



Leading The Way

The Cariboo-Chilcotin Journey
to becoming a Provincial Leader
in Building System Management

Setting the Stage

2020-2021

- Failing and end-of-life phone system. No support or hardware available.
- Phone line restrictions – limited access to phone lines in schools
- Just completed installation of end-of-life keyless system out of support
- Flawed keyless system with no ability to securely manage access
- Failing PA systems with no district standard
- No integrated lock down system or secure notification system
- Unreliable and inefficient alarm system / Incorrect hardware and installation errors
- Unreliable fire notification system
- No in house expertise or local support partnerships
- Weeks of lost time for staff supporting failing systems
- Decreased moral with staff asked to support and keep “junk” working
- **No confidence in system – intruder, fire, access, PA, or phone**
- **One of worst systems in province**

Current Reality

2024-2025

- Provincial leader in building system management and integration
- Secure and reliable systems throughout district
- Increased safety and security for staff and students
- Improved moral as district and partners supporting a solution we are proud of
- Time spent improving the system rather than living in a break-fix cycle
- Collaborating with vendors and partners on new and innovative ways of using tools and products in district
- Hosting northern facility management conference and showcasing building system and other innovative projects in district.
- Presenters at provincial conference on IT for education for last 3 years – **IT4K12**

IT4K12 Conference

Welcome to the IT4K12 Conference, a nexus for educators, IT professionals, and exhibitors to explore the forefront of educational technology.

Dive into the world of digital learning resources. Explore emerging technologies and consider privacy implications for learning and working. Share best practices within our K-12 educational community.





