Education and technology are ever-changing and quickly evolving. Education leaders must develop tools and technology that support this progression. AMS.NET’s Connected Classroom defines an enhanced learning and teaching environment that encourages creative learning and improves student outcomes. It’s where technology and education intersect.

**Communication/Collaboration**
Our connected classroom delivers an enhanced learning environment and optimal student space for collaboration and interactive learning.

- Collaborative learning environment
- Connect with colleagues, teachers, parents and others from anywhere
- End-to-end communication capabilities—voice, video, messaging, presence, chat and mobility
- Team or project collaboration space to send messages and share files
- Capture and share video
- Lecture capture, event broadcasting, and training
- Distance learning
- Interactive learning and professional development

**Access/Infrastructure**
The infrastructure is the underlining platform for delivering a connected classroom.

- Reliable access to school and Internet resources
- Support for 1:1 and high density deployments
- Robust and reliable connections for mobile learning carts and SBAC testing rooms
- Enhances 21st Century teaching and learning with secure reliable access
- Fast, reliable content delivery
- Caching and optimization
- High-quality user experience on any device
- Visibility and control of entire network
- Simplified management and improved operations
- Central easy-to-use management console

**Safety/Security**
Protecting students, staff and school assets is a top priority of administrators and also integral to a connected classroom.

- Safe learning environment
- Protect infrastructure and critical data
- Provide security before, during and after a cyber security attack
- Defend across the extended network, endpoints and cloud
- Secure mobile devices
- Protection against malware and ransomware attacks
- Campus monitoring and physical security
- Emergency notification to school bells, clocks, speakers, and digital displays
- Integrated voice, text and email notifications
- Non-emergency notification and scheduling of school bells
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Cisco Unified Communications/Telephony
The core of the Cisco collaboration infrastructure is the Cisco Unified Communications Manager to provide call control. A variety of call-processing applications and phones provide mobility to keep in touch no matter where you work. Users can transition active calls between their desktop and mobile phones without interruption. Single number reach streamlines communications with one published number. Unified messaging and voicemail solutions allow users to access messages from email, web browser, IP Phone, smartphone, and messaging client.

Cisco Webex Meetings/Cisco Webex Teams
A part of Cisco’s collaboration solution is Cisco Webex Meetings and Cisco Webex Teams. Cisco Webex is a communication service for all your communications including messaging, conferencing and telephony. Project workspaces provide a central space for team messages and sharing files. Integrated video sharing allows you to have basic instant meetings with audio, video and screen-sharing capabilities. Quickly and easily meet via video from your phone, desktop, Webex Board, or TelePresence endpoint. Advanced meetings provide all the Webex capabilities and allow anyone to join a meeting on any device. Meetings can be recorded for future reference or for training.

A cloud-based phone system or hybrid service enables voice and video communications through mobile, desktop soft clients, Cisco IP phones, Webex Board, and TelePresence video room-based systems. The Cisco Webex Teams mobile app brings it all together and provides a single experience across all platforms including zero-touch meetings, single number reach and HD video conferencing.

FrontRow Classroom Audio & Campus Communication
FrontRow’s Audio and AV solutions maximize the effectiveness of learning environments through flush-mounted speakers, touch screen control panels, AV input plates, teacher wireless smart mics and optional student microphones for student participation. Media audio amplification from blue-tooth devices such as tablets, notebooks and displays. System can be used as a part of a campus-wide communications solution and integrates with the Singlewire InformaCast emergency notification solution.
Communication/Collaboration Architecture

Classroom

Webex Room Kit Mounted to TV
Cisco Webex Board
Touch 10 for Room Control
DX80 for Teacher Communications

Remote User

Student Endpoint
Cisco Webex Across Multiple Platforms

District Office Conference Room

Cisco Webex Room Kit Mounted to TV in Conference Rooms
Cisco Webex Board in Board Room

WAN

Celebrating More Than 25 Years

Learn More!
Go to www.ams.net/connectedclassroom
800-893-3660
Classroom Audio/AV System Architecture

