



# TECHNOLOGY

## **Mt. Lebanon School District**

### **Technology Map**

Revised January 2, 2024

# Mt. Lebanon School District

## Technology Map

Revised January 2024



### **HARDWARE**

The Technology Department purchases and maintains a variety of categories of hardware necessary to provide both an infrastructure and learning devices for classroom and home use.



### **SOFTWARE**

The Technology Department supports a wide variety of software that is utilized at the District level as well as the classroom level. We purchase, recommend purchases, install, update, and assist users.



### **GOOGLE WORKSPACE**

Google Workspace is a collection of cloud computing, productivity and collaboration tools, software and products developed by Google and utilized by every faculty, staff, and student at Mt. Lebanon.



### **CLOUD APPLICATIONS**

A growing number of the applications used in our classrooms and in our buildings are housed “in the cloud” rather than on-premise. We support these systems’ configurations, data upload/download, etc.



### **MULTIMEDIA**

The importance of multimedia in learning continues to rise. We support teachers and administrators in the creation and distribution of multimedia projects for learning and communicating.



### **TRAINING & INTEGRATION**

While the Technology Department efforts to provide training for all that we support, there are always specific technologies and practices that are training priorities for us as a District.



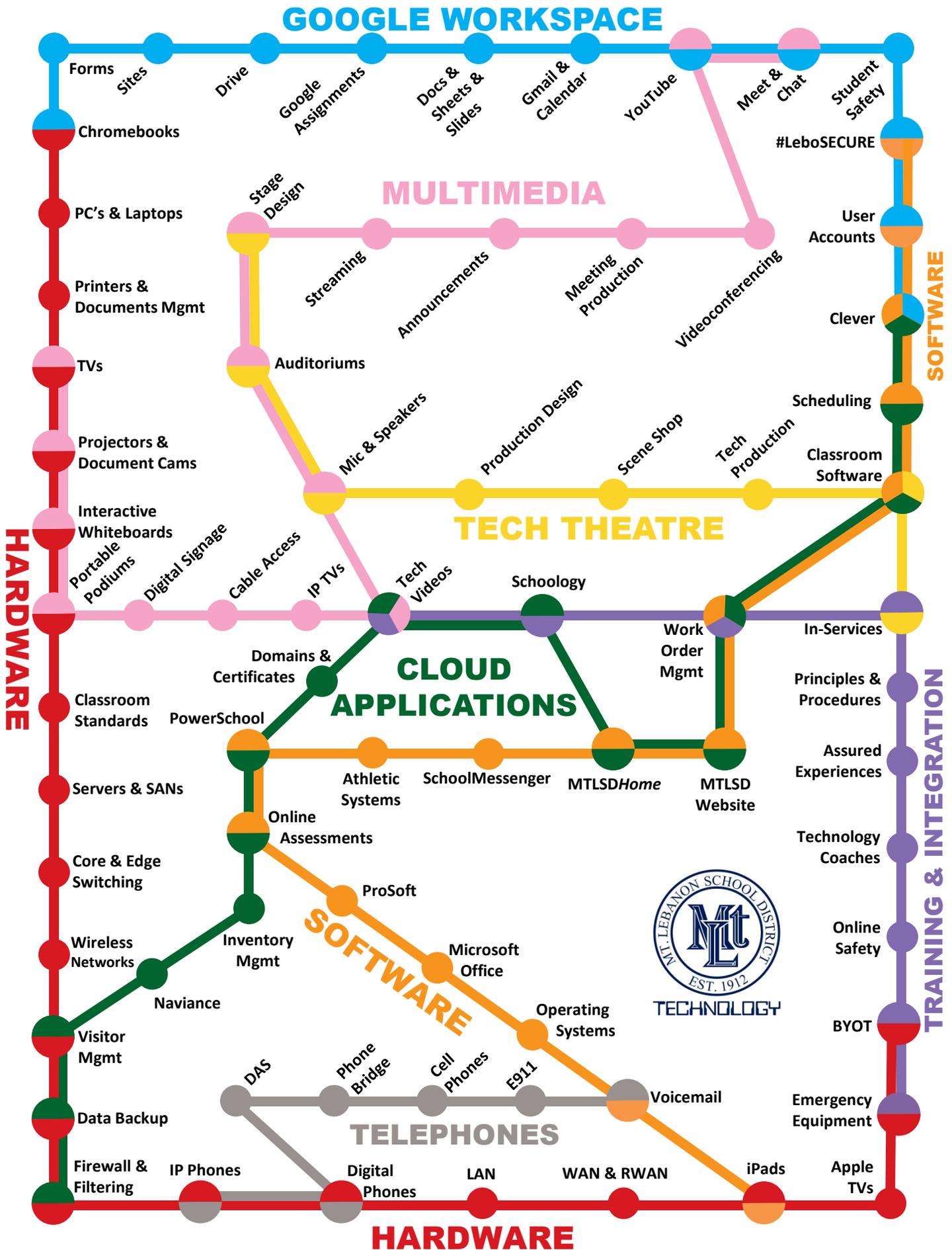
### **TELEPHONES**

The Technology Department maintains a number of desk and cellular phones for employees as well as network equipment and cabling to ensure their operation.



### **TECH THEATRE**

The Technology Department supports stage, theatre, and auditorium spaces and equipment at each of our school buildings. In addition to maintaining equipment, we also assist with production.



# HARDWARE (1)



## Chromebooks

Chromebooks are a great device for student computing and offer a variety of learning paths to student learning that would not be available without them. Students in grades 2-5 are issued a Chromebook to use until they move to Middle School. Students in grades 6-12 can request to borrow a Chromebook from the District which they are free to keep until they finish their time with the District. The libraries at all 10 schools also have Chromebooks available for in-District student use.

## PCs & Laptops

PC's are used as the teachers' primary workstations throughout our District. In a number of our "labs" (writing labs, information technology labs, language labs, etc.) we utilize PC's. We maintain an average of a 4-year life cycle on our PC's and laptops. Every summer we seek to replace approximately 25% of those devices.