The Team

Cheryl Lenardon – Superintendent of Schools

Marc Loewen – Director of Operations

Ben Bennison – Manager of Transportation

Paul Wallin – Manager of Finance

Kyle Riley – IT Systems Administrator – Integration Lead

Adam Van Riesen – Electrical Lead Hand – Alarms / PA Lead

Ryan Andres – IT Systems Administrator – Network Lead

Matt Abel – IT Systems Administrator – Phone Lead

John Hack – Onetrix

Ken Waters – Onetrix

Jason Egan – Onetrix

Mike Hogg – Bosch Systems

The IT4K12 Presentation

A quick recap of where we were

Operational Deficiencies



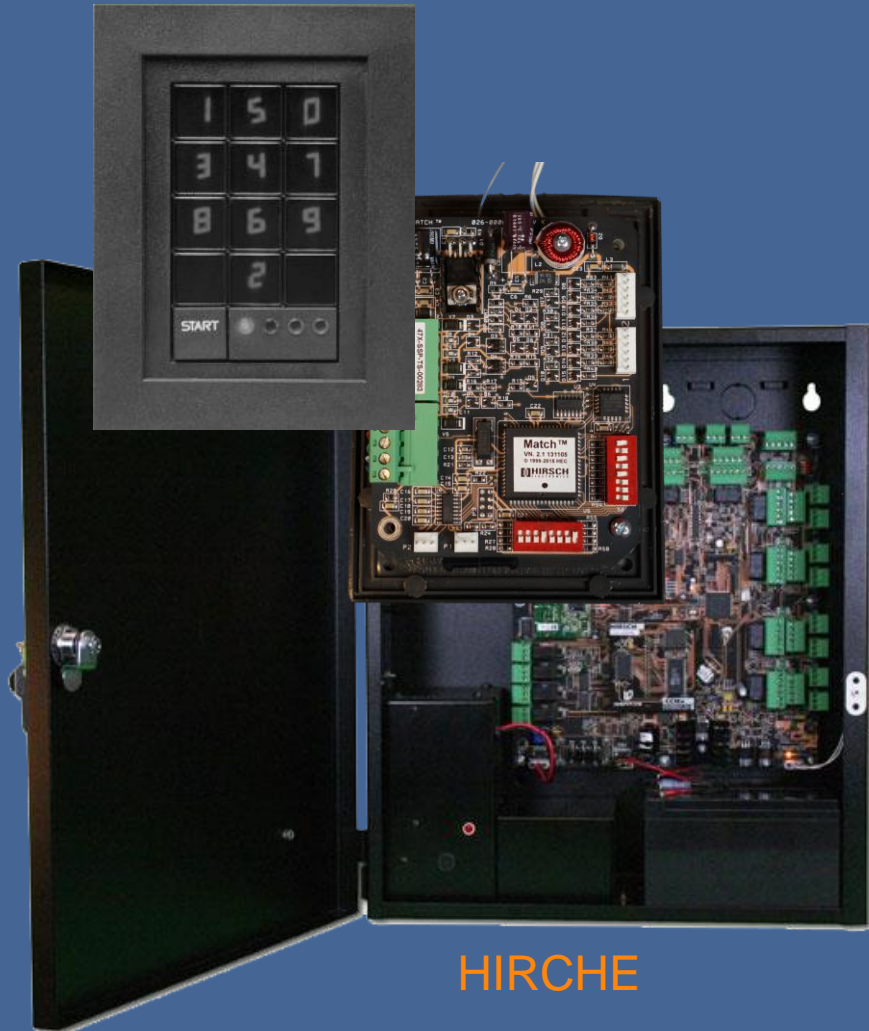
DSC 4020



Intruder Alarm

- Easy to get buy-in from your operations manager when he receives failure to arm, failure to communicate and false alarms every night.
- Two-hit rule on our account to reduce call-outs missing actual events
- Moved our monitoring company to someone that could provide us support
- Fire alarm relying on failing 4020 boards.

Operational Deficiencies



Keyless Entry

- New system reliable enough to stop issuing keys
- Keys copied in-house, but not serialized, assigned or tracked
- Old HIRCHE system used 6-digit codes to unlock. Codes often shared
- Removal of access and assignment of new access extremely time consuming

Operational Deficiencies



Cameras

- Local client required for viewing and exporting. Manual process requiring both local install and LAN to DCT firewall config
- No support from vendor resulted in poor implementation. No SSO/Analytics.
- Acting as an over-priced NVR that requires extra support.

Operational Deficiencies

Bells/PA/Phone System

- Ancient Simplex / Roland / Micro Quarts / Nortel / Toshiba systems
- **No lock down integration**
- Every school is different, generates a weeks worth of tickets every time change
- Elementary schools are a Frankenstein of a car stereo and home audio equipment
- Often tied to old phone system, so any failure in phone system cripples PA system
- No support or repair once system breaks



The IT4K12 Presentation

The path forward and journey toward excellence . . .

Health and Safety



Utilize building systems to communicate better in emergencies



Leverage video analytics to report smoke, fire, slips and falls.



Limit access to restricted areas



Local Support



Challenges of being a rural district



Ability to rely on local specialists



Bringing enterprise hardware to our community



Building a Local Resource

- District buy in to a single product stack allowed a local vendor to secure an enterprise supply-chain
- Same day support for critical building systems, which normally isn't possible in the Cariboo-Chilcotin
- Cross-training and shared ownership of our building envelope



Product Selection

WHO ARE THE INDUSTRY LEADERS?

WHAT ARE OTHER DISTRICTS USING?



Building a Foundation: Intruder Alarm

- Part of a district-wide initiative to bring fire alarms up to ULC-S561 standard
- Foundation for a lot of input/output integration
- Site-wide wireless mesh



Remote Programming Software




View Enable C

Panel Name	Panel Type
AC - Alexis Creek	B8512G
ADM - Admin	B8512G
AL - Anahim Lake	B8512G
BIG - Big Lake	B8512G
CAT - Cataline	B8512G
COL - Columneetza	B9512G
CR - Chilcotin Road	B8512G
DC - Dog Creek	B8512G
FG - Forest Grove	B8512G
GD - Glendale	B8512G
HF - Horsefly	B8512G
HL - Horse Lake	B8512G
LCS - Lake City Secondary	B9512G
LIK - Likely	B8512G
LLH - Lac La Hache	B8512G
M5 - 150 Mile Ele	B8512G
M8 - 108 Mile Ele	B8512G
ME - 100 Mile Ele	B8512G
MS - Marie Sharpe	B8512G
MV - Mountview	B8512G
MY1 - Maint Yard 100 Mile	B8512G
MYW - Maint Yard WL	B8512G
NES - Nesika	B8512G
PSO - Peter Skene Ogden	B9512G

What we've done for intruder alarm:

SIMS Pocket 90-34-3007

SIMS *Pocket Edition*




CATALINE ELEMENTARY
1175 BLAIR AVE


Edit

WILLIAMS LAKE , BC V2G 1X2
1 (250) 392-7154

Call




Map



Account Status
Account in Service


Change



Status: Armed
Last Signal: 11/03/24
Next Violation: 11/11/24 20:25
Last Update: 08/22/24 16:42

90-34-3007


Pocket Edition



CATALINE ELEMENTARY
1175 BLAIR AVE

Edit

WILLIAMS LAKE , BC V2G 1X2
1 (250) 392-7154



Map

Out of Service

Zone 1
Zone 2
Zone 3
Exc

Comment

One Hour

Two Hours

CANCEL
SUBMIT

What we've done with Access Control:

Fully automated access control of nearly 1000 staff members using data HR already inputs.



