

Meeker School District Re-1

Job Description

Title: IT Director
Department(s): Maintenance/Operations
Reports to: Superintendent
Work Year: Year Round



Job Summary:

Size & Scope: Meeker School District (MSD) includes Meeker High School, Barone Middle School, Meeker Elementary School, the Administration building, the Transportation facilities, and several other non-networked properties. Our student count K12 is approximately 650 students with about 110 staff. In 2014, we operated about 450 nComputing terminals, about 120 Windows PCs, about 110 VOIP phones, about 30 printers, about 30 WAPs, several VOIP cameras, about 100 iOS devices, and about 25 laptops.

Overview: The position of Meeker School District (MSD) IT Director incorporates all responsibilities of a traditional IT Director as well as all responsibilities that are typically subordinate to the IT Director since the entire IT department is operated by this one person. So, this person needs to be current on modern IT practices, have IT vision, employ good leadership and communication skills, and have as large of an IT skill set as possible. Traditionally, summer student aide(s) have been employed to assist in larger projects. During the school year aides are utilized via the high school work study program. Also, one adult per school building is selected as a local tech-goto person for simple needs like toner replacement, locked station reboots, etc. These tech-goto people are not given any extra time in this role, so their support is very limited. In addition this position partially supports Rio Blanco BOCES IT as well as participates in the local Western Colorado Information Technology Cooperative (WCITC) and other regional groups.

Summary of essential job functions:

Essential job functions are quite varied due to this one person basically comprising the entire IT department. More detailed examples below are as of 2014 and will change as IT evolves. Some examples are:

- Global Duties
 - Identify, select, purchase, install, upgrade, and maintain all IP related equipment and infrastructure in MSD - see size and scope above. This is a large amount of the job functions.
 - Wide understanding of IT - see the IT Acronyms section at the end of this document or a 2014 actively used example.
 - Supportive, patient mannerism with good communication skills
- End User Duties
 - Maintain user accounts and passwords in most IT systems: MS Active Directory, Google Apps for Education (GAFE), Infinite Campus, etc.
 - Provide IT support to students and staff
 - Plan and provide professional development (PD) for staff
- Data Center Duties
 - Identify, select, purchase, install, upgrade, and maintain all data center equipment
 - MDFs, IDFs
 - All 2 and 4 post racks
 - UPSes
 - PDUs
 - Patch panels - both fiber and copper
 - AC systems - mini-split style
- Server Duties
 - Identify, select, purchase, install, upgrade, and maintain all servers, server OSes and applications
 - Create and maintain all file shares such as Active Directory home drives, building and district shared drives.
 - Manage all server operating systems and underlying hypervisors such as Windows Server, VMWare, Nexenta, Linux appliances, etc.
 - Manage all backup solutions of district data such as Nexenta snapshots, dRobo backups via SynkBack Pro, etc.
- Online Testing
 - Install, upgrade, and maintain all online testing environments.
 - CMAS, PARCC, Pearsons TestNav, ePAT, NWEA MAPs, etc.
 - Setup underlying proxy servers, reliant browser modifications (such as Java, Flash, etc.)
- Software Applications
 - Identify, select, purchase, install, upgrade, maintain, and train others on many dynamic applications
 - Google Apps for Education (GAFE) gmail, documents, admin