## Printers & Documents Management

While we continue to encourage innovative learning paradigms that involve online collaboration as well as rapid feedback using digitally submitted work, printers are continually needed for some of our areas. We facilitate the purchase and installation of network printers and manage the software that tracks printer use. Maintenance of printers is performed by the District's printer company, "The Wilson Group".

## Televisions

Since the renovation of the High School, most classrooms (all Math and Special Education) have 70-inch flat screen TV's installed at the front of the room. This provides a brighter image as well as sound for learning with video.

## Projectors & Document Cameras

Displaying what the teacher sees onto the wall of the classroom for students to follow along is a crucial element of learning. We supply every classroom in the elementary and middle schools with a projector connected to the teacher PC. Every elementary classroom is also provided a document camera. Some departments provide their classrooms at the middle school level with these cameras as well.

## Interactive Whiteboards (SmartBoards & Mimios)

All classrooms in grades 3-5 (as well as Math and Special Education classrooms at the high school) have SmartBoards installed for teacher-led instruction. A number of middle school classrooms have these provided by their departments as well. All of our K-2 classrooms have Mimio Teach systems.

## Portable Podiums

The Technology Department has built a number of portable podiums that contain a microphone, speakers, and occasionally a projector for presentations in non-traditional classroom spaces.

# HARDWARE (2)

## Classroom Standards

We work continuously with the elementary principals and the Assistant Superintendent for Elementary Education to maintain a specific "technology standard" for each grade level. This standard is supported by a specific budgetary account and is re-evaluated every year.

## Servers & SAN's

The District maintains a number of physical servers as well as virtualized servers that are hosted by our SAN. In addition to the primary SAN, a secondary SAN serves as a disaster recovery device which is located in one of the other buildings.

## Core & Edge Switching

When we renovated our high school in 2013, we implemented a new switching structure that provides for the District as a whole. Our network technicians continue to receive professional development on this equipment so it can be effectively maintained and improved over time.

## Wireless Networks

With wireless controllers being centrally controlled in each building and access points throughout our ten buildings, our goal is to provide robust wireless connectivity throughout all of our learning spaces at all times.

