Strategic Technology Plan

2021-2031

2022 Annual Update

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DRAFT

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Introduction

The 2021-22 school year was the first full year of implementation of the District Strategic Technology Plan. This document is the first annual update to this Plan. The first year of implementation of MDUSD's Strategic Technology Plan has been filled with activity supporting student-centered learning. Important highlights include

- the District-wide launch of a 1:1 Program, through which nearly every student in grades 2 through 12 have a Chromebook issued to them for their own use at school and at home,
- collaborative development of digital resources for Digital Citizenship and a K-12 Technology Scope and Sequence,
- implementation of a thorough review process for digital tools to ensure students and student data are safely and securely protected within MDUSD and by our partners, and
- modernization of standards for technology acquisition.

The 2022-23 school year will be an exciting time as MDUSD students, teachers, and administrators work to improve learning and teaching with technology. Important focuses will be on professional learning, technical support, and safety and security.

In 2022-23, preparing students for careers, college, and life in the 21st Century continues to demand careful consideration of the role technology plays in education. Mt. Diablo Unified School District (MDUSD) believes that students deserve regular opportunities to learn in technology-rich learning environments that reflect the technological world outside the classroom. Stated bluntly, we can only expect that our students will thrive as productive citizens beyond high school if they have regular, embedded opportunities to learn through technology during their TK-12 experiences.

The 2022-23 update of this Strategic Technology Plan continues to focus on a bold, achievable vision for learning and teaching with technology in MDUSD. The revised goals and action steps detailed here are designed to meet three critical imperatives:

1. Empower teachers to provide relevant, rigorous, and meaningful instructional opportunities through technology.
2. Provide students with regular, meaningful opportunities to engage with the modern world through technology to become college and career ready.
3. Ensure the District can maintain the necessary technologies and support systems to ensure every student graduates ready to thrive in a technology-rich world.

This is not merely a technology plan; it is a learning plan, supported by and empowered through technology. Implemented with fidelity, this plan will set MDUSD on a path to equitable, student-centered learning. As a District, we continue to build an excellent platform from which to launch a significant effort to modernize our approach to technology for learning and teaching.

Plan Development Process

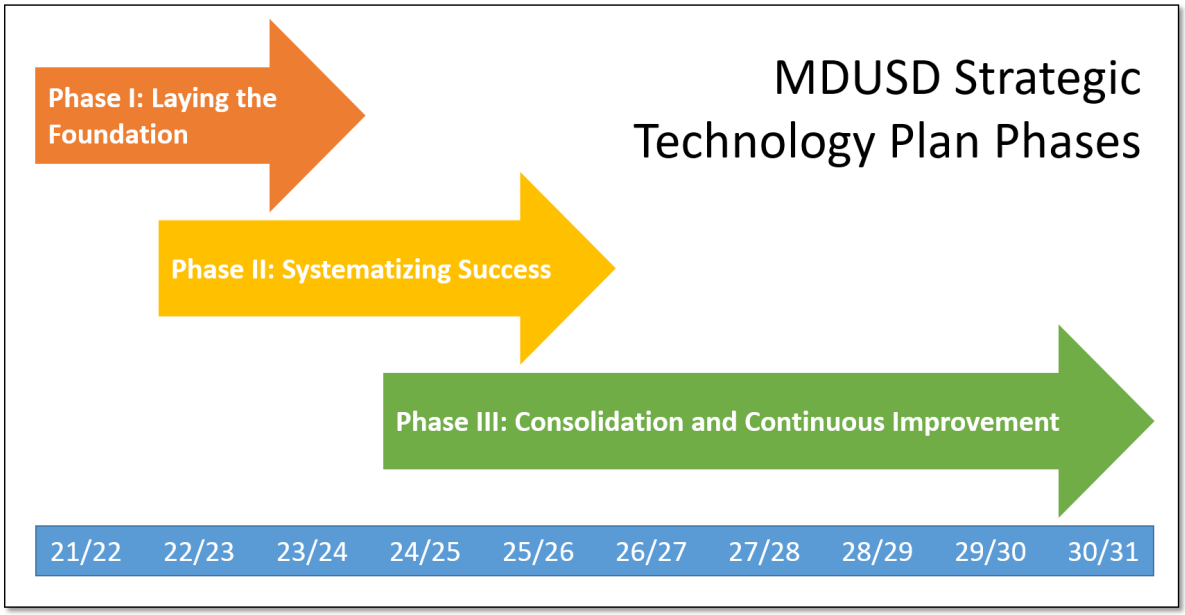
This revised plan has been drafted in extensive consultation and collaboration with District stakeholders, and represents the collective efforts of students, parents/guardians, community members, teachers, administrators, and other District staff. The plan is guided by MDUSD's District Goals, the District Local Control and Accountability Plan (LCAP), and the 2021 Systemic Instructional Review (SIR) report conducted by the California Collaborative for Educational Excellence (CCEE).