- console, shared calendars, sites, etc.
 - School Fusion - web site, HTML, RSS feeds, hyperlinks, etc.
 - SQL and Access
 - System Center Configuration Manager - SCCM - our imaging, WSUS, and antivirus system
 - Infinite Campus - our student information system
 - Nutrikids and its point of sales (POS) system
 - EPES ACTW accounting software
 - Microsoft Office
 - DropBox
- Mobile Devices
 - Identify, select, purchase, install, upgrade, and maintain all district owned mobile devices.
 - iPADS, MS Surface Pro, Chromebooks, iPods, Android, etc.
 - Operate and manage the MDM(s) for above
- Thin Client/VDI
 - Identify, select, purchase, install, upgrade, and maintain all thin client and/or VDI both server side and station side
 - nComputing L230/L300/M300 devices.
 - nComputing vSpace software on servers
 - vSpace environment - application set
- Traditional End Stations - PCs and Laptops
 - Identify, select, purchase, install, upgrade and maintain all end stations
 - Hardware repair/replacement
 - Image builds
 - Image capture and deployments via Microsoft SCCM
- Networking
 - Identify, select, purchase, install, upgrade and maintain all network infrastructure.
 - Cat5, Cat5e, Cat6, etc. cabling - operate certifying equipment, toner and probes, terminations, punch tools, RJ45 ends, 110 blocks (keystones), etc.
 - Run all copper cabling - throw sticks, J-Hooks, plenum air spaces, ceiling tile mounting of end devices
 - Single and Multimode fiber cable - use budget loss meter, terminate, splice, 3M Hotmelt system, fusion splicer, laser testing, etc.
 - Run fiber cabling - bend radius, dead ends, dialectic boxes, inner duct, etc.

- Utilize current and modern network standards such as EIA/TIA, IEEE, etc.
 - Plenum, Riser, non-rated jacket selection for fire code compliance
 - Identify, select, purchase, install, upgrade and maintain all network appliances.
 - Cisco switches, firewall, and other equipment including iOS work programming VLANs, port states, protocols, etc.
 - PoE management across the copper network via 802.11af and 802.11at
 - Unmanaged switches
 - Identify, select, purchase, install, upgrade and maintain all network services
 - DHCP, NTP, DNS, VPN, GPO, AD, print management, etc.
 - Manage collision domains, CIC and other data transmission errors, packet sniffing, etc.
 - Identify, select, purchase, install, upgrade and maintain wireless networks
 - Point to Point fixed microwave
 - WAPs running 802.11b/g/n, 802.11ac etc. including enterprise management software such as Meraki Cloud and Unifi
 - SSIDs, heat mapping, band selection, etc.
 - Identify, select, purchase, install, upgrade and maintain and monitor network security
 - Antivirus deployment
 - WSUS patching
 - Firewall and protocol/port management UDP, IP, FTP, SMTP, HTTP, etc.
 - Intruder detection and prevention
 - Content filtering and CIPA compliance - we use Lightspeed
- Phones
 - Identify, select, purchase, install, upgrade and maintain VOIP phones
 - Currently Cisco Avvid VOIP phones utilizing PoE - models 7940, 7945, 7960, and up as well as polycom star phones, possible ATA for digital to analog conversion, etc.
 - Identify, select, purchase, install, upgrade and maintain VOIP servers
 - Currently Cisco Avvid Call Manager (subscriber and publisher) and Unity for voicemail
 - Manage call handlers, call partitions, DID numbers, etc.
- E-Rate
 - Identify, select, purchase, install, upgrade and maintain E-Rate eligible

services

- Telecommunications provider for local and long distance voice, trunk lines, DIDs, etc.
- ISPs, Web Hosting
- 470, 471 forms and process S&L related policy
- Peripheral Devices
 - Identify, select, purchase, install, upgrade and maintain all IT related peripheral devices
 - Printers inkjets and laser
 - Scanners
 - Document Cameras
 - SMART boards
 - Bar code readers
 - 3D printers
 - Clickers
 - Projectors
 - TVs via HDMI
 - CRT, LCD, LED monitors
 - KB/Mice and other input devices wired and wireless
 - Identify, select, purchase, install, upgrade and maintain short ranged wireless protocol devices
 - Bluetooth, radio, etc.
- IT Management
 - Manage projects
 - Fiber-optic implementations between buildings/ISPs
 - Network wide switch upgrades
 - Porting service between ISPs - MX records, etc.
 - District wide OS, platform, switch, phones, server upgrades
 - Setup purchasing and leasing of major IT upgrades such as workstations
 - Train and manage student wiring crews
 - Manage work study aides during school year
 - Manage licenses from many vendors - Microsoft EES and CALs, Adobe, VMWare, etc.
 - Operate an annual IT budget of \$25,000 to \$150,000 a year
 - Manage occasional projects as large as \$220,000
 - Collaboration
 - Head the educational technology information literacy (ETIL) committee

