NISD

Technology Division

Cara Carter

Chief Technology Officer

Infrastructure | Data | Instructional Technology

Role of Technology

Provide the *foundation* for educators and learners to reach their full potential, both *now* and in the *future*

Organization

DATA SERVICES

Students Information System
master schedule, enrollment, report cards

Financial Information System
database & architecture

Digital Forms & Workflows

All Enterprise Data in Transit

Federal & State Reporting

INSTRUCTIONAL TECHNOLOGY

Digital Instructional Design
educational tools, curriculum writing, professional development

Learning Management System
Canvas & Seesaw

Privacy Practices
laws (such as COPPA), Data Sharing Agreements

Blended Learning, ePortfolios, eSports

Rostering Process

Campus-Based Support Staff
7 Instructional Technologists

INFRASTRUCTURE

Networking & Fiber connectivity

Telephony & Emergency Systems (including e911)

Cybersecurity

Cameras & Access Control

Application & User Systems

Student & Staff Devices Helpdesk Campus-Based Support Staff
19 Campus Technicians

Summer Projects 2023

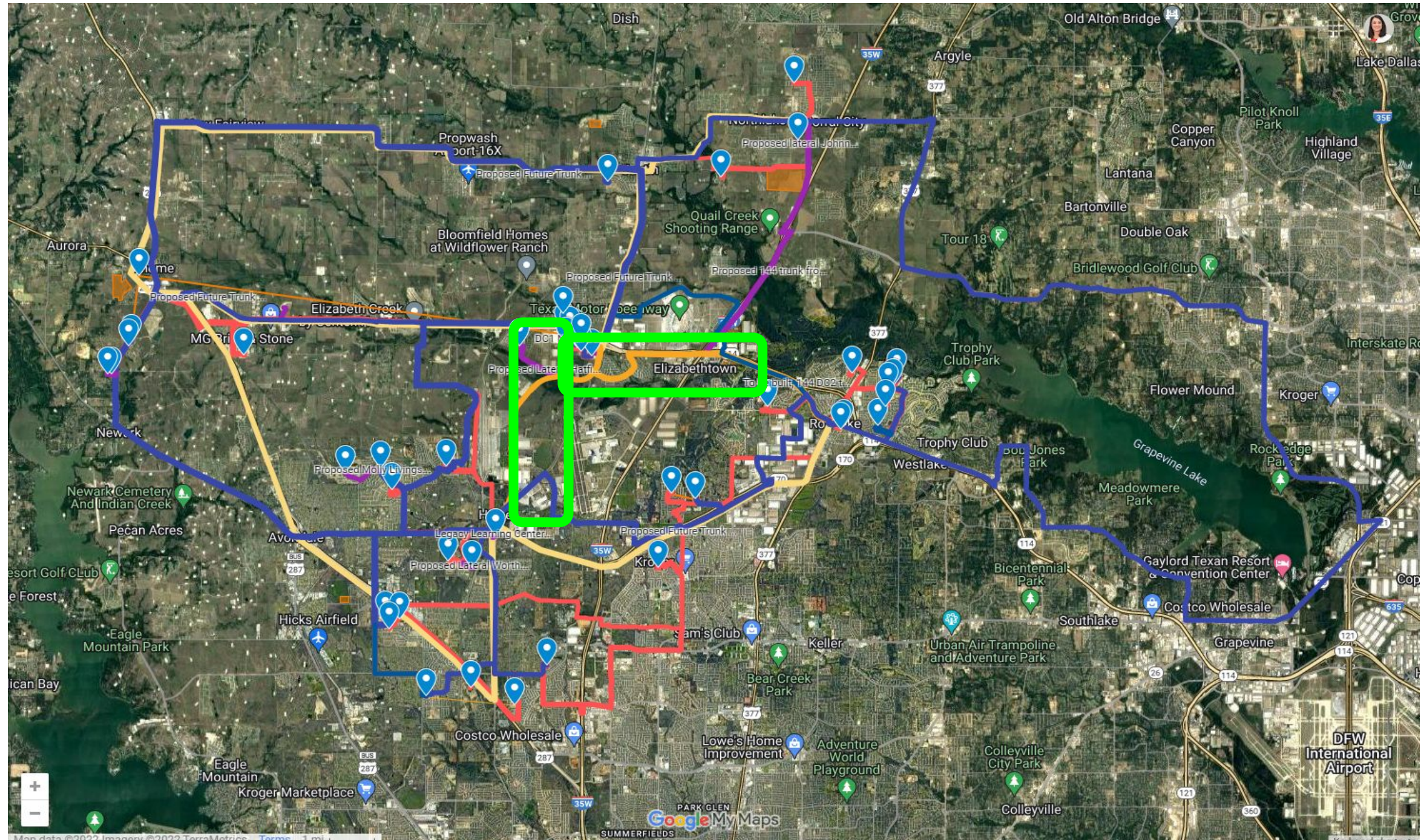Providing the *foundation* both *now* and in the *future*

➢ Fiber Network Pathing and Planning

➢ Active/Active Data Center Move

➢ Cybersecurity Initiatives

➢ New Campus Construction Support

➢ Onboarding/Training Staff

NISD Dark Fiber Network

Added fiber pathing to new sites and added robust trunks for future access

Key:
Blue - Leased dark fiber
Red - District owned dark fiber
Orange - NISD future sites
Purple & Yellow - Recent and proposed fiber projects

Data Centers

Providing the *foundation* both *now* and in the *future*

➤ Designed in 2019
➤ Construction and equipment access slowed during pandemic
➤ Finalized moving in summer of 2023