Classroom

- Lay-In Speakers Mounted to Ceiling
- Smart Receiver & Network Switch
- Wall Plate with VGA, Audio & HDMI
- Touch Pad Mounted to Wall
- Sensor Mounted to Ceiling
- Smart Mic on Teacher

School Site Technology Closet

- Admin Console

District Office

- Desktop Emergency Notification
- Staff On-Site Notification

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800-893-3660

Celebrating More Than 25 Years
Wireless Network/802.11ac Wave 2

Today’s classroom and students are digital. They use mobile devices in the classroom, in common areas and at home. It is critical to provide anywhere, anytime access to network resources with the same quality of experience that a wired network delivers. 802.11ac Wave 2 provides a significant boost in performance from 802.11ac Wave 1 and 802.11n to support the increasing number of devices and bandwidth requirements of applications. Multi-rate technology allows you to deliver beyond 1 GB on existing Category 5e cables with support of Power over Ethernet (PoE), PoE+ and Universal Power over Ethernet (UPOE).

Branch Routers

Integrated Services Routers support the network, security, compute, storage and unified communications IT function necessary to a digital environment. Integrated Intelligent WAN features including application awareness, quality of service and WAN optimization help provide for the best user experience. Pervasive security with VPN options, threat defense services and consistent policy enforcement help support a safe learning environment.

Service Level Agreement for Cloud-Based Applications

Digital instruction utilizes bandwidth intensive teaching and learning tools. WAN Optimization and intelligent caching optimizes web and mobile applications to minimize bandwidth impact regardless of device, connectivity or cloud. This solution integrates routing, security, caching, and WAN optimization technologies. Without adding costly bandwidth, IT can deliver a high quality teacher/student experience on any device.

Network Management and Analytics

Policy and management tools provide visibility and control of the entire network. Network management provides management of the wired, wireless network, devices, applications and users all in one place. It offers policy monitoring and location-based tracking of mobility devices. Cloud-based management solutions provide real-time cloud management of devices. These integrated management tools enable network managers to maintain, operate, and deliver applications for a quality end-user experience.
Access/Infrastructure Architecture

Classroom

WAN Optimization for Quality of Service

Network Monitoring

Student Endpoint

Upto 5Gbps Throughput

School Site Technology Closet

Router

MDF Switch

IDF Switch

District Office

Network Management Dashboard

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Next Generation Firewall

Next Generation Firewall's are integrated, threat-focused firewalls with unified management. They provide full control of traffic based on applications, users, and the traffic content. Application Visibility and Control, optional next-gen IPS, Endpoint Malware Protection, and URL filtering are included. This solution is performance and density optimized, 1/10/40 GB support and provides a smaller footprint.

Endpoint Malware Protection

Security needs to extend throughout the entire network including endpoints whether connected to a protected network or roaming on the Internet. Endpoint malware protection performs analysis in real time, behavior over time and retrospectively across all endpoints. Once an attack is detected, malware protection provides immediate protection across the rest of the attack vectors.

Cloud-Based DNS Security

Cloud-based DNS security protects any device, no matter where it's located. Security is delivered at the DNS layer, to keep malware from compromising your systems and to stop botnets, phishing and ransomware from exfiltrating your data.

Singlewire InformaCast Fusion Emergency Notification and Paging

Singlewire's InformaCast Fusion Advanced Notification is a powerful, yet easy-to-use system to respond to emergency situations including intruders, lock-downs, facility or equipment malfunctions, fire, weather, emergencies and more. Notification systems are integrated with your network, Cisco phones, bells, clocks, PA systems and speakers and digital signage to increase the speed, reach and success rate of your emergency alerts. Audio alerts are initiated by pressing a button or dialing an extension on a Cisco IP phone and alerts are delivered in real-time as your speak. Audio alerts and text alerts can also be pre-recorded and triggered as needed. Automatically monitor, record, and send an alert when an emergency number like 911 is dialed. Informacast can also be used for non-emergency notification including scheduling bell schedules.

