



MEMORANDUM

June 20, 2023
Regular Board Meeting

TO Board of Trustees

FROM Shauna Boyce, Superintendent

ORIGINATOR Scott Johnston, Associate Superintendent

RESOURCE Mark Karaki, Director, Technology Services

GOVERNANCE POLICY Board Policy 1: Division Foundational Statements
Board Policy 2: Role of the Board
Board Policy 12: Role of the Superintendent

ADDITIONAL REFERENCE BP 1: Vision, Foundational Statements
BP 12: Role of the Superintendent

SUBJECT **TECHNOLOGY SERVICES REPORT**

PURPOSE

For information. No recommendation required.

BACKGROUND

The Board is charged with the responsibility of providing, for its students and their parents, an education system organized and operated in the students' best interests. It exercises this responsibility through setting of local educational policy and the wise use of resources.

REPORT SUMMARY

The Technology Services Report provides an overview of essential technology services for the 2022-2023 school year. This report focuses on the significant attention given to technology and cybersecurity approaches during this period.

Technology Infrastructure Provision:

The Technology Services team diligently attends to the system requirements for the timely provision of hardware and software infrastructure needed for effective technology utilization in our educational environment. We have supported the deployment of necessary infrastructure services for both students and staff, ensuring smooth technology integration.

Cybersecurity Focus:

One of the primary areas of focus for the Technology Services team has been cybersecurity, and mitigating external threat vectors. Recognizing the increasing importance of safeguarding our digital assets and sensitive information, we continue to implement robust measures to protect our systems, networks, and data from potential threats. This report provides a contextual overview of the ongoing threats we have encountered and the measures taken to address them.

The report provides a summary of the current threat landscape faced by our organization. It highlights the types of threats, their potential impact, and the proactive steps taken by the Technology Services team to mitigate risks. By understanding the evolving threat landscape, we can ensure that our cybersecurity measures remain effective and up to date.

Administration would be pleased to respond to any questions.

SJ:kz



Technology Services Report

Presented to the Board of Trustees, June 20, 2023

Scott Johnston, Associate Superintendent, Education and System Services

Resources: Mark Karaki, Director, Technology Services

Our Students Possess the confidence, resilience, insight and skills required to thrive in, and positively impact, the world.

BACKGROUND

In Parkland School Division, the use of technology continues as an essential aspect of educational and professional life. Staff and students use the power of technology in a purposeful and meaningful way to deepen understanding and demonstrate learning.

In the wake of pandemic learning, Parkland School Division continued to evolve and innovate in the use of educational technology. We utilize technology to facilitate collaboration and professional development as well as adapt instruction and resources to meet the needs of our students. This has also led to an increasing awareness of the need for systems and processes to ensure that we have safe and secure online learning environments for staff and students.

This Learning and Technology Report represents the duality of technology services and technology education. It is essential to review how technology is utilized to improve education and also how the application of technology is supported throughout the Division.

TECHNOLOGY SERVICES HIGHLIGHTS AND FUTURE FOCUS

From the start of the 2022 school year, the Technology Services team primarily focused on providing excellent service and support to the staff and students of Parkland School Division. During this year, Technology Services initiated and completed a number of significant projects.

CYBERSECURITY

The cybersecurity control review and maintenance previously implemented within our organization have become part of our regular work cycles. The controls are continually monitored to ensure these critical measures continue to safeguard our digital assets and ensuring the confidentiality, integrity, and availability of our systems. The following metrics from the implemented controls exemplify the volume of threat present requiring a high degree of diligence.

Multi-Factor Authentication (MFA): Multi-Factor Authentication has been deployed across our systems to enhance access security.

Previous 6 Month Period (Dec 2022 – June 2023)

- Suspicious Login Attempts Detected: 2600

Email Scanning:

- Email scanning mechanisms have been implemented to identify and mitigate potential threats, including malware, phishing attempts, and malicious attachments.

The following monthly summary provides a perspective of monthly threat abatement:

May 2023 – June 2023

- Phishing Attempts Detected: 2100
- Spam Emails Filtered: 33000
- Suspicious Emails Flagged: 2800
- Spoofing Email Address Attempts Detected: 458

Endpoint Detection and Response (EDR):

Endpoint Detection and Response solutions have been deployed to monitor and respond to security threats at the endpoint level, such as workstations, laptops, and servers. These tools provide real-time visibility into potential security incidents, allowing for timely detection, investigation, and remediation. The EDR solution is continually reviewed to optimize its performance and effectiveness.