-	Import	ChangedStaffUsers	CSV	Scheduler	10.10.2024 0
Operation has completed: 18 entities deleted successfully, 0 entities were failed, 0 rows skipped. Some errors reported					
+	Import	AccessControl	CSV	Scheduler	09.10.2024 0
-	Import	ChangedStaffUsers	CSV	Scheduler	09.10.2024 0
Operation has completed: 6 entities deleted successfully, 0 entities were failed, 0 rows skipped. Some errors reported,					
+	Import	AccessControl	CSV	Scheduler	08.10.2024 0
-	Import	ChangedStaffUsers	CSV	Scheduler	08.10.2024 0
Operation has completed: 18 entities deleted successfully, 0 entities were failed, 1 rows skipped. Some errors reported					
+	Import	AccessControl	CSV	Scheduler	07.10.2024 0
-	Import	ChangedStaffUsers	CSV	Scheduler	07.10.2024 0
Operation has completed: 9 entities deleted successfully, 0 entities were failed, 0 rows skipped.					
+	Import	AccessControl	CSV	Scheduler	06.10.2024 0
-	Import	ChangedStaffUsers	CSV	Scheduler	06.10.2024 0

```
*ChangedStaffUsers (17).csv - Notepad
File Edit Format View Help
employeeid,firstname,lastname,email,usergroups
"10000", "Ninon", "Ninon", "ninon.ninon@sd27.bc.ca", ""
"10001", "Brandi", "Brandi", "brandi.brandi@sd27.bc.ca", ""
"10002", "Austin", "Austin", "austin.austin@sd27.bc.ca", ""
"10003", "Tracey", "Tracey", "tracey.tracey@sd27.bc.ca", ""
"10004", "Paul", "Paul", "paul.paul@sd27.bc.ca", ""
"10005", "Best", "Best", "best.best@sd27.bc.ca", ""
"10006", "Sandra", "Sandra", "sandra.sandra@sd27.bc.ca", ""
```

Addition and Subtraction

```
AccessControl (10).csv - Notepad
File Edit Format View Help
employeeid,firstname,lastname,email,facilitycode,cardnumber,usergroups
"10000", "MacKenna", "MacKenna", "mackenna.mackenna@sd27.bc.ca", "9000", "1045446", "HL Teachers"
"10001", "Vanessa", "Vanessa", "vanessa.vanessa@sd27.bc.ca", "9000", "847175", "HL Teachers"
"10002", "Geraldine", "Geraldine", "geraldine.geraldine@sd27.bc.ca", "9000", "847176", "HL Teachers"
"10003", "johnw", "John", "johnw.john@sd27.bc.ca", "9000", "847182", "HL Teachers"
"10004", "Sarah", "Sarah", "sarah.sarah@sd27.bc.ca", "9000", "918326", "HL Teachers"
"10005", "sarah", "Sarah", "sarah.sarah@sd27.bc.ca", "9000", "847187", "HL Teachers"
"10006", "marissa", "Marissa", "marissa.marissa@sd27.bc.ca", "9000", "847185", "HL Teachers"
"10007", "lisa", "Lisa", "lisa.lisa@sd27.bc.ca", "9000", "847186", "HL Teachers"
"10008", "margaret", "Margaret", "margaret.margaret@sd27.bc.ca", "9000", "847178", "HL Teachers"
"10009", "Kyra", "Kyra", "kyra.kyra@sd27.bc.ca", "9000", "847188", "HL Teachers"
"10010", "Kathleen", "Kathleen", "kathleen.kathleen@sd27.bc.ca", "9000", "847196", "HF Teachers"
"10011", "Connie Lyn", "Connie Lyn", "connielyn.connielyn@sd27.bc.ca", "9000", "847193", "HF Teachers"
"10012", "brent", "Brent", "brent.brent@sd27.bc.ca", "9000", "1045458", "HF Teachers"
"10013", "Linda", "Linda", "linda.linda@sd27.bc.ca", "9000", "847206", "CR Teachers"
"10014", "Brody", "Brody", "brody.brody@sd27.bc.ca", "9000", "915703", "CR Teachers"
"10015", "Kali", "Kali", "kali.kali@sd27.bc.ca", "9000", "915699", "CR Teachers"
"10016", "Tarla-Rae", "Tarla-Rae", "tarla-rae.tarla-rae@sd27.bc.ca", "9000", "915702", "CR Teachers"
"10017", "robyn", "Robyn", "robyn.robyn@sd27.bc.ca", "9001", "1003320", "CR Teachers"
"10018", "Shirley", "Shirley", "shirley.shirley@sd27.bc.ca", "9000", "1045696", "CR Teachers"
"10019", "jennifer", "Jennifer", "jennifer.jennifer@sd27.bc.ca", "9000", "915707", "CR Teachers"
"10020", "stacey", "Stacey", "stacey.stacey@sd27.bc.ca", "9000", "915712", "CR Teachers"
"10021", "Melissa", "Melissa", "melissa.melissa@sd27.bc.ca", "9000", "915710", "CR Teachers"
"10022", "erin", "Erin", "erin.erin@sd27.bc.ca", "9000", "1045427", "CR Teachers"
"10023", "Erin", "Erin", "erin.erin@sd27.bc.ca", "9000", "916158", "CR Teachers"
"10024", "Jennifer", "Jennifer", "jennifer.jennifer@sd27.bc.ca", "9000", "918264", "CR Teachers"
```