Building on the work of the 2020-21 Strategic Technology Planning Task Force, the 2022 Task Force met three times in Spring, 2022, to discuss the state of technology in MDUSD, identify progress toward the 2021-22 plan goals, and identify new priorities for the revised plan.

Several themes emerged during Task Force meetings. These themes are heavily represented in the revised Action Items that form the core of this plan. First, there is a need for a more systemic approach to professional learning for staff to support student-centered learning with new technologies. Second, there is a need for communication of clear expectations around Digital Citizenship, learning goals with technology, and student safety and privacy, and a need for collaboration across schools related to these expectations. And third, there is a need to support schools in their planning around sustaining their efforts in true 1:1 programs.

Plan Phases

This plan is organized in three defined, achievable phases. The phases necessarily overlap in recognition of the complexity of a District-wide process. The work to be done in 2022-23 continues Phase I (Laying the Foundation), and begins Phase II (Systematizing Success). Phase I continues because more work must be done to establish new systems by which District technology is acquired and maintained. Overlapping these efforts, Phase II begins the work of ensuring the new systems created are supported, clearly understood by all stakeholders, and embedded in the regular operations of the District.



Phase I: Laying the Foundation (2021/22 to 2023/24)

Phase I is designed to 1) create District systems and processes, and create scalable programs, such as 1:1 schools, 2) align resources to support systemic progress, and 3) address several long-standing and critical challenges inhibiting progress, such as the modernization of MDUSD's technology infrastructure. Under normal circumstances, Phase I would employ a "go slow to go fast" approach to change, laying a foundation for aligning and systematizing efforts across the entire District. However, acknowledging the imperative to maintain equitable access to technology, and with the input of significant one-time resources related to the COVID-19 pandemic, it is critical that Phase I be implemented quickly. Many elements of this plan that are prerequisites for other elements do require time and planning to implement. For instance, MDUSD's aging network infrastructure cannot be upgraded overnight and must be planned carefully to meet current and future needs. Network improvements require a long-range approach to refresh equipment and services and keep them up to date. At the same time, several critical core infrastructure and connectivity issues must be addressed to the extent possible in the short term.

Phase II: Systematizing Success (2022/23 to 2025/26)

The second phase of this plan focuses on implementation and systematization of the activities set in motion in Phase I. For instance, once a network plan is completed, an integrated approach to deployment will be undertaken in conjunction with facilities work at District sites. And once technology standards are adopted, acquisition, deployment, and support activities must be adjusted to match the new standards.

Phase III: Consolidation and Continuous Improvement (2024/25 to 2030/31)

During the consolidation phase, with the majority of technology supports in place, schools will be empowered to take full advantage of the systems and structures implemented in earlier phases. Continuous improvement efforts will be undertaken to elevate practice, building on foundational successes.

Strategic Technology Planning Task Force Members

MDUSD thanks the following individuals who participated in the 2021-22 Strategic Technology Planning Task Force.

Joseph Alvarico	Teacher
Craig Bocks	Educational Technology Program Specialist
Aurelia Buscemi	Elementary Site Administrator
Meera Chakradeo	Student
Chris Clausen	Middle School Site Administrator
Shannon Cherry	Parent

Amneris Galarza	Parent
Jeff Garaventa	Information Technology Operations Mgr
Megan Gerdts	Curriculum Specialist
Lisa Gonzales	Chief Business Officer
Kevin Honey	High School Site Administrator
Jennifer Martin	Administrative Secretary
Suleyma Moss	Middle School Site Administrator
Lindsey Nakashima	Teacher and Technology Integration Leader
Tara O'Keefe	Network Technician II
Ray Tjen-A-Looi	Director of Assessment, Research & Evaluation
Chloe Park	Office Manager
Shawna Patterson	Teacher and Technology Integration Leader
Mark Rainier Catapusan	Student
Tyler Rosecrans	High School Site Administrator
Matt Rosso	Network Technician III
Amayra Samaniego	Parent
Robert Sidford	Director of Technology and Innovation
Greg Taylor	Director of Technology, City of Concord
Martha Thomas	Elementary Site Administrator
Michael Utzig	Teacher and Technology Integration Leader

Goal 1: Modern Learning and Teaching

We believe MDUSD should foster a culture of lifelong learning. Students and staff should learn and use modern strategies and methods of utilizing technology to work effectively and efficiently. Teachers should be empowered to implement strategies for engaging every learner.