- Participate in the bi-monthly Western Colorado IT Cooperative (WCITC) meetings
- Participate in the Meeker Metropolitan Area Network (Meeker MAN) meetings
- Attend the monthly North West BOCES IT Directors meetings
- Attend the weekly MSD Director’s meetings
- Grants
 - Locate and write grant applications local and otherwise
 - Energy Impact
 - CCITF
 - Federal such as Connect America Fund
 - Freeman Fairfield Trust

Qualifications and experience:

Qualifications for MSD IT Director are also quite varied due to this one person comprising the entire IT department. Below are just a few, key, examples:

Required	Possible Certifications
Microsoft Enterprise Data Center Management	MCSE, MCP
Networking Experience/Expertise	N+, CCNE or better
Basic Computer Repair	A+, HP Repair
General Computer Science and Network Knowledge	Bachelors in CS or higher OR at least 5 years IT experience over a broad range
Google Applications for Education Skill	Google Certification Program
VMWare or other hypervisor environment experience	VCA, VCP or better
Project Management Skills	Masters in CS or higher, CAPM, PMP, etc.
Supportive, patient mannerism with good communication skills	

Physical demand:

- Able to lift and move the weight of a computer or printer
- Able to use power tools like large bore hammer drills, trenching equipment, etc.

- Able to work long hours at a focused intensity when needed, often over breaks, weekends, nights, and holidays
- Able to manage multiple complex tasks in a timely manner without undue stress
- Able to sit for long periods at a computer terminal and remain relatively healthy
- Able to type for long, frequent periods of time
- Able to climb ladders, traverse steam tunnels, walk on roofs, utilize crawl spaces
- Able to work in a room without windows, at sub-70 degrees, with lots of server fan and AC background noise, by yourself for much of your work year and remain positive and productive

Clearances:

- Criminal Justice Fingerprint/Background Check.

Work Environment:

- The noise level in the work environment can be loud and distracting at times.
- The work environment may include high stress tasks.

Disclaimer

The above statements are intended to describe the general nature and level of work being performed by people assigned to this classification. They are not to be construed as an exhaustive list of all responsibilities, duties, and skills required of personnel so classified. All personnel may be required to perform duties outside of their normal responsibilities from time to time, as assigned by the Superintendent.

Appendix - IT Acronyms:

All of these acronyms have appeared in past Meeker School District IT Reports. The MSD IT Director should be familiar with a large share of them if used in context, other than the Meeker colloquialisms.

- 1000TX = 1Gig copper connection/cable/port
- 1000FX = 1Gig fiber connection/cable/port
- 802.11a,b,g,n, ac - Wireless standard, A= very old not used, B=11Mb very old slightly used, G=common at 56Mb, N=common at 108+Mb, AC = most current at 1 Gbps or greater
- AC/DC - Converts between alternating current and direct current - common power blocks for smaller IT electrical devices
- AD - Active Directory - the master database in Windows servers for users, pswds, computers, permissions, and much more
- AD - Administration building
- AIK - Automated Installation Kit - a Microsoft tool set for drive

