices and data are secured - Reduced downtime allows for additional time on task
Action Steps *2022.23 through 2026.27*	- Continue monitoring published guidelines for device end of life dates - Perform monthly update cycle based on CISA/best practices guidelines - Professional development at annual CEN technology conference - Continuing professional development during the year to keep up to date on current technology trends
Year 1 2022-2023 Implementation and Impact Update	Complete: On Track: - Successfully continued monitoring published guidelines for device end of life dates, provided inventory of technology to be recycled to the town, devices will be picked up for recycling in July 2023 - Successfully performed monthly update cycle based on CISA/best practices guidelines - Attended professional development at annual CEN technology conference in May 2023, implemented improvements to data server back ups based on new information gathered at conference - Continued additional professional development during the year to keep up to date on current technology trends Off Track:
Year 2 2023-2024 Implementation and Impact Update	Complete: - Provided inventory of technology to be recycled to the town, devices will be picked up for recycling in July 2023 - Attended professional development at annual CEN technology conference in May 2023, implemented changes to backup strategy.

	On Track:
	   ● Successfully continued monitoring published guidelines for device end of life dates.
	   ● Successfully performed monthly update cycle based on CISA/best practices guidelines
	   ● Attend professional development at annual CEN technology conference in 2024e
	   ● Continued additional professional development during the year to keep up to date on current technology trends
	Off Track:
	   ●

Goal 1: Staff, Student, and Classroom Devices

B. Implement and budget for the appropriate life cycle of equipment used in the classroom. Classroom devices such as laptops, Chromebooks, and iPads traditionally require a 5-year refresh cycle, while interactive whiteboards are traditionally on a 10-year cycle.

Indicators of Success	● Each administrator has a laptop and desktop ● Each teacher, specialist, department head, and technology staff member has a laptop ● Each administrative assistant and nurse has a desktop ● There are 4 desktops in each building dedicated to timecard entry ● There is a desktop in each building dedicated to the school's visitor management system ● PVM systems dedicated to security cameras in each office ● Each classroom has a desktop connected to an interactive whiteboard ● Each student, grades 2 through 6 have a Chromebook ● Each student, grades K through 1 have an iPad ● The Library Media department has 20 iPads per school ● The Special Education department shares 10 iPads per school ● Through appropriate and responsible budgeting the district is able to support staff and students in the classroom

Action Steps
 	
2022.23 through 2026.27
	● Year 1 (2022-23)
	   ○ 100 Chromebooks
	   ○ 25 Laptops
	   ○ 45 iPads
	   ○ 5 Interactive Whiteboards
	● Year 2 (2023-24)

	- 100 Chromebooks
	  - 25 Laptops
	  - 50 iPads
	  - 5 Interactive Whiteboards
	- Year 3 (2024-25)
	  - 100 Chromebooks
	  - 40 Desktops
	  - 50 iPads
	  - 5 Interactive Whiteboards
	- Year 4 (2025-26)
	  - 100 Chromebooks
	  - 40 Desktops
	  - 50 iPads
	  - 5 Interactive Whiteboards
	- Year 5 (2026-27)
	  - 100 Chromebooks
	  - 30 Laptops
	  - 50 iPads
	  - 5 Interactive Whiteboards

Year 1 2022-2023 Implementation and Impact Update	Complete: - Purchased 97 chromebooks for Grade 3 - Purchased 25 teacher laptops - Purchased 34 iPads On Track: - Purchased 1 Interactive Whiteboard Off Track: - 4 interactive whiteboards to be purchased in FY24 beyond planned FY24 budget due to receipt of PEGPETIA funding (Grade 1 with oldest equipment, then Grade K)
Year 2 2023-2024 Implementation and Impact Update	Complete: - Purchased Chromebooks for Grade 3 - Purchased 7 Interactive Whiteboards for 1st grade On Track: - Grade level set of interactive whiteboards to be purchased in FY25 planned due to receipt of PEGPETIA funding. - Purchase new laptops for staff - Purchase new iPads Off Track: -