Progress

The past year has seen significant progress in MDUSD, with the completed rollout of a District-wide 1:1 Program. Every student in grades 2 through 12 has a Chromebook for their own use in school and at home. With this elevated foundation for modern learning, we can better turn our attention to supporting technology in instruction. This 2022-23 update to Goal 1 of the Strategic Technology Plan focuses heavily on the creation and distribution of resources, and professional learning to support teaching and learning with technology.

2021-22 Highlights

MDUSD made significant steps toward Modern Teaching and Learning during the 2021-22 school year. Highlights include

- finalization by our Technology Integration Leaders (TILs) of a K-12 technology scope and sequence document, with standards-aligned grade-level expectations for students,
- finalization of a Digital Citizenship curriculum to be launched in the 2022-23 school year,
- a middle school science adoption process that focused substantially on a digital component to support traditional curricular and hands-on materials,
- creation of a District Approved Digital Tools list containing resources for teaching and learning that align with standards and meet digital privacy standards, and
- continued work by Technology Integration Leaders (TILs) as a community of practice centered on technology integration and modern learning.

Strategies

Strategy 1.1: All students will regularly use technology at school and at home to engage with curriculum
Action Step 1.1.1: Adopt and implement a framework for learning and teaching with technology that articulates a core set of instructional practices that support student modern learning skills and technology literacy skills as outlined in the Common Core State Standards, International Society for Technology in Education (ISTE) Standards for Students, and California Model School Library Standards.
Action Step 1.1.2: Implement and communicate a District-wide Digital Citizenship Curriculum, designed to be embedded within curricular content at all grade levels.

Strategy 1.2: Provide quality, curriculum-aligned digital resources for learning and teaching
Action Step 1.2.1: Maintain a set of core digital platforms, such as Google Classroom, to ensure consistent, reliable access to curricular materials for students across learning modalities. Enhance capabilities for schools to manage these tools effectively, such as through administrator access to Google Classroom.
Action Step 1.2.2: Maintain and refine the MDUSD Approved Digital Tools list t to ensure the District continues to comply with Federal and State laws and meets our robust data privacy and security standards.
Action Step 1.2.3: Ensure that whenever possible, adopted technologies meet the needs of all students, including those with special needs.
Action Step 1.2.4: Continue to ensure that new curriculum adoptions include a robust digital component to support digital access to content for students and teachers.
Action Step 1.2.5: Communicate and implement the Technology Scope and Sequence and grade-level expectations to ensure consistent high expectations for all students.

Strategy 1.3: Support all teachers and instructional staff with high quality resources and professional learning
Action Step 1.3.1: Create and maintain a schedule of required and suggested training opportunities to ensure staff in all job functions have differentiated, timely access to professional learning. Include training on the Technology Scope and Sequence and District Digital Citizenship Curriculum. Encourage all educators to complete the Google Educator Level 1 course.
Action Step 1.3.2: Work with the Technology Integration Leaders (TILs) to create and maintain a comprehensive and accessible digital repository of training and professional learning resources to support instructional use of core digital platforms and applications, digital tools, data privacy and security practices, and other technologies. This site will include documentation, videos, how-to guides, and training schedules.
Action Step 1.3.3: Maintain the District Technology Integration Leader (TIL) program to support schools with expert technology integration leadership.
Action Step 1.3.4: Create a set of supportive resources to foster a clear vision and common understanding of instructional priorities, including walk through protocols, and examples of strong technology-rich instructional practices.

Action Step 1.3.5: Create a list of suggested technology proficiencies for staff in various job roles with aligned supports and training opportunities.

Goal 2: Equitable Access to Technology for Learning and Teaching

We believe that educational, socioeconomic, neurodiverse, and racial equity are best advanced through a centralized plan and clear recursive process for all students to have regular access to technology regardless of school location or access levels at home. Resources should be allocated equitably across levels.

Progress

While the acquisition and deployment of technology across MDUSD had not previously been conducted with serious consideration for equity, 2021-22 saw a significant shift. By focusing intentionally on providing all students with the tools they need, MDUSD is moving toward an equitable environment for student learning with technology.