## Visitor Management System

The District has deployed the Raptor visitor management system to every building reception area. From a hardware perspective, we work to keep the ID scanners and label printers operational.

## Data Backup

On the hardware side, the data on our network as well as snapshots of our servers are backed up on premise using a non-production SAN located in a District building other than the high school. We also utilize a Network Attached Storage device NAS to create a weekly offline archive of our server and network configuration files.

## Firewall & Filtering

We employ a redundant pair of Fortinet web filters to block unwanted traffic as well as ensure that our students' onsite access to the Internet is compliant with relevant laws while still providing the best learning experiences possible.

## IP Telephones

IP telephones operate on any data port rather than a dedicated phone port. We currently maintain hundreds of these phones at the High School and Central Office. Each of these phones needs to be individually programmed.

# HARDWARE (3)

## Digital Telephones

Digital Telephones operate on dedicated phone ports but use the same network as all of our digital devices. We maintain hundreds of these phones at our elementary and middle schools, which are all programmed centrally.

## LAN Improvements

We continue to make improvements within our buildings to ensure that the switching and networking are up-to-date. In the high school, we have eliminated data closets in favor of zone boxes that are connected to our MDF via home runs of blown fiber.

## WAN & RWAN Improvements

Our phone traffic from each building is converted to data so that we can use both of our WAN configurations (star and ring) as redundant pathways. Our star (point-to-point) runs our 10G network while our ring handles 1G traffic. If either network suffers an outage, the other will handle that traffic. We are connected to the Allegheny Connect Network (RWAN) for Internet and Internet2. We receive supplemental Internet connectivity in addition to that provided by the RWAN.

## iPads

We provide iPads for student learning in every elementary school. Students in grades K and 1 are issued an iPad at the beginning of the year and there is a cart of iPads at each elementary library as well.

## Apple TV's

In each building, there are a number of Apple TV's connected to TV monitors for educators and students to share their work on their iOS device. In the high school, there is an Apple TV on each science classroom TV.

## Emergency Equipment

The Technology Department maintains a number of "emergency packs" that contain devices, MiFi (Mobile Wi-Fi) hotspots, and other technological items that would be able to support an evacuation or ALiCE situation. We ensure throughout the year that these packs are ready to go at a moment's notice.

## BYOT

Bring Your Own Technology (BYOT) continues to be a successful tool for our students' learning. Students in all grades are permitted (at the teacher's discretion) to bring in their own devices and connect them to the MTLSD wireless network.

Students at the secondary level are required to bring a charged device with them to school each day. They may bring their own device or borrow one from the District to keep throughout their enrollment at Mt. Lebanon.

# SOFTWARE (1)



## #Lebo Secure

#LeboSECURE is the collection of Mt. Lebanon's cybersecurity initiatives. To access our in-house software from a remote location, faculty and staff have to create a VPN connection to our network. Keeping that VPN secure is a top priority for us and as such, we protect that connection with a multi-factor authentication tool called FortiToken.

## User Accounts

As students, faculty, and staff rotate through our schools, we ensure that user accounts are created for them that provide needed access to our Google environment. When students graduate and when employees leave the District, we make sure that accounts are disabled as well as preserved for potential future needs. We also help graduating seniors move their Google documents into a personal Google account before their accounts are terminated.

## Clever

Clever is a free portal solution that allows us to provide single sign-on access to a number of the applications that we use with our students. Students sign in to Clever using their Google credentials and are then able to log on to a growing number of curricular websites that we utilize including Dreambox, Lexia, AimsWeb, Quaver, Reflex, Sapling, Scholastic, Sphero, and Naviance.

## Scheduling Software

There are a number of software tools utilized and maintained by the District to support scheduling of buses, parent teacher conferences, "career day" events, and in-service days that are structured like conferences where attendees sign up for specific sessions.

## Classroom Software

The Technology Department facilitates the acquisition, installation, and maintenance of numerous software products on computers throughout the District. With the growth in use of cloud-based applications, fewer of these products actually require installation on computers, but still require maintenance and updates throughout the year.