Goal 2: Technology Infrastructure

A. Migrate on-site firewall to a co-managed setup.	
Indicators of Success	• Reduced downtime caused by power loss and firmware upgrades by moving firewall to a secured offsite datacenter • Improved fault tolerance through automatic failover if a hardware failure occurs • Upstream location allows for improved DDoS mitigation

Action Steps
 	
2022.23 through 2024.25
	• Year 1 (2022-23)
	   ○ Maintain current onsite firewall
	• Year 2 (2023-24)
	   ○ Plan network architecture change to accommodate offsite firewall
	• Year 3 (2024-25)
	   ○ Migrate firewall configuration from onsite to offsite

Year 1 2022-2023 Implementation and Impact Update	Complete: • Current onsite firewall has been maintained by implementing required updates throughout the year. On Track: • Off Track: •
Year 2 2023-2024 Implementation and Impact Update	Complete: • On Track: • Plan migration process Off Track: •

Goal 2: Technology Infrastructure	
B. Support district infrastructure such as network switches, servers, firewall, environmental systems, and wireless with appropriate upgrades to ensure reliability and security needs are met.	
Indicators of Success	• District WiFi access points are capable of supporting district 1:1 initiatives • Network is reliable, maximizing uptime • District data is secure in transit and at rest • Environmental data and management systems are secure and reliable
Action Steps	• Continue monitoring published guidelines for device end of life

2022.23 through 2026.27	dates ● Perform monthly update cycle based on CISA/best practice guidelines ● Follow best practices for securing network devices ● Professional development at annual CEN technology conference ● Continuing professional development during the year to keep up to date on current technology trends
Year 1 2022-2023 Implementation and Impact Update	Complete: ● On Track: ● Continued monitoring published guidelines for device end of life dates ● Performed monthly update cycle based on CISA/best practice guidelines ● Followed best practices for securing network devices ● Attended professional development at annual CEN technology conference ● Continued professional development during the year to keep up to date on current technology trends Off Track: ●
Year 2 2023-2024 Implementation and Impact Update	Complete: ● On Track: ● Continued monitoring published guidelines for device end of life dates ● Performed monthly update cycle based on CISA/best practice guidelines ● Followed best practices for securing network devices ● Attended professional development at annual CEN technology conference ● Continued professional development during the year to keep up to date on current technology trends Off Track: ●

Goal 2: Technology Infrastructure
C. Implement and budget for the appropriate life cycle of equipment used to support the network.
Indicators of Success   ● District has modern network equipment and servers that are fully supported by manufacturers and under warranty ● District servers are replaced on a 5 year cycle. Olders servers are

	primarily used in backup infrastructure. The district evaluates and utilizes cloud software where appropriate. ● Through appropriate and responsible budgeting the district is able to support its technology infrastructure initiatives.
Action Steps *2022.23 through 2026.27*	● Year 1 (2022-23) ○ No budgeted items ● Year 2 (2023-24) ○ 2x network switches (50% E-Rate reimbursement) ● Year 3 (2024-25) ○ Firewall annual cost (50% E-Rate reimbursement) ● Year 4 (2025-26) ○ Firewall annual cost (50% E-Rate reimbursement) ○ HES server replacement ○ 30x WiFi access points (50% E-Rate reimbursement) ● Year 5 (2026-27) ○ Firewall annual cost (50% E-Rate reimbursement) ○ 40x Wifi access points (50% E-Rate reimbursement) ○ GHS server replacement
Year 1 2022-2023 Implementation and Impact Update	Complete: ● On Track: ● No updates planned for 2022-23 year. Off Track: ●
Year 2 2023-2024 Implementation and Impact Update	Complete: ● On Track: ● Purchase new switches Off Track: ●

# Goal 3: Security	
A. Support, test, and maintain hardware such as portable radios, classroom phones, cameras, door entry system, panic buttons, and visitor management system.	
Indicators of Success	● Radios are used for routine and emergency communications within school buildings ● Digital signal will provide better audio quality and improved battery life