In the past each school site, department, or program has largely made isolated decisions regarding the funding and acquisition of student and staff technology. 2021-22 saw the initiation of several programs that provide a new, District-wide focus on providing all students and staff with the necessary technology tools. Supporting families' technology needs presented a challenge during distance learning, and efforts continue to improve support for our families.

2021-22 Highlights

MDUSD realized significant progress during 2021-22 related to equitable access to technology for teaching and learning, including

- deployment of a District-wide 1:1 program in which every student in grades 2 through 12 has a Chromebook issued to them for use at school and at home,
- strategic use of one-time funding sources, such as ESSER and the Emergency Connectivity Fund (ECF) to provide additional Chromebooks for students, hotspots for families struggling to provide home connectivity for students, and new laptops for teachers and staff,
- District-wide deployment of a centralized asset management system (Destiny Resource Manager) to standardize management of District technology assets, including the capacity for schools to check out devices to students,
- creation of District-wide technology acquisition standards for technology devices, audio-visual equipment, and peripherals, and
- establishment of a 1:1 staging and support center at the Purchasing Warehouse to centralize device distribution, management, and support.

Strategies

Strategy 2.1: Ensure all students and staff have access to modern technologies necessary for modern learning and teaching
Action Step 2.1.1: Maintain centrally-supported 1:1 programs at all MDUSD schools whereby all students in grades 2 through 12 have a device issued to them for their own use at school and at home. Provide sufficient devices for all students in grades K-1 for use at school.
Action Step 2.1.2: Maintain teacher laptops at all schools by providing a supported District standard laptop device.
Action Step 2.1.3: Maintain a fully budgeted District-wide technology refresh plan to centralize technology purchasing on a three-to-four year cycle and ensure student and teacher/administrator devices are up-to-date and capable of supporting daily tasks.
Action Step 2.1.4: Maintain a centralized asset management system (Destiny Resource Manager) to serve all District sites as a single repository for mobile device inventory, and expand inventory to include audio-visual equipment, printers, and staff devices.
Action Step 2.1.5: Operationalize support for the District 1:1 program by providing centralized support for warranty repairs, break-fix, and device deployment coordinated collaboratively through the Technology and Information Services and Purchasing and Warehouse Departments. Ensure continued staffing and resources to support this move to centralized provision of technology deployment services.
Action Step 2.1.6: In collaboration with stakeholders, maintain and regularly update a comprehensive list of standard devices, peripherals, assistive technologies, and other equipment to ensure equitable support can be provided for technology in schools. Ensure that purchases made by school sites conform to established standards regardless of funding source.
Action Step 2.1.7: Establish technology specifications for elementary, middle, and high school classrooms, including a process for approving exceptions to these standards for specific use cases.

Strategy 2.2: Support home device, connectivity, and technical support needs to the extent possible
Action Step 2.2.1: Maximize opportunities for students and families to access the District network while at school outside of regular school hours by providing external WiFi coverage in common areas and facilitating access at school programs.
Action Step 2.2.2: Regularly maintain and communicate lists of resources for families with low-cost options for Internet service. Collaborate as possible with industry partners to provide information and access to programs. Provide information to schools to assist families in accessing these options.

Action Step 2.2.3: Provide resources to schools to assist site staff to support families' questions, including how-to guides and a web-based help page.

Goal 3: Professional and Timely Support

We believe that all students, staff, and families should be expertly and professionally supported in their effective use of technology within learning communities to maximize student achievement and build modern learning skills.

Progress

Significant and systemic changes to technology support occurred during the 2021-22 school year. Led by a dedicated team of technicians, technical support to staff is provided through a robust work order system, remote support has been enhanced, a refresh of staff devices is underway, and a new process for supporting students' 1:1 devices has been developed. A central Technology Help Desk continues to provide support to staff to address immediate hardware and software issues and to report when technology at sites is not operational. The District's previous model of receiving support requests through multiple communication channels has ceased, streamlining these requests. District-wide and site level professional development and training for technology integration remains inconsistent across sites, and currently no central plan for technology professional learning exists.

With the all-encompassing hardware deployments now largely complete, professional learning can be more of a priority for 2022-23. Each school has identified a District-funded Technology Integration Leader (TIL) allowed 6 hours per month to assist site staff with technology-related curriculum and hardware support. These staff attend periodic meetings to coordinate support. In-house classes are created by the Technology and Information Services department on a variety of topics. In addition, the newly Board-adopted science materials have a robust online component that will require professional development support to ensure the integration of the online components.