- ChangedStaffUsers CSV generated by a script that detects changes in the users position
- Nightly sync scrubs any user picked up by the ChangedStaffUsers script
- Full staff extract is layered on top

Access profile:

Keep authorizations assigned

Assigned access authorization

Name	MAC	Time model	Valid from	Valid until
ADM Interior Door	MAC	Custodial		
ADM Support	MAC			
MYW Maintenance	MAC			

Available access authorizations

Filter: 236 / 239

Name	MAC	Time model	Division
MYW Bus Garage	MAC		Common
MYW Custodian	MAC		Common
MYW Exempt	MAC		Common
MYW Finance	MAC	Support	Common
MYW Secretaries	MAC	Support	Common
MYW Support	MAC		Common
MYW Teachers	MAC		Common
MYW Transportation	MAC		Common
NAG Custodian	MAC		Common
NAG Finance	MAC	Support	Common
NAG Principals	MAC		Common
NAG Secretaries	MAC	Support	Common
NAG Support	MAC	Support	Common
NAG Teachers	MAC	Teachers	Common
NES Custodian	MAC		Common
NES Finance	MAC	Support	Common
NES Support	MAC	Support	Common

Navigation buttons: <, >, <<, >>

Stacking Authorizations

- Completely granular
- Doors and schedules tied to Authorization
- Layered Authorizations from AccessControl CSV

Search for cameras and views...



Main Entry Exterior

What we've done with cameras:

- Group based access to sites based on job code
- Browser based access for live feeds and recordings

CAMERAS

SD27-VMS

- > Columnneetza
- > Glendale
- > Lake City
- > Nesika
- > PSO
- > WL Maintenance

Roles	
Name	
Administrators (Administrators have co	
All Sites (All sites members)	
COL Principal (Columnneetza Principals	
LCS Principal (Lake City Secondary Pri	
NES Principal (Nesika Principals)	
PSO Principal	

Role Settings	
Name	Description
SD27/NES Principals	SchoolConnect Group

Role Settings

Select device or device group for which to set security:

- Cameras
 - Columnneetza
 - Glendale
 - Lake City
 - Nesika
 - Back Benches
 - Front Loop
 - Portable Walkway
 - Roof
 - Staff Parking
 - Staff Parking Bins
 - PSO
 - WL Maintenance
- Microphones
- Speakers
- Metadata
- Input
- Output

Role can perform the following on the selected device or device group:

- Camera
 - Read
 - Live
 - View live
 - Recorded video
 - Playback
 - Limit playback to:
 - No restriction
 - Read sequences
 - Smart search
 - Export
 - Manual recording
 - Start manual recording
 - Stop manual recording
 - Bookmark
 - Read bookmarks
 - Edit bookmarks
 - Create bookmarks
 - Delete bookmarks
 - AUX commands

Info Users and Groups External IDP Overall Security Device



Cameras

Using analytics for more

Be preventative, not reactive

- Detect smoke and fire
- Enhance working alone safety
- Alert motion in secure areas after hours
- Alert loitering near entrances and windows after hours
- Integration with PA to provide live “Area under surveillance” feedback

Bogen PA/Bells

User-friendly enterprise PA equipment

Teams SIP integration with ALGO

Anywhere paging through Teams mobile



Additional Updates

- All staff with a computer also issued personal Teams phone account and number
- 911 location connected to all sites and primary work location for staff with automate location updates
- Automated 911 notification to board office if call originates from any site or staff
- All schools to be fully moved to Teams phone solution by end of 2024/2025 year
- Lockdown integrated with PA and access control
- Emergency broadcast solutions with Teams and SchoolMessenger
- Secondary school washrooms wired for HALO sensors for vape, smoking, loitering, or possible distress alerts. Onetrix finalizing certification and will be installing and configuring this spring.

In Summary

- Leadership, vision, and commitment from district team and community partners led to SD 27 being a district being leader in the province for building security and safety
- Project has been 4 years of concerted research, testing, and work to deliver quality product
- Upgrades and maintenance part of district commitment to excellence so new system does not end up in disrepair
- Stability of system allowing staff to focus on new challenges to move district forward
- Incredible achievement the district and community can be proud of – Cariboo Strong

Special Thanks and Acknowledgment

Cariboo-Chilcotin Board of Education

- Angie Delainey
- Anne Kohut
- Camille MacDonald
- Linda Martens
- Mary Forbes
- Michael Franklin