	- Cameras operate with clear pictures with minimal downtime. - Door entry and panic buttons operate successfully during emergency lockdown drills and in the case of an emergency. - Staff are comfortable with the use of this equipment - Camera maps for both buildings are clear and easily understandable during an emergency
Action Steps *2022.23 through 2026.27*	- Year 1 (2022-23) - Update GHS camera names and maps - Move Paxton door entry server to virtual environment - Replace GHS camera server - Staff training on the use of equipment - Testing of panic buttons during lockdown drills - Check camera uptime and picture quality - Year 2 (2023-24) - Replace HES camera server - Upgrade security camera software - Staff training on the use of equipment - Testing of panic buttons during lockdown drills - Check camera uptime and picture quality - Year 3 (2024-25) - Staff training on the use of equipment - Testing of panic buttons during lockdown drills - Check camera uptime and picture quality - Year 4 (2025-26) - Staff training on the use of equipment - Testing of panic buttons during lockdown drills - Check camera uptime and picture quality - Year 5 (2026-27) - Staff training on the use of equipment - Testing of panic buttons during lockdown drills - Check camera uptime and picture quality
Year 1 2022-2023 Implementation and Impact Update	Complete: - Replaced GHS camera server in December 2022 - Checked camera uptime and picture quality. Cameras that were frozen were restarted, and problematic cameras were replaced On Track: - Provided staff training on the use of equipment (walkies, door entry) during new staff orientation Off Track: - Updated GHS camera names and maps will be completed during the summer of 2023 - Paxton door entry server will not be moved to a virtual environment based on feedback from our vendor. Server will be moved to a new physical device in the summer of 2023 - Panic buttons will be tested in the summer of 2023

Year 2 2023-2024 Implementation and Impact Update	Complete: ● Annual testing of panic buttons On Track: Off Track: ● Updated GHS camera names and maps will be completed during the summer of 2023 ● Paxton door entry server will not be moved to a virtual environment based on feedback from our vendor. Server will be moved to a new physical device in the summer of 2023

Goal 3: Security	
B. Deploy digital security tools such as multi factor authentication (MFA) and endpoint detection and response (EDR) to district computer systems while following industry best practices.	
Indicators of Success	● Staff training on phishing and cybersecurity best practices for new staff and refresher training for existing staff ● Use of advanced email phishing tools such as sandboxing ● Software is patched on a regular schedule, while end of life software is retired from use ● Track and remediate possible exploits using CISA known exploit catalog ● Deploy devices to staff and students using CIS Benchmarks to provide a secure computing environment ● Encrypt devices to keep district data secure in the case of loss or theft ● 3-2-1 backup strategy while periodically testing backups

Action Steps
 	
2022.23 through 2026.27
	● Year 1 (2022-23)
	  ○ Enroll in CISA Cyber Hygiene Services
	  ○ Deploy CIS Benchmarks to district devices
	  ○ Test district backups through restore
	● Year 2 (2023-24)
	  ○ Transition PVM and kiosk computers to Windows 10 LTSC
	  ○ Test district backups through restore
	  ○ Test CIS Benchmarks on Windows 11
	● Year 3 (2024-25)
	  ○ Upgrade staff devices to Windows 11
	  ○ Test district backups through restore
	● Year 4 (2025-26)
	  ○ Test district backups through restore
	● Year 5 (2026-27)
	  ○ Upgrade PVM and kiosk computers to Windows 11

	○ Test district backups through restore
Year 1 2022-2023 Implementation and Impact Update	Complete: ● Tested district backups through restore On Track: ● Off Track: ● CISA Cyber Hygiene Services launch is in its preliminary stages. The IT director has researched and completed the authorization form. The program will be launched in the summer of 2023 ● CIS Benchmarks will be deployed to district devices in the summer of 2023
Year 2 2023-2024 Implementation and Impact Update	Complete: ● Tested district backups through restore ● Transition kiosk computers to Windows 10 LTSC On Track: ● Test district backups through restore ● Transition PVM computers to Windows 10 LTSC Off Track: ● CISA Cyber Hygiene Services launch is in its preliminary stages. The IT director has researched and completed the authorization form. The program will be launched in the summer of 2023 ● CIS Benchmarks will be deployed to district devices in the summer of 2023