2021-22 Highlights

Important progress during the 2021-22 school year included

- District-wide deployment of a technology work order system through which all staff can request technology support, communicate with technicians, and receive progress updates,
- enhancement of technicians' capacity to provide remote support for staff, reducing response times for many support requests,
- simplification of the Technology and Information Systems webpage, and the addition of a 1:1-focused web resource,
- inclusion of training in TIS technicians' work schedule, and
- a contract with a new eWaste vendor, providing the District with eWaste services at no cost to the District.

Strategies

Strategy 3.1: Establish an enterprise model of technology support to best meet the needs of a modern, technology rich organization.
Action Step 3.1.1: Build on the successes of the District-wide technology work order system to improve the visibility to users of technology support requests. Ensure all staff can enter work orders, and that designated site staff may view open work orders at their sites.
Action Step 3.1.2: Complete the transition to an equitable zone system of deploying field technicians, prioritizing need rather than "time on site," and fostering collaborative support and project work among technicians.
Action Step 3.1.3: Build on existing strategies and tools to address user needs in the most timely manner, including by maximizing the use of remote support software for deployment, troubleshooting, and technical support.
Action Step 3.1.4: Strengthen collaborative efforts between Technology and Information Systems staff and site leaders, including Technology Integration Leaders (TILs), through resources and training and by allowing access for TILs to the work order system.
Action Step 3.1.5: Refresh and regularly update the Technology and Information Systems web page enabling users to more readily access resources for self-help and include commonly requested support and training resources.
Action Step 3.1.6: Identify additional innovative ways to increase technical support capacity, such as through technical support electives for students, internships, etc.
Action Step 3.1.7: Establish clear, ongoing, and job-embedded training options for Technology and Information Services staff that empower technicians to perform their important functions expertly and efficiently, and provide opportunities for all staff to improve their skills and advance to more senior positions as they become available within the District.

Strategy 3.2: Standardize device management, deployment, and removal from service, to ensure efficient, timely support.
Action Step 3.2.1: Require use of the District asset management system for all check-in / check-out of devices, ewaste, and invoicing.
Action Step 3.2.2: Ensure all District devices are managed centrally through systems that allow efficient deployment of hardware and software and allow remote support.

Action Step 3.2.3: Ensure all devices approaching end of life are removed from the District inventory and eWasted in a timely manner to increase compatibility, reliability, and functionality of devices in service. Establish clear communication channels among schools, Purchasing and Warehouse, and Technology and Information Services to ensure timely eWasting of equipment.
Action Step 3.2.4: Establish tiered support levels for all District-standard technologies to clearly outline what support users can expect, and identify end-of-life dates. Include refresh dates for District-issued Chromebooks and staff laptops.

Goal 4: Robust Network Infrastructure and Technology Operations

We believe that a student-focused, results-oriented organization must provide secure, reliable, and effective technology services to enable a first-rate learning environment where students, staff, and families can achieve their collaborative and individual goals.

Progress

The District's increasing reliance on data, information, and technology services in recent years has significantly elevated the need for MDUSD to deploy modern, updated, and supported technologies. During 2021-22 MDUSD significantly upgraded and modernized core technology operations. While most throughout the District remain unaware of these specific changes, they benefit directly through improved reliability and functionality of the District's network infrastructure and technology operations. A year ago, District Internet capacity was limited to 3.5 Gbps of throughput, with many schools further limited to 500 Mbps WAN connections. Today, we have sufficient, scalable Internet and WAN capacity to meet the ongoing needs of all sites. Internet "bandwidth" is no longer a concern for District technology users.

One of the most important initiatives presently underway is the design and rebuilding of our District network infrastructure. Significant progress in this regard is anticipated beginning in 2022-23.

Of course, challenges remain, and technology improvements on the scale required for MDUSD cannot be undertaken overnight. The District-wide phone system remains an archaic PBX system, with a few schools using end-of-life VoIP routers. Expertise in managing this system is in place, but there is no failover, creating significant risk to the District in the event of staff turnover.

With regard to data systems, a lack of coordination and integration among systems has resulted from departments and schools acquiring systems without a centralized plan. This issue continues. Multiple disparate systems have been deployed to solve similar business problems, such as document management, which is currently undertaken through a combination of an end-of-support document management system, site and department share folders, cloud storage through Google, and various third-party tools. This results in an inability to effectively manage the District's data, establish retention policies, and create data access and use policies.