## Work Order System

Our custom-developed work order system allows the Technology Department (as well as the Facilities Department) to receive requests for support, assign those requests to the most appropriate support technician, communicate between the submitter and the technician, and collect feedback when the request is resolved to ensure total customer satisfaction.

## MTLSD Website

Mt. Lebanon uses Finalsite's Content Management System to create and update our District website as well as websites for each school and Athletics. Numerous user accounts exist to enable distributed content ownership by principals, building webmasters, PTA volunteers, and other groups.

# SOFTWARE (2)

## **MTLSDHome**

We created and maintain a District intranet site for faculty and staff that provides them with access to their HR data as well as other frequently used links and documents. For staff who do not use the Frontline substitute management system, MTLSDHome also provides an interface to request and authorize absences. For teachers, MTLSDHome has a comp time management component that includes approval by principals.

## **SchoolMessenger**

This system connects to our PowerSchool and our employee databases to provide mass-communication services via SMS text, Email, and voice calling. It is the instrument for communicating weather and hazard-related delays and cancellations. Our administrators use it to send emails to our families with District and school news /updates.

## **Athletics Systems**

We support a number of software systems for the Athletics and Health/PE areas of the District including Family ID and FitnessGram. Athletic schedules are now integrated with the District website.

## **PowerSchool & Dashboard**

PowerSchool is our Student Information System. Student information including scheduling, attendance, discipline, grades, health information, demographics, etc. is captured in this system which is utilized every day by our teachers and administrators. PowerSchool also provides a portal to parents (Dashboard) that shares this information to the home. PowerSchool also feeds a number of other software systems for rostering, lunch accounts, and numerous state and federal reporting requirements.

## **Online Assessments**

The District conducts a number of online assessments throughout the course of the year that require technology support for rostering and configuration. Examples include MAP Testing, DRC, Keystones, and Dibels.

## **ProSoft**

ProSoft is our financial and budgetary accounting software product. The District utilizes this program for requisitions, accounts receivable, accounts payable, and budgeting. Additionally, this system handles payroll including an employee portal for pay stubs and W-2 access. We provide server maintenance and technical issue resolution for matters related to its hosting on-premise.

# SOFTWARE (3)



## Microsoft Office

While our students all use Google Docs as their primary word processing and spreadsheet tool, we do support a number of Microsoft Office installations, primarily with our clerical and support staff and in places where legacy documents need to be preserved.

## Operating Systems

We effort to keep all of our operating systems up-to-date with patches as well as the most recent versions for Windows, Chrome, and Apple operating systems.

## Voicemail

Our telephone voicemail system is a virtual program that runs on a server maintained by the Technology Department. Throughout the year, we update the operating system and the software code to keep the most current feature set available to our faculty and staff. We also manage an integration with Gmail for some of our phone system users.

## iPad Apps

Apps for all of our student iPads are managed centrally for best pricing and to maintain consistency across levels. A complete list of the iPad apps can be found on the District website.

# GOOGLE WORKSPACE (1)



## Chromebooks

Chromebooks are a great device for student computing and offer a variety of learning paths to student learning that would not be available without them. Students in grades 2-5 are issued a Chromebook to use until they move to Middle School. Students in grades 6-12 can request to borrow a Chromebook from the District which they are free to keep until they finish their time with the District. The libraries at all 10 schools also have Chromebooks available for in-District student use.

## Google Forms

Where we had formerly developed our own custom online forms engine, we have now transitioned to the use of Google Forms for online form collection. This can be a great learning tool for our students as well as useful for formative assessment.

## Google Sites

Google Sites offers true collaboration between our students and our teachers via the creation of websites which can stand as an artifact of their learning after the collaboration is complete.

## Google Drive

Google Drive is a file storage and synchronization service that lets our students, faculty, and staff store documents, spreadsheets, presentations, and other files in the cloud and access those files from any computer at any time. Storage is unlimited. Google Drive also offers “Shared Drives” which allow teams to collaborate on a set of documents without needing an individual owner for those documents. Additionally, we deploy a desktop application that allows our users to synchronize documents on their PC with their Google Drive storage.