- image/clone/partition/backup work
- API - Application Program Interface - a specification used as an interface by software components to communicate with each other.
 - ASA - Adaptive Security Appliance - the MAN's Cisco firewall - our first device touched by incoming ISP traffic
 - ATR - Auto Toner Replenishment - vendor service to drop ship toner as needed via software polling of printers
 - ATRT4 - All The Right Type 4 - cloud typing program
 - AV - Anti Virus - software to prevent viruses and other malware
 - AV - Audio Video - refers to equipment, cables, etc. that enable multimedia
 - Avvid - Cisco's VOIP phone system
 - AWS - Amazon Web Services - a host of cloud computing services by Amazon
 - BDC - Backup Domain Controller - redundant copy of AD - secondary server for our district's network
 - Bit - one binary digit 0 or 1
 - BG - Bus Garage
 - BIOS - Basic Input Output System - MB chip based software that controls basic computer hardware functions (also referred to as Setup or CMOS - though not entirely accurate)
 - Bluetooth - 2.4Ghz WiFi specifications for short range, lower power wireless technology
 - BSOD - Blue Screen of Death - computer that blue screens, often a hardware issue
 - Byte - 8 binary digits, or 8 Bits
 - CAL - Client Access License - a license to allow a client (workstation) to connect up to some service usually running on a server
 - CAS - Central Administration Site - The master server in a SC 2012 hierarchy (used for WSUS and AV)
 - Call Manager - The server that manages VOIP calls on our Cisco Avvid phone system
 - CC - credit card
 - CDE-Technet - an e-mail list serv of Colorado K-12 techs managed by Colorado Department of Education
 - CIC - Computer Information Concepts - Colorado company that sells and supports IC (Infinite Campus)
 - CIFS - Common Internet File System - file sharing protocol used in Windows, evolved from SMB (server message block) DOS protocol
 - CIPA - Child Internet Protection Act - federal legislation governing rules to protect students during Internet usage

- Cisco 3524 - Cisco 24 port PoE 10/100 Switch with two Gig GBic ports - these are our old switches used for Avvid Phone and other slower connections
- Cisco 3550 - Cisco 12 port GBic switch with two 1000 Base TX ports - "was" main DRC switch
- Cisco 3560 - Cisco 24 or 48 port 10/100/1000 Switch with two or four Gig SFP Ports, some are PoE some are not - these are our big MDF/IDF level switches
- Cisco 3750 - Cisco 48 port backplane linked switches (we have 2 linked now) - they are 10/100/1000 non-PoE with two 2X (10Gig) ports), these are our main district mega switches
- CLI - Command Line Interface - text based interface often used for low level programming, as opposed to GUI (graphic user interface)
- CMOS - Complementary Metal-Oxide Semiconductor - powered by the system battery and contains system's settings common in Setup
- CRT - Cathode Ray Tube - fat old style monitors
- Comodo - Old program for taking/reverting to snap shots - not used in current builds
- CS3 or CS5 - Creative Suites 3 or 5 - the Adobe product suite that includes PhotoShop
- DAC - District Assessment Coordinator - CDE's acronym
- Db - Decibel, a unit of loss in fiber optics and WiFi (i.e., a unit of loss in the electromagnetic spectrum)
- DB - Data Base
- DHCP - Dynamic Host Configuration Protocol - a service that hands out IP addresses and manages and IP database
- DID - Direct Inward Dialing - refers to a "normal" number like 970-878-9040 that is mapped to an internal phone extension
- DNS - Domain Name Server - a server that resolves URLs to IP Addresses
- DRC - MAN's Disaster Recovery Center located in MSD AD
- DTC - District Technology Coordinator - CDE's term for a district's IT director
- EIA/TIA - Electronic Industries Alliance/Telecommunications Industry Association - Group that sets and monitors many IT standards.
- EC2 - Elastic Compute Cloud - Amazon's cloud based server farm
- EES - Enrollment for Education Solutions - Microsoft's latest and least expensive annual licensing model based on FTE count rather than users or seats
- EGIRP - Enhanced Interior Gateway Routing Protocol - older routing protocol use proprietarily mostly by Cisco
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- E-Rate - Education Rate - a special fund set up by Schools and Library

Program and administered by USAC (Universal Service Administrative Company) to help offset data/telecom service costs for schools & libraries based on percent of free/reduced students