Because in the past systems have been acquired and deployed without full recognition that such deployments should meaningfully address staffing needs to ensure desired system performance the Technology and Information Systems Department has, out of necessity, reduced capacity for technical support to sites to ensure support exists centrally for these systems. Job descriptions do not address the complexity of modern networking and systems and include outdated functions, such as, "Knowledge of DOS," and, "Maintain tape and disc library."

2021-22 Highlights

Several important initiatives have been undertaken in 2021-22, including

- increasing Internet throughput and WAN capacity at all sites to 2 Gbps, scalable as needed to meet ongoing needs and anticipated increases now that MDUSD is a 1:1 District,
- a comprehensive network redesign is in progress, with twelve sites approved by the Board of Education for round one upgrades, and
- significant modernization of data center operations, resulting in improved management, functionality, resilience, scalability and reliability.

Strategies

Strategy 4.1: Provide adequate connectivity for learning, teaching, and business operations through a reliable future-proofed modern network.
Action Step 4.1.1: Maintain the needed Internet and WAN throughput to schools and central services sites, utilizing the federal E-Rate program where possible, to ensure user needs are met, and bandwidth is scalable. In future planning, consider the recommendations outlined by the State Educational Technology Directors Association (SEDTA) for peak utilization capacity for digital learning.
Action Step 4.1.2: Create thorough, detailed standards for network infrastructure at all District sites to support anticipated needs and a 40 Gbps backbone, including wired and wireless networks, structured cabling, fiber optic and ethernet cabling, routing and switching, MPoE/MDFs/IDFs.
Action Step 4.1.3: Create a complete network design, including designs for each site, informed by assessments, educational specifications, and standards.
Action Step 4.1.4: Coordinate the implementation of a managed project in prioritized phases - initially prioritizing schools with known critical connectivity issues - to efficiently and responsibly utilize available funding sources, such as Measure J, E-Rate, the California Assembly Bill No. 86 (A.B. 86) COVID-19 Relief Package, and the Elementary and Secondary School Emergency Relief Fund (ESSER I, ESSER II, and ESSER III) in modernizing the network at all District sites.
Action Step 4.1.5: Concurrent with the network modernization project, create an infrastructure refresh plan as a component of the District's Deferred Maintenance Plan to ensure the cyclical replacement of network infrastructure components, including an annual budget.

Strategy 4.2: Modernize and sustain core business and academic systems
Action Step 4.2.1: Evaluate the functionality and interoperability of core business and academic systems to determine current and future needs and inform potential changes or acquisitions of new business and academic systems.

Action Step 4.2.2: Continue to evaluate cloud hosted options for critical business systems, such as our Enterprise Resource Planning (ERP) system, and Student Information System (SIS), to improve reliability, sustainability, and disaster recovery.
Action Step 4.2.3: Regularly evaluate existing business systems to consider current and future needs and determine if a transition to new systems is warranted and feasible.
Action Step 4.2.4: Evaluate the viability of deploying a District-wide document management system to meet the document storage and retrieval needs of District departments.
Action Step 4.2.7: Consider transitioning from the current outdated Private Branch Exchange (PBX) phone system to a modern VoIP system as part of the network refresh program.
Action Step 4.2.8: Define standards and a long-range plan for site security cameras, including purpose, standard locations, and refresh cycle.

Strategy 4.3: Ensure continued, reliable information technology operations by aligning available resources to technology needs.
Action Step 4.3.1: Align staffing and funding resources to adequately support existing and future district technology systems. Consider the need for failover for critical services to avoid knowledge loss in the event of staff turnover by establishing training and pathways for junior technicians to support core systems.
Action Step 4.3.2: Work alongside union partners to modernize job descriptions in accordance with the technology needs of a large district.
Action Step 4.3.3: Provide technicians with dedicated and job-embedded training aligned to District systems, including time within the contract day for training.

Strategy 4.4: Establish modern business continuity and disaster recovery practices and deploy needed systems to ensure the continued, reliable operation of critical business systems.
Action Step 4.4.1: Maintain the reliability of data center operations through a modern Hyperconverged Infrastructure (HCI) model.
Action Step 4.4.2: Maintain backup strategies to apply industry standard practices to protect critical District data from disasters and security incidents, and provide for timely recovery.
Action Step 4.4.3: In collaboration with all District departments, conduct a thorough business impact analysis and prepare a business continuity / disaster recovery plan. Ensure that MDUSD department “business owners” are designated for all critical business systems to inform desired service levels.