## Google Assignments

Google Assignments enable instructors to assign Google Docs, Spreadsheets, Slideshows, and Drawings from directly within the Schoology platform. When a student opens the assigned file, an individual student copy is automatically generated so that the student can work on it and submit, and the instructor can then provide feedback and grade the assignment, all without leaving Schoology.

## Google Docs & Sheets & Slides

Docs, Sheets, and Slides are the “core” products that Google for EDU offers our faculty, staff, and students. These applications promote collaboration for learning and workplace efficiency, while also providing seamless cloud storage for documents so that they can be accessed from any device at any time.

## Gmail & Calendar

Gmail accounts exist for all of our students, faculty, and staff. Gmail, combined with Google Calendar, provides simple and effective communication from any device and provides our students with valuable life skills lessons in using such digital applications. All emails through Gmail are archived for discovery purposes. The Board’s Student Communications policy (GBEE) provides guidelines for the safe and effective use of Gmail with our students.

# GOOGLE WORKSPACE (2)

## YouTube

YouTube is a Google product that enables our faculty, staff, and high school students with the ability to upload and share videos for learning. As Google brings YouTube closer to “core app” status (where it will be fully supported by the Google for Education team), we anticipate having a greater amount of control over what our students can and cannot see on this platform. Currently, our web filtering solution, GoGuardian, applies a number of age-specific controls to the student YouTube experience.

## Google Meet & Chat

Google Meet provides faculty and staff with tools to video conference with each other or with one or more students in various locations. Google Chat is enabled for our faculty, staff, and High School students and provides them with a tool for instant messaging that can contribute to collaborative and effective work.

## Student Safety

Student safety online is a priority for Mt. Lebanon. In addition to teaching students lessons from Common Sense Media and Google's Be Internet Awesome curriculum, we currently employ GoGuardian browser filters and alerts that both stop inappropriate content from being delivered to students and notify the District of browsing behavior that might indicate a risk of harm to the student. In addition to the browser monitoring, we are piloting service with Gaggle which monitors our student Gmail, Documents, and Chat for inappropriate and harmful content.

## #LeboSECURE

#LeboSECURE is the collection of Mt. Lebanon's cybersecurity initiatives. One of our most important initiatives is the protection of our faculty and staff Google Accounts which are not only used for email communication and documents creation, but also to authenticate to other software online. As such, we employ Google's 2-Step Verification and train our faculty and staff on how to access and protect their accounts.

## User Accounts

As students, faculty, and staff rotate through our schools, we ensure that user accounts are created for them that provide needed access to our Google environment. When students graduate and when employees leave the District, we make sure that accounts are disabled as well as preserved for potential future needs. We also help graduating seniors move their Google documents into a personal Google account before their accounts are terminated.

## Clever

Clever is a free portal solution that allows us to provide single sign-on access to a number of the applications that we use with our students. Students sign in to Clever using their Google credentials and are then able to log on to a growing number of curricular websites that we utilize including Dreambox, Lexia, AimsWeb, Quaver, Reflex, Sapling, Scholastic, Sphero, and Naviance.

# CLOUD APPLICATIONS (1)



## Firewall & Filtering

Student safety online is a priority for Mt. Lebanon. We currently employ GoGuardian browser filters and alerts that both stop inappropriate content from being delivered to students and notify the District of browsing behavior that might indicate a risk of harm to the student.

## Data Backup

In addition to our on-premise backups, we utilize Backupify from Datto to take snapshots of all of our Google documents and emails three times per day.

## Visitor Management

The District has deployed the Raptor visitor management system to every building reception area. Using their cloud-based tools, we maintain administrator login information.

## Naviance

Naviance is a cloud-based college and career readiness solution that provides students with college planning and career assessment tools. We maintain logins and provide data integration, demographic info, and other information from our student records into this system.

## Inventory Management

We utilize Asset Tiger and custom MTLSD Technology asset tags to track the physical location of our technology assets. In addition to continuous updating, we audit our data every summer to make sure that entries are consistent with our standards and to account for retired equipment.