Jan 2023 – June 2023

Incidents Detected all requiring investigation and remediation: 200

- High: 69
- Medium: 63
- Low: 68

It is important to note that these controls are part of a layered approach to cybersecurity and are regularly assessed for their effectiveness, efficiency, and alignment with industry best practices.

Additionally, we maintain close collaboration with external security experts and stay up to date with emerging threats and technologies to ensure our controls remain robust in the face of evolving risks.

TECHNOLOGY INFRASTRUCTURE

It is essential to ensure that our technology infrastructure is robust, reliable, and capable of meeting our current and future needs. IT infrastructure installations, including internet connectivity, switching, wireless and computer installations and setups are in progress or completed by the end of Summer 2023.

Westview School

- Completed Supernet Fibre, connecting to the PSD wide area network and internet;
- Data and Switching components installed;
- Wireless Access points 60% installed;
- As building areas are completed Technology staff are following to complete network installations; and
- Building systems management connectivity (phone and internet) requirements fulfilled.

Connections for Learning

PSD has been on Voice Over IP telephony service for over 7 years. The integral head end devices connecting to our service providers for phone and internet require a refresh. During the Summer Break 2023, the Voice over IP and Internet routers will be transitioned to new hardware.

DEVICE UTILIZATION

Parkland School Division continued a device evergreen initiative this school year for end of life devices. The devices were no longer supported through vendor operating system updates services. To ensure PSD is safe from security exploits and system vulnerabilities the devices were taken out of service and recycled.

Current Device Inventory

Device	2022-2023	2021-2022	Change
Windows Computers	1881	2745	-864 (large transition of student devices to Chromebooks)
Chrome Devices	6719	6336	+383
Apple Devices	2141	2191	-50

OUR STUDENT INFORMATION SYSTEM

The Student Information System (SIS) Team continues to focus on enhancing data management and analysis capabilities to support various departments, including Math Assessment Dashboards, Transportation to PS data comparison, Chosen Name use on Powerschool generated reports, School Boundary Mapping Tool Plugin, and continuous improvement of PSD Registration for the changing data requirements for business, finance, transportation, and end users. The following report highlights the progress made in each area:

Math Assessment Dashboards:

The SIS Team is developing Math Assessment Dashboards to provide in-depth insights into student performance in mathematics. These dashboards utilize data from Powerschool and custom assessment forms, allowing administrators to monitor student progress, identify areas of strength and weakness, and make data-driven instructional decisions. Ongoing refinements are being made to further enhance the functionality and usability of the dashboards.

Transportation and Powerschool Data Comparison Tool:

To streamline the transportation process and improve data accuracy, the SIS Team has implemented Google Looker Studio for comparing transportation data with Powerschool student information. This integration enables transportation administrators to reconcile transportation records, identify discrepancies, and ensure the accuracy of routing information. The Looker Studio platform provides advanced data visualization and analysis capabilities, empowering users to make informed decisions based on reliable data.

Chosen Name Implementation:

Recognizing the importance of inclusivity and student identity, the SIS Team is developing a Chosen Name feature within the student information system. This allows students to specify a Chosen Name, which will be used in official communications, class rosters, and other relevant documents, ensuring a respectful and inclusive educational environment.

School Boundary Mapping Tool - Powerschool Plugin:

To facilitate efficient boundary management, the SIS Team is implementing a Powerschool Plugin that integrates with a School Boundary Mapping Tool. This tool simplifies reporting for school of choice and designated school. The plugin provides a user-friendly interface, simplifying the management of complex boundary data.

Registration Feedback and Improvement:

To fulfill the data requirements for Business & Finance, Transportation, and End Users, the SIS Team has established a yearly feedback and improvement process for the registration system. This involves gathering feedback from various stakeholders, analyzing new or changed requirements, and implementing necessary enhancements to streamline the registration process, improve data quality, and meet compliance standards.

FORWARD CONSIDERATIONS

Technology Services will complete technology infrastructure builds leading into the 2023-2024 school year. The Westview school opening will require elevated attention and resources to ensure a smooth transition for staff and students into the new building.

The PSD Cybersecurity Program will continue to evolve based on the continuously evolving cyber threat environment. Incident response plan review and testing will be a major focus for Technology Services.

Enhancement of data-driven assessment and reporting will continue. Development of tools to extract and present data will assist with informed and transparent decision making for both the learning and operational areas of Parkland School Division.