Action Step 4.4.4: Develop a clear cloud strategy for core services to ensure adequate backups and disaster recovery and meet business continuity needs as appropriate.
Action Step 4.4.5: Assess the feasibility and desirability of establishing a secondary data center to provide additional failover and disaster recovery capacity, and the potential addition of a second Internet Service Provider.

Goal 5: Comprehensive Cyber Security and Data Privacy

We believe that effective technology use by students, staff, and families requires safe and secure tools and an environment in which all technology users value privacy and security and are prepared with skills and knowledge to interact appropriately with technology.

Progress

Protecting a large, complex computer network and its users requires a comprehensive approach to information security and cybersecurity. MDUSD has made significant progress recently related to cybersecurity. In addition to the acquisition of several new and updated technology systems, important security assessment work has been undertaken. MDUSD has also acquired technologies to better assess and mitigate security risks. 2021-22 Highlights

While specifics related to cybersecurity initiatives underway should not be shared publicly, the following improvements have been a focus of the District's work in 2021-22:

- streamlining and improving user security and authentication within the Technology and Information Services Department,
- upgrades to several core systems within TIS,
- creation of procedures for security incidents in preparation for a comprehensive incident response plan, and
- maintenance of a comprehensive risk register documenting current risks and progress toward mitigation.

Strategies

Strategy 5.1: Improve, sustain, and test the District's cybersecurity posture
Action Step 5.1.1: Create and implement a comprehensive District Information and Cyber Security Plan with a strong focus on implementing the Center for Internet Security (CIS) Critical Security Controls.
Action Step 5.1.2: Maintain updated systems to protect District users, technologies, and data, including firewall, antivirus, network access control, authentication and user access management.
Action Step 5.1.3: Develop an incident response plan to ensure an effective, timely response to a variety of possible technology and security incidents.
Action Step 5.1.4: Continue to conduct regular security vulnerability assessments and penetration tests to verify and improve security protections.

Action Step 5.1.5: Assess, manage, and mitigate security risk by maintaining an up to date risk register discussed regularly by District leadership.

Strategy 5.2: Establish a clear and comprehensive culture of data stewardship, data privacy, and data security.
Action Step 5.2.1: Establish and implement data privacy and security standards and practices as outlined in the Consortium for School Networking's (CoSN) Trusted Learning Environment (TLE) framework (trustedlearning.org), and strive to earn the TLE Seal.
Action Step 5.2.2: Consolidate and reduce options for user, department, and school data storage to provide ready access to needed data while minimizing the potential for unintended exposure of sensitive and personal data. Expand staff use of Google Drive cloud-stored data to improve safety and security and decrease the potential for data loss.
Action Step 5.2.3: Incorporate data privacy and cyber security awareness into training for all staff. Provide staff with resources and guidelines on data privacy and security in a cloud environment.
Action Step 5.2.4: Adopt an integrated platform for classroom management, filtering, and behavior alerting to facilitate safe teaching and learning with technology.

Goal 6: Sustainability

We believe that ensuring students, staff, and families have regular access to essential technologies demands that technology be acquired purposefully and sustainably.

Progress

With the substantial technology acquisitions made by MDUSD over the past year, the need to sustain these technologies into the future has been carefully considered. One-time funding opportunities have been strategically utilized. MDUSD has placed a priority on creating enduring partnerships with responsible vendors to best utilize available resources. Importantly, while planning for the construction of a refreshed network infrastructure, attention has been given to emergency repairs that where possible support the needs of this future network.

2021-22 Highlights

Specific work leading to better sustainability of MDUSD technologies includes

- establishment of long-term budgeting for 1:1 and staff laptops,
- creation of a software/systems acquisition questionnaire for vendors, and
- incorporation of discussions regarding ongoing technology refresh needs into all work.

Strategies

Strategy 6.1: Identify efficiencies and cost-savings created by technology acquisitions and clearly articulate funding sources when acquiring technology.
Action Step 6.1.1: Develop and clearly communicate a technology refresh plan outlining which technologies are provided centrally to all sites and which are the responsibility of individual sites. Incorporate all existing and potential funding sources, such as E-Rate and relevant bond measures.
Action Step 6.1.2: Create a 1:1 technology sustainability plan to ensure program continuation and to identify potential cost savings and efficiencies created. Include the acquisition of tools to monitor 1:1 technology use and impact, digital tools use and impact, and overall program cost. Develop and communicate expectations for cost saving efforts, including reduced use of paper and increased use of digital communication for students and families.
Action Step 6.1.3: Adopt technologies to improve analytics related to the instructional use of digital tools to inform continued and future acquisition, and make sustainable, learning-focused decisions about acquisition of supplemental digital materials.