## Online Assessments

The District conducts a number of online assessments throughout the course of the year that require technology support for rostering and configuration. Examples include MAP Testing, DRC, Keystones, and PSSA.

## PowerSchool & Dashboard

PowerSchool is our Student Information System. Student information including scheduling, attendance, discipline, grades, health information, demographics, etc. is captured in this system which is utilized every day by our teachers and administrators. PowerSchool also provides a cloud-based portal to parents (Dashboard) that shares this information to the home. PowerSchool also feeds a number of other software systems for rostering, lunch accounts, and numerous state and federal reporting requirements.

## Domain Registration & Certificates

Every website owned by the District must have a valid certificate to provide secure (https) traffic. Our department maintains these certificates as well as the actual registration of all domains.

## Technology Videos

We host a number of District videos public YouTube channels. In addition to School Board videos on the MyLebo channel, we provide recordings of school events as well. Navigate to <https://youtube.com/@mylebo/playlists> to see the full selection. We also produce help documents using our LeboTech channel (<https://youtube.com/@lebotech>).

# CLOUD APPLICATIONS (2)



## Schoology

Schoology is the District's Learning Management System (LMS). It provides teachers, students, and families with access to course materials anytime and anywhere. As we continue to deepen our use of this platform in our District, this will become the primary "go-to" location for our students and their parent/guardians for access to everything: assignments, grades, attendance, etc.

## MTLSDHome

We created and maintain a District intranet site for faculty and staff that provides them with access to their HR data as well as other frequently used links and documents. For staff who do not use the Frontline substitute management system, MTLSDHome also provides an interface to request and authorize absences. For teachers, MTLSDHome has a comp time management component that includes approval by principals. Access to this application is available anywhere through the Internet.

## MTLSD Website

Mt. Lebanon uses Finalsite's Content Management System in the cloud to create and update our District website as well as websites for each school. Numerous user accounts exist to enable distributed content ownership by principals, building webmasters, PTA volunteers, and other groups in the District.

## Work Order System

Our custom-developed work order system allows the Technology Department (as well as the Facilities Department) to receive requests for support, assign those requests to the most appropriate support technician, communicate between the submitter and the technician, and collect feedback when the request is resolved.

## Classroom Software

The Technology Department facilitates the acquisition and configuration (rostering, accounts, etc.) of a number of cloud-based software products used by the District.

## Scheduling Software

There are a number of cloud-based tools utilized and maintained by the District to support scheduling of buses, parent teacher conferences, "career day" events, and in-service days that are structured like conferences where attendees sign up for specific sessions.

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# MULTIMEDIA (1)



## Televisions

Since the renovation of the high school in 2015, most classrooms (all but Math and Special Education) have 70-inch flat screen TV's installed at the front of the room. This provides a brighter image as well as sound for learning with video.



## Projectors & Document Cameras

Displaying what the teacher sees onto the wall of the classroom for students to follow along is a crucial element of learning. We supply every classroom in the elementary and middle schools with a projector connected to the teacher PC. Every elementary classroom is also provided a document camera. Some departments provide their classrooms at the middle school level with these cameras as well.



## Interactive Whiteboards (SmartBoards & Mimios)

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## Portable Podiums

The Technology Department has built a number of portable podiums that contain a microphone, speakers, and occasionally a projector for presentations in non-traditional classroom spaces.



## Digital Signage

Throughout the High School as well as at many of our other schools, we coordinate the broadcast of internal signage communications through public TV's at various locations around the buildings.



## Cable Access Programming

Mt. Lebanon broadcasts on public access channels 19 (Xfinity Comcast) and 33 (Verizon Fios) throughout the school year. In addition to rebroadcast of the most recent School Board meetings, we broadcast a variety of school events, concerts, etc. Between scheduled broadcasts, we maintain a message board. Our program lineup and message board is accessible on the District website.



## IPTV

We broadcast a limited number of TV channels throughout our network to computers and displays in our buildings. We utilize a system from Discover Video to provide encoding and transmission.



## Technology Videos

We host a number of District videos public YouTube channels. In addition to School Board videos on the MyLebo channel, we provide recordings of school events as well. Navigate to <https://youtube.com/@mylebo/playlists> to see the full selection. We also produce help documents using our LeboTech channel (<https://youtube.com/@lebotech>).