- ESX - VMWare's hypervisor architecture that allows multiple VMs to run on one physical server
- ESXi - VMWare's free version of ESX (see above)
- ETIL - Education Technology and Information Literacy - CDE's label for content and committee's centered around IT and library function
- Ethernet - most typical family of computer networking technologies for LAN communication
- EOL - End of Life, common IT term for expected product life span. Often support and even purchase ability ends at the date of EOL
- EXE or .exe - Executable - an old but still frequently used file type for self executing programs
- FEP - Forefront Endpoint Protection - Microsoft's antivirus solution, part of SC 2012
- FF - Freeman Fairfield building - RBC admin offices (MAN entity)
- FOA - Fiber Optic Association, one of the lead organizations on fiber optic practices, certification, etc.
- FTP - File Transfer Protocol - a protocol for rapid file transfer across the Internet
- Form 470 - Annual E-Rate form requesting vendor bids - about 30 pages long
- Form 471 - Annual E-Rate form per accepted vendor to actually supply services about 50 pages long
- GAFE - Google Apps for Education - Similar to GMail but with a management component for educational entities
- GBIC - Gigabit Interface Converter - a Cisco industry-standard hot-swappable modular plug common in older switches/routers
- GHz - Giga Hertz - unit of wireless frequency
- GIS - Graphic Information System - a person or computer focusing on cartography (maps) and/or other graphics
- GP - Group Policies - the major Microsoft configuration tool integrated into domain controllers and AD
- GPO - Group Policy Object - a set of Group Policy rules to be applied to AD element(s)
- Group - Has lots of connotative meanings with computers (security group, user group, etc.) often an AD Group of users or computers
- GUI - Graphical User Interface - modern OSes and applications which use a graphical (as opposed to text) interface

- HA - High Availability - techniques such as redundancy, particularly with VMs to create greater reliability
- HD - Hard Drive
- HOD - Hall of Death - term used for storage site of old tech slated for recycling (i.e. tech trash)
- HP4700 - Our larger color laser printers worth about \$3000 each with warranty
- HP8000 - Our duplexing color inkjet printers worth about \$100
- HP8500 - Our fax/scanner/copier/duplexing color inkjet printers worth about \$200
- HTML - HyperText Markup language - the main language for describing/programming web pages
- HTTP - HyperText Transfer Protocol, the standard for most web traffic
- HTTPS - Secure HyperText Transfer Protocol, often synonymous with SSL traffic
- HUD - Microsoft's Home Use Program - staff can buy MS product very cheaply like Office suite for about \$10
- IC - Infinite Campus - MSD's SIS program starting in 2013/2014
- IDE - Integrated Drive Electronics - a standard interface often used to connect HDs and optical drives to workstations/LTs
- IDF - Intermediate Distribution Frame (Cisco term for secondary network/server room)
- IEEE - Institute of Electrical and Electronics Engineers - the worlds largest technical professional society. They maintain a large number of IT standards.
- IOPS - INput/Output Operations Per Second - common benchmark for computer storage devices such as HDs
- iOS - Apple's mobile device operating system
- IOS - Cisco's Internetwork Operating System - the OS on Cisco switches, routers, etc.
- IPMI - Intelligent Platform Management Interface - a side-band or BIOS level access to a physical server - can be used to remote power on, etc.
- IRQ - Interrupt ReQuest - one of 16 lines used to signal the CPU that a peripheral needs attention
- iSCSI - Internet Small Computer System Interface - an IP based storage standard for linking storage volumes over a network
- JRE - Java Runtime Environment - e.g., Java which is a common browser plugin
- Kb - Kilobit, 1000 bits - older, smaller storage size and common bandwidth size
- KB - Kilobyte, 1000 Bytes - older smaller storage size and a common bandwidth size