Strategy 6.2: Maximize the strategic use of available targeted, one-time, and grant funding opportunities
Action Step 6.2.1: Establish a clear review process for technology hardware and software purchases utilizing targeted, one-time, and grant funding to ensure the District can identify best practices and scale as appropriate. Include consideration of non-standard technologies for specific purposes, such as assistive technologies.
Action Step 6.2.2: Create a register of proposed learning technology projects to enable appropriate targeting of grant opportunities informed by District priorities.

Strategy 6.3: Modernize technology purchasing practices to leverage efficiencies
Action Step 6.3.1: To the extent possible, continue to leverage allowable cooperative and piggyback contracts to streamline and standardize purchasing and assure a professional level of service for technology acquisitions. Reduce time-consuming bidding processes to enable staff to focus on vendor partnerships, and establishment of and accountability to District standards.
Action Step 6.3.2: For proposed technology hardware and software acquisitions, require multi-year budgeting be considered prior to approval.
Action Step 6.3.3: For proposed software acquisitions, require vendors complete a District software acquisition checklist in collaboration with sponsoring departments and schools to ensure compatibility, appropriate privacy and security, and to ensure any additional costs or resources required due to the acquisition are minimized.
Action Step 6.3.4: Seek and maintain long-term partnerships with vendors that provide stability, support, professionalism, and commitment to the needs of MDUSD.

Goal 7: Technology Governance, Continuous Improvement, and Communication

We believe that technology oversight, policies, and capacity building exercises should be inclusive, consultative, guided by best practices, and reflect the needs of all stakeholders.

Progress

With progress toward the above Goals of this Strategic Technology Plan, governance initiatives will become more readily addressable. Improved standardization of hardware and software acquisition, and streamlined technology support operations better enable the Technology and Information Systems (TIS) Department to provide for the increasingly complex needs of District staff and students. A policy framework governing District technology practices, information and cybersecurity priorities, data use, and other critical services will be an important goal in 2022-23. Ensuring the continued success of this Strategic Technology Plan requires that certain key governance activities occur. Additionally, governance activities at each school, including site technology planning, will become increasingly important to support instructional goals.

2021-22 Highlights

Governance and communication activities have demonstrated progress toward this plan throughout 2021-22, including

- collaborative updates to the District Strategic Technology Plan, and
- creation of procedures within Technology and Information Systems that will inform District policy.

Strategies

Strategy 7.1: Align the prioritization, acquisition, management, implementation, and progress monitoring of District technologies with District priorities.
Action Step 7.1.1: Create and regularly update a comprehensive technology policy framework to ensure vertical and horizontal alignment of District priorities and compliance efforts. This framework should encompass board policy, administrative regulation, administrative procedures, and Department processes.
Action Step 7.1.2: Establish a stakeholder-driven technology standards committee to create, revise, and communicate District technology standards for devices, systems, and software. This committee

would also consider emerging technologies to ensure the District can best anticipate future educational needs. Importantly, this committee will also consider the needs of all students, including those with special needs and English Learners.
Action Step 7.1.3: Continue governance activities related to the approval of digital tools to effectively assess educational need, security and privacy implications, and cost considerations for all digital tools used in MDUSD. Ensure the continuation of a clear process for submitting additional digital tools for consideration.
Action Step 7.1.4: Establish a clear process whereby District leadership is empowered as decision-makers regarding information security and cybersecurity, including the identification, assessment, and management of risk.
Action Step 7.1.5: In coordination with the development of District policy regarding data use, management, retention, and access, consider the creation of a formal data governance structure to oversee District data priorities.
Action Step 7.1.6: Annually update the District Strategic Technology Plan to reflect changing needs, incorporate stakeholder input. Establish a process to ensure active, meaningful participation of stakeholder groups in the plan revision process.

Strategy 7.2: Support schools to focus on continuous improvement
Action Step 7.2.1: Require annual submission by all schools of a five-year technology plan based on a simple template to outline and clearly communicate instructional priorities, device acquisition priorities, and professional learning supports.
Action Step 7.2.2: Require all schools to maintain an active technology committee representative of stakeholders, including students, families, and staff.

Strategy 7.3: Communicate progress with stakeholders
Action Step 7.3.1: Regularly communicate progress on the District Strategic Technology Plan through the District website, family communication platforms, and presentations to the Board of Education.