## Microphone & Speaker Setups

At many locations throughout our buildings, presentations are made that require support for temporary microphone and speaker setup and strike-down.

# MULTIMEDIA (2)

## Auditorium Setups

Each of our buildings has an auditorium space (the High School has two!) that we support throughout the year, both in executing programming and in keeping the technology of these spaces up to date.

## Stage Design & Setup

We work very closely with the High School Theatre Department to facilitate stage production for all of their performances. Additionally, numerous concerts with performers from our other buildings (orchestra, band, vocal music) take place at the High School every year and require our assistance to setup and strike-down the performance stage.

## Live Streaming

For MTLSD events that take place during the day (and even those in the evening) we provide live streaming services to the venue that also produce a recorded version available for playback after the event.

## Morning Announcements

At a number of our schools, including the High School, we provide assistance and technology for the production and broadcast of daily video announcements that are broadcast live and archived for later playback.

## Meeting Production

Our staff produces and records meetings of the MTLSD Board of Directors. We also archive and provide on-demand access to these video recordings for up to 1 year on the Internet. Audio recordings of the Board's Policy Committee meetings are also provided for up to 1 year. We also produce and distribute a video program of the High School's Commencement activities.

## Videoconferencing

We utilize videoconferencing for learning in venues from one-on-one to classroom-to-classroom as well as our auditoriums throughout the District. We also conduct some interviews using this technology. While we try to standardize on Google + Zoom for quality of support, many times the choice of platform is not ours to make, depending on the person/group with whom we are conferencing, so we work to maintain our ability to support a wide variety of conferencing solutions.

## YouTube

YouTube is a Google product that enables our faculty, staff, and high school students with the ability to upload and share videos for learning. As Google brings YouTube closer to "core app" status (where it will be fully supported by the Google for Education team), we anticipate having a greater amount of control over what our students can and cannot see on this platform. Currently, our web filtering solution, GoGuardian, applies a number of age-specific controls to the student YouTube experience.

## Google Meet & Chat

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# TRAINING & INTEGRATION (1)



## Technology Videos

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## Schoology

Schoology is the District's Learning Management System (LMS). It provides teachers, students, and families with access to course materials anytime and anywhere. We are fortunate to have a K-12 Technology Integration Coordinator in our department who works with faculty, staff, and families to help them learn not just the "how-tos" of Schoology but more importantly, help them understand the "why" of using a Learning Management System for the benefit of our students' learning experiences.

## Work Order System

We continuously work with our faculty and staff to train them on the effective use of our custom-developed work order system so that their requests can be quickly and efficiently handled.

## In-Services & Professional Development

We work throughout the year to provide quality technology training to our employees. We do this through both formal in-service settings as well as sessions with the assistance of our K-12 Technology Integration Coordinator, our Technology Coaches, and through frequent email communications to our faculty and staff.

## Principles & Procedures

As technologies change and as technology becomes an increasingly significant part of student life both in and out of the classroom, we must stay focused on our policies as well as our principles and procedures that govern our students, faculty, and staff. Inasmuch as policy sets the rules, the Technology Department creates Principles and Procedures documents that translate policy into current-day language and provide additional guidance to our faculty, staff, and students. You can view these documents on the District website (<https://www.mtlsd.org/technology>)

## Technology Assured Experiences

We work hand in hand with both the leadership and the teachers in our elementary schools to create a set of "technology assured experiences" for our students. At the end of each grade level, students have been exposed to and trained on specific technological skills as outlined in this document.

# TRAINING & INTEGRATION (2)

## Technology Coaching

Each of our schools has a Teacher who is designated as the “Instructional Technology Coach” for that building. The Technology Coach works with the K-12 Technology Integration Coordinator as well as the rest of the Technology Department to plan formal in-service events and less formal technology learning events and opportunities for faculty and staff in their building throughout the year.