Security Solutions

- Integrated next-gen firewall provides full control of traffic based on users, applications, and the traffic content
- Integrated security solution
- Security and threat intelligence capabilities provide security across the entire attack continuum
- Advanced malware protection provides visibility into endpoints, networks, web, and email to stop threats across the attack vectors
- Next-Gen Firewall features application visibility and control, next-gen IPS, AMP, and URL filtering for high-level protection
- Cloud-based security delivers security to help stop malware and ransomware attacks

Singlewire Notification & Paging

- Emergency notification to school bells, speakers, IP phones, and digital signage
- Integrated voice, text, and email notifications
- Trigger alerts from button or Cisco IP phone and send live or pre-recorded messages
- Non-emergency notification and scheduling of school bells
Security Architecture

Classroom

Remote User

School Site Technology Closet

District Office

Internet

Cloud DNS
Network Security

Next-Gen Firewall

Network Security Management

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Safety Architecture

Classroom

Signboard with Flashers
Clocks/ Speakers

Mobile Notification

Mobile Notification

School Site

Existing Paging System
Flashers

District Office

Desktop Notification

FUSION

InformaCast

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Physical Security Architecture

School Site

HD IP Cameras

WAN

Notification

Notification

School Site Technology Closet

Network Video Recorder

District Office

Monitoring and Analytics

Learn More!
Go to www.ams.net/connectedclassroom
800-893-3660
Managed Services
Several managed services are available for the management and maintenance of your technology investments. If you need to supplement IT resources or are looking for the support of a hosted model, AMS.NET managed service agreements can provide that support and free up IT resources for more strategic projects.

Most agreements provide upgrades and updates, troubleshooting and repair, monitoring and reporting and reinstallation and configuration of failed equipment covered under contract. A host of agreements are available included managed voice services, managed wireless, managed WAN and managed video surveillance agreements.

E-Rate Funding
Many schools, school districts and libraries can take advantage of the E-Rate program which designates funds for data transmission service and Internet access to support broadband connectivity to schools and libraries. Internal connections needed for broadband connectivity within schools and libraries are also eligible.

SPURR Master Contract
The SPURR Master Contract enables its members made up of K-14 schools to procure products and services by piggybacking on SPURR’s master contract. Members benefit from aggregated procurement transactions obtain the best available pricing and also save time and resources in their procurement process.

CMAS Contracts
CMAS Contracts provide competitive pricing and speed up the procurement process. Several contracts are available which cover technology such as Cisco networking, security and telephony products, HP networking products, Ruckus and Aerohive wireless products along with products from EMC, Brocade, Barracuda, Trippite, Berk-Tek, Commscope, Fluke, Panduit, General Cable, Hoffman, Leviton, Mohawk, Ortronics, Superior Essex and others.

Merced County FOCUS Contract
The Merced County FOCUS Contract assists schools by reducing the cost and time normally required to acquire technology needs.

Cisco Capital Leasing & Financing Promotions
Creative financing allows school districts to procure essential technology today instead of waiting for the bond market and overall economy to recover. Leasing also provides a yearly predictive spend.
IP Video Surveillance

IP Video Surveillance is an integral part of a comprehensive school safety and security solution. Monitoring school entrances, common areas, and parking lots with intelligent monitoring software enables earlier threat detection and faster incident response. Integration with Singlewire InformaCast pushes messages and notifications to on-premise phones, speakers and signage along with remote notification via SMS text, email and more for added security.

Live activity can be monitored via PC or mobile device. Advanced video surveillance software allows for quick search, playback and export capabilities of recorded video for enhanced collaboration with law enforcement. A variety of indoor and outdoor cameras provide you with a flexible and scalable security system.

IP Cameras

A host of video surveillance cameras are available to maximize high-quality images with minimum bandwidth. Indoor, outdoor, mini dome, fisheye, PTZ, thermal and other camera types in a range of megapixels are available for your specific need.

Video Surveillance Software

Software provides the intelligence of an IP video surveillance system. Rules and alarms can be set to define analytic events. The system continually learns what a typical activity in a scene looks like and then detects and flags unusual motion. Quickly search through video to find specific events including alarms, people, vehicles, license plates, bookmarks and more.

IP Video Surveillance
- Intelligent physical security solution
- View live or recorded video via the web from a PC or mobile device
- Analytic software for automatic event notification and process activation
- Tampering, motion and loitering detection
- Longer retention time for video
Where technology and education intersect.