- KB - Keyboard
- Keystone - term for female RJ45 port
- L - Series - nComputing product that allows a terminal to connect up to a Windows server
- L230 - older L-Series
- L330 - newer L-Series
- LAN - Local Area Network, a physical network that operates "locally" or over a small area - often a building
- LCD - Liquid Crystal Diode - thin style monitor
- lightYear - Our new Telco for local and LD both POTS and Voice T1
- LT - Laptop
- LIB - Public Library (MAN entity)
- LMS - Learning Management System - combines users, folders, rights, document sharing, grading, etc. into one platform
- LOS - Line of Sight
- M300 - nComputing's X-Series replacement, converts one network drop into 3 stations
- MAC - Media Access Control - the vendor hardwired Layer 1 address assigned to all end node devices on a network - not changeable
- MAC - Also refers to most Apple brand computers/laptops
- MAN - Metropolitan Area Network - often refers to the members (MSD, RBC, PMC, TOM)
- Mb - Megabit, common storage or bandwidth size
- MB - Mega Byte (8 times larger than Mb), common storage or bandwidth size
- MB - Mother Board - main board of a computer
- MBC - My Big Campus - Lightspeed's educational portal for staff/student use
- MDF - Main Distribution Frame (Cisco term for a primary network/server room)
- MDM - Mobile Device Management - and SMS for mobile devices like tablets or smart phones
- mDNS - Multicast Domain Name Service - uses IP multicast with DNS to provide DNS like service discovery, such as with HP printers
- Meraki - IT Manufacturer - produce our wireless bridges
- MIDI - Musical Instrument Digital Interface - commonly a serial bus port used for instruments and joysticks
- MIPS - MIPS (million instructions per second) is a general measure of computing performance
- MPLS - Multi Protocol Label Switching - a modern large network method for passing multiple protocol packets across networks
- MR16 - Smaller Meraki Bridges

- MR58 - Large Meraki Bridges
- MCP - Meeker Continuation Program - new name for Alt school
- MSD - Meeker School District (MAN Entity)
- MSI or .msi - Microsoft Installer - a common self executing file type used by Microsoft compatible programs for installation - MS version of .exe
- Molex - Old standard power jack on inside of computers for HD/CD-ROM, etc. (SATA is new standard for power)
- MOU - Memorandum of Understanding - a legal document
- MPS - Managed Print Services - monitoring software to identify printer issues as they happen (network failure, toner, jams, etc.)
- MVCSD - Mesa Valley County School District (e.g, Grand Junction School District)
- NAS - Network Attached Storage - a large storage volume(s) attached via networking services
- NAT - Name Address Translation - technique often used to convert many private IP addresses into a small number of public addresses
- NIC - Network Interface Card - tech name for network card either hardwired or wireless
- NIU - Network Interface Unit - box where voice T1 terminates from provider
- NFS - Network File System - a distributed file system developed by SUN Microsystems now an open standard file system
- Node - Term for a single physical server in a server pool
- NTP - Network Time Protocol - technique for using an Internet time server to sync server and other device's time
- NVRAM - Non-Volatile Random Access Memory - used for persistent data such as for BIOS settings
- Office 365 - Microsoft's latest cloud or on-line services including a stripped down version of the popular Microsoft Office suite
- OS - Operating System such as Windows, Linux, iOS, IOS, etc.
- OTDR - Optical Time Domain Reflectometer - fiber optic diagnostics tool for measuring loss AND locating db drops and/or breaks at defined distances
- OU - Organizational Unit - term for a container in AD ("kind" of like a folder in Windows)
- P2V - Physical to Virtual - term used when converting a physical computer to a VM
- PARCC - Partnership for the Assessment of Readiness for College and Careers - group preparing CDE's electronic tests for Colorado
- PAT - Port Address Translation - a port (subnet/VLan) translation of private IP addresses to a single public IP address - somewhat similar to NAT