## Online Safety

Online safety is a critical component to encouraging students to be online with their learning. Through a continuously updated safety resources page (<https://www.mtlsd.org/families/technology/safety>) as well as formal instruction by our librarian/media specialists, we seek an environment that is free from bullying and open to enriched learning opportunities.

## BYOT

Bring Your Own Technology (BYOT) continues to be a successful tool for our students’ learning. Students in all grades are permitted (at the teacher’s discretion) to bring in their own devices and connect them to the MTLSD wireless network.

Students at the secondary level are required to bring a charged device with them to school each day. They may bring their own device or borrow one from the District to keep throughout their enrollment at Mt. Lebanon.

It is incumbent upon us as a District to provide useful training to students, faculty, staff, and their families about the “how” as well as the “why” when it comes to using personal devices for learning at school.

## Emergency Equipment

The Technology Department maintains a number of “emergency packs” that contain technological items that would be able to support an evacuation or ALiCE situation. We work with our faculty and staff through drills to train them on the effective use of this equipment.

# TELEPHONES



## IP Telephones

IP telephones operate on any data port rather than a dedicated phone port. We currently maintain hundreds of these phones at the High School and Central Office. Each of these phones needs to be individually programmed.

## Digital Telephones

Digital Telephones operate on dedicated phone ports but use the same network as all of our digital devices. We maintain hundreds of these phones at our elementary and middle schools, which are all programmed centrally.

## DAS

We have two buildings in the District that do not receive adequate cellular signal within the school: Hoover Elementary School and our High School. To remedy this, we have built and we maintain a Distributed Antenna System (DAS) at the High School which amplifies cellular signal throughout the High School and (via fiber) Hoover.

Currently, two major providers, T-Mobile and Verizon Wireless, have elected to bring their signal onto our DAS so that faculty, staff, students, and visitors in these buildings who use T-Mobile or Verizon can receive adequate cellular signal. The system is designed for additional providers (e.g. ,AT&T) should those providers ever elect to provide us with their signal.

## Phone Bridge

We maintain an in-house telephone bridge that allows multiple people to call into a central call. We have also secured an offsite solution for this service as a backup, should the need arise.

## Cell Phones

The District maintains cellular devices for a number of its employees in the Facilities and Health Services Departments. Administrators receive a stipend for the school-related use of their personal smartphones.

## E911

Enhanced 9-1-1 (E911) is a system used in North America to automatically provide the caller's location to 911 dispatchers. With 10 different buildings in the District and over 1,000 IP and digital telephones, maintaining this system is a challenging but critical task for our department.

## Voicemail

Our telephone voicemail system is a virtual program that runs on a server maintained by the Technology Department. Throughout the year, we update the operating system and the software code to keep the most current feature set available to our faculty and staff. We also manage an integration with Gmail for some of our phone system users.

# TECH THEATRE



## Stage Design & Setup

We work very closely with the High School Theatre Department to facilitate stage production for all of their performances. Additionally, numerous concerts with performers from our other buildings (orchestra, band, vocal music) take place at the High School every year and require our assistance to setup and strike-down the performance stage.

## Auditorium Setups

Each of our buildings has an auditorium space (the High School has two!) that we support throughout the year, both in executing programming and in keeping the technology of these spaces up to date.

## Microphone & Speaker Setups

At many locations throughout our buildings, presentations are made that require support for temporary microphone and speaker setup and strike-down.

## Production Design

Our High School Theatre Specialist works closely with our Theatre students and teachers to help with the design of performance sound, lighting, props, costumes, and other theatrical elements.

## Scene Shop Management

There are a number of spaces at the High School that are dedicated to the storage and construction of stage elements. Our High School Theatre Specialist is tasked with the responsibility of maintaining these spaces for safety and providing the best learning environment possible for our Theatre Tech students.

## Technical Production

During performances in our High School theatre, we work with students to ensure that all of the technology, sound, lights, and other production elements are executed well.

## Classroom Software

We work with Theatre Tech students at the High School, using AutoCAD software, to plan and construct sets for our productions.

## In-Services & Professional Development

We frequently utilize our Auditorium/Theatre venues for in-service and other professional development purposes. We work to ensure that the technology in these locations is operational and functions as expected at these events.