Goal 3: Security	
C. Implement and budget for the appropriate life cycle of equipment and software used to secure district data and buildings.	
Indicators of Success	● District communications during an emergency are robust and reliable. ● Building spaces are secure. ● District data is secure. ● Through appropriate and responsible budgeting the district is able to support its digital and physical security initiatives.
Action Steps *2022.23 through 2026.27*	● Year 1 (2022-23) ○ Continue transitioning from analog to digital radios (6 per year) ○ 180 degree cameras are replaced with fisheye lens cameras for wide angles (2 per year) ○ Replace GHS camera server ● Year 2 (2023-24)

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     ○ Continue transitioning from analog to digital radios (6 per year)
     ○ 180 degree cameras are replaced with fisheye lens cameras for wide angles (2 per year)
     ○ Purchase EDR for district computers
     ○ Replace HES camera server
     ○ Upgrade camera software
- Year 3 (2024-25)
     ○ Continue transitioning from analog to digital radios (6 per year)
     ○ 180 degree cameras are replaced with fisheye lens cameras for wide angles (2 per year)
     ○ Renew EDR for district
- Year 4 (2025-26)
     ○ Continue transitioning from analog to digital radios (6 per year)
     ○ 180 degree cameras are replaced with fisheye lens cameras for wide angles (2 per year)
     ○ Renew EDR for district
- Year 5 (2026-27)
     ○ Continue transitioning from analog to digital radios (6 per year)
     ○ 180 degree cameras are replaced with fisheye lens cameras for wide angles (complete)
     ○ Renew EDR for district

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Year 1 2022-2023 Implementation and Impact Update

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Complete:
- Purchased 6 digital radios

On Track:
-

Off Track:
- IT director will seek additional funding to replace Fisheye lens cameras for wide angles in the upcoming fiscal year

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Year 2 2023-2024 Implementation and Impact Update

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Complete:
-

On Track:
- Upgrade camera software
- Purchase new camera server for HES
- Continue transition to digital radios
- Purchase/deploy EDR software for district

Off Track:
- IT director will seek additional funding to replace Fisheye lens cameras for wide angles in the upcoming fiscal year

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Glossary

2FA	Two Factor Authentication (2FA). See also MFA
3-2-1 Backup Strategy	A strategy for data backup that states an organization should have **3** copies of a backup on **2** different forms of media and **1** copy offsite.
CIS	Center for Internet Security (CIS) is home to the Multi-State Information Sharing and Analysis Center® (MS-ISAC®), the trusted resource for cyber threat prevention, protection, response, and recovery for U.S. State, Local, Tribal, and Territorial government entities.
CISA	Cybersecurity and Infrastructure Security Agency (CISA) leads the National effort to understand, manage, and reduce risk to our cyber and physical infrastructure.
DDoS	A distributed denial-of-service (DDoS) attack is a malicious attempt to disrupt the normal traffic of a targeted server, service or network by overwhelming the target or its surrounding infrastructure with a flood of Internet traffic.
EDR	Endpoint detection and response (EDR) differs from traditional virus scanning by monitoring computer systems for unusual behavior instead of relying on a database of known malicious files.
End of Life	See End of Support
End of Support	End of Support (EoS) occurs when software updates, patches, and other forms of support are no longer offered, resulting in software becoming prone to future security vulnerabilities.
E-Rate	The FCC's E-Rate program makes telecommunications and information services more affordable for schools and libraries.
LTSC	Long Term Service Channel (LTSC) is a version of Windows designed for devices that typically perform a single important task and don't need feature updates as frequently as other devices in the organization.
MFA	Multi-Factor Authentication (MFA) is a layered approach to securing data and applications where a system requires a user to present a combination of two or more credentials to verify a user's identity for login.

PEGPETIA	Public, Educational and Governmental Programming and Educational Technology Investment Account (PEGPETIA) Grant Program
Phishing	A social engineering attack primarily over email designed to trick a user to install malware or reveal sensitive information.
PVM	Public View Monitor (PVM) used to display security camera feeds
Sandbox	A method of testing links and attachments in incoming email for malicious or suspicious behavior.