- PCI - Peripheral Component Interconnect - an interconnect expansion slot between microprocessors and attached devices common on old MBs and still used on many modern MBs
- PCIe - Peripheral Component Interconnect Express - a more modern PCI slot in widths of x1, x4, x8, x16, and x32
- PCL - Printer Command Language - HP's page description language allowing computers to talk to PCL enabled printers
- PD - Professional Development
- PDC - Primary Domain Controller - master AD database and more - the main server for our district's network
- PMC - Pioneers Medical Center (MAN Entity)
- PoE - Power over Ethernet - a switch or device that can inject power over the network wires to run things like phones, cameras, wireless bridges, etc.
 - PoE supports 802.11af
 - PoE+ supports 802.11at
- Port - Network and Internet traffic flow across logical ports or "channels" such as port 443 for SSL and port 80 for HTTP
- Port - A physical interface on computers and/or switches such as a network port
- POS - Point of Sales - We use Nutrikids POS system in our lunch lines
- POTS - Plain Old Telephone Service - refers to a standard "old fashioned" stand alone phone line, like used for a fax machine or single phone
- PRI - Primary Rate Interface - telecom service level that includes caller ID service
- PS1 - Primary Site "1" - in System Center 2012 hierarchy, the first primary site server (does Image deployment, MSI deployment, PXE, etc.)
- PS2 - Primary Site "2" - the second primary server in the System Center 2012 hierarchy
- PS2 - A common port for mice or keyboard - a synchronous serial mini-DIN female port
- PSU - Power Supply Unit - the power pack in a computer
- PXE - Pre Execution Environment - an Intel capability enabling a PC to boot from a remote OS, often used for imaging purposes
- R&B - County's Road and Bridge facility (MAN Entity)
- RAM - Random Access Memory - memory chips
- RBC - Rio Blanco County (MAN Entity)
- Replay - The name of our backup software
- RDP - Remote Desktop Protocol - a protocol suite owned by Microsoft for remote session access

- RAID - Redundant Array of Independent Disks - combining multiple disks into high performance or redundant volumes - used extensively on servers
- RMA - Return Merchandise Authorization - a number/address to return product
- RH - Richard's Hall
- RJ45 - Registered Jack 45 - Port standard for common networking (Cat5, Cat5e, Cat6, etc.) 8 wire 4 pair.
- RX - Receive pair or wire - most network connections, both fiber and copper have two physical paths a transmit TX and receive RX
- SaaS - Software as a Service - modern cloud delivery of software - GAFE is an example
- SAN - Storage Attached Network - a large storage volume(s) attached directly (propriatorially) to servers (such as via fiber channel)
- SATA - Serial Advanced Technology Attachment - modern interface standard for HD and optical drive connections
- SC - Systems Center - Microsoft's replacement for SCCM, SC 2012 is current version
- SCSI - Small Computer System Interface - an interface common on server HD arrays, very uncommon at the workstation or LT level
- SCCM - System Center Configuration Manager - large robust Microsoft management suite for WDS, antivirus, remote access, and MUCH more
- SDN - Software-defined networking - an approach to computer networking which manages network services through abstraction of lower level functionality by decoupling the system that makes decisions about where traffic is sent
- SdS - Software-defined Storage - a software driven SAN or NAS solution such as NexentaStore by Nexenta
- SIS - Student Information System - a large, complex program to manage all things student for a school district (grades, classes, etc.)
- SF - School Fusion - MSD's cloud based web site meeker.k12.co.us
- SFP - Small Formfactor Pluggable - a common modular port type in Cisco and other switches
- SWF or .swf - Shockwave Format -video file format, very common on the web, now owned by Adobe, most browsers will play it natively
- SM - Silicon Mechanics - the vendor for our current MSD server cluster (SuperMicro Nodes, running Open Indiana with Nexenta and VMWare 5.1)
- SMS - System Management Service - both a specific term for Microsoft solution and a general term for software management solutions, such as Meraki's
- SMS - Short Message Service - more commonly known as "texting"

- SN - Serial Number
- SP - Service Pack, a major roll-up of updates (e.g, a major update almost a new version of software)
- SQL - Structured Query Language - a database programming language most commonly used in Microsoft's SQL database line
- SRP - System Reserved Partition - New in Win 7 and Win 2008 and up. A small 100MB partition contains the boot manager
- SSD - Solid State Drive - new extremely fast drive technology works a lot like RAM or a thumb drive, no moving parts
- SSID - Service Set Identifier - the name of a WLAN (Wireless Local Area Network)
- SSL - Secure Sockets Layer - security protocol for Internet traffic
- T1 - Telco circuit capable of delivering 1.54Mb of bandwidth (Data) or 24 voice lines (Voice)
- TAA - Test Administration Application - a back-end utility for managing NWEA's MAPs database
- Tb - Terabit - a common storage size, equal to 100Gb or 1000Mb
- TB - Terabyte - a common storage size, equal to 100GB or 1000MB
- TCP - Transmission Control Protocol - a core protocol of the Internet TCP/IP suite.
- TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance - Group that sets and monitors many IT standards.
- TOM - Town of Meeker (MAN Entity)
- TRT - Tech Readiness Tool - the web tool to verify IT readiness for PARCC
- TS - Terminal Server - a terminal session using Microsoft RDP protocol
- TT - trouble ticket - a online list of tasks for my aides
- TLF - Technology Leadership Forum - both an e-mail listserv and a group of K12 techs in Colorado - very active on the front range
- TX - Transmit pair or wire - most network connections, both fiber and copper have two physical paths a transmit TX and receive RX
- UID - Unique Identifier Number - used by Cisco and others for equipment ID
- UID - User ID - refers to a users login, password, etc.
- Unity -The server that manages voicemail and call handlers on our Cisco Avvid phone system
- UNC - Universal or Uniform Naming Convention - describes a folder path to a volume or directory or file
- UNCC - Utility Notification Center of Colorado - the 411 agency that processes all underground utility locates
- UDP - User Datagram Protocol - a core protocol of the Internet TCP/IP suite.

- UPS - 2 Meanings based on context: Uninterruptible Power Supply (a battery from IT equipment) or the delivery company
- USB - Universal Serial Bus - common port for peripherals, can plug/unplug while powered on
- USIC - The MAN hired company that performs underground utility locates (fiber locates) for us
- URL - Uniform Resource Locator - a protocol for specifying IP addresses in "human" terms such as meeker.k12.co.us
- VESA - Video Electronics Standards Association - refers to the four screw mount on the back of many LCD monitors
- VDI - Virtual Desktop Infrastructure - hosting a desktop on a VM and then transmitting it out to a simple end node device like an old computer or thin client
- VGA - Video Graphics Array - Older common standard for video connection
- VLAN - Virtual Local Area Network, a virtual (can function across multiple locations) LAN versus a physical LAN
- VM - Virtual Machine - typically a server OS running in a hypervisor such as VMWare
- VMWare - Software that allows multiple VMs to run on a single node or group of nodes.
- Voice Gateway - Converts calls from IP network to something like PRI
- VOIP - Voice over IP - a set of standards for telecommunications across data (or computer) networks
- VPN - Virtual Private Network - typically connection tunnel with high security for access into a LAN from a WAN device
- vSpace - nComputing's VDI solution - can refer to their server software and/or their Client software
- VPP - Volume Purchasing Program - Apple has a VPP for buying bulk apps for iOS
- VTP - VLAN Trunk Protocol - distributes VLAN info from master switch to slave switches
- VxCube - The Daytona server pool that hosts VMWare and most of our VMs (the district's BIG server!)
- WCITC - Western Colorado Information Technology Cooperative (Includes MAN entities plus FNBR, WREA, WSIS, and more)
- WDS - Windows Deployment Services - a free Microsoft drive imaging server
- WebRTC - Web Real Time Communication - evolving standard for voice/video via browsers
- WEP - Wired Equivalent Privacy - old security protocol for wireless introduced

- as part of the original 802.11 suit in 1997
- WiFi or Wi-Fi - Wireless Fidelity and is used to define any of the wireless technology's in IEEE 802.11 specifications (e.g., wireless networking)
 - WLAN - Wireless Local Area Network, often referred to as an SSID (Service Set Identifier)
 - WPA - Wi-Fi Protected Access - a security protocol for 802.11 (specifically 802.11i) using a sophisticated key hierarchy implemented in 2003
 - WPA2 - More modern and secure version of WPA
 - WSIS - Western Slope Information Systems
 - WSUS - Windows Server Update Services - a free server add-on for managing updates and patches from Microsoft - saves bandwidth by downloading each update/patch once.
 - X350 - 3 Station X-Series
 - X550 - 5 station X-Series
 - X-Series - nComputing product that allows one computer to power up to 5 other stations
 - X2 - Cisco's twin Gigabit converter module able to supply two 1Gig SFP ports or a single 10 Gigabit port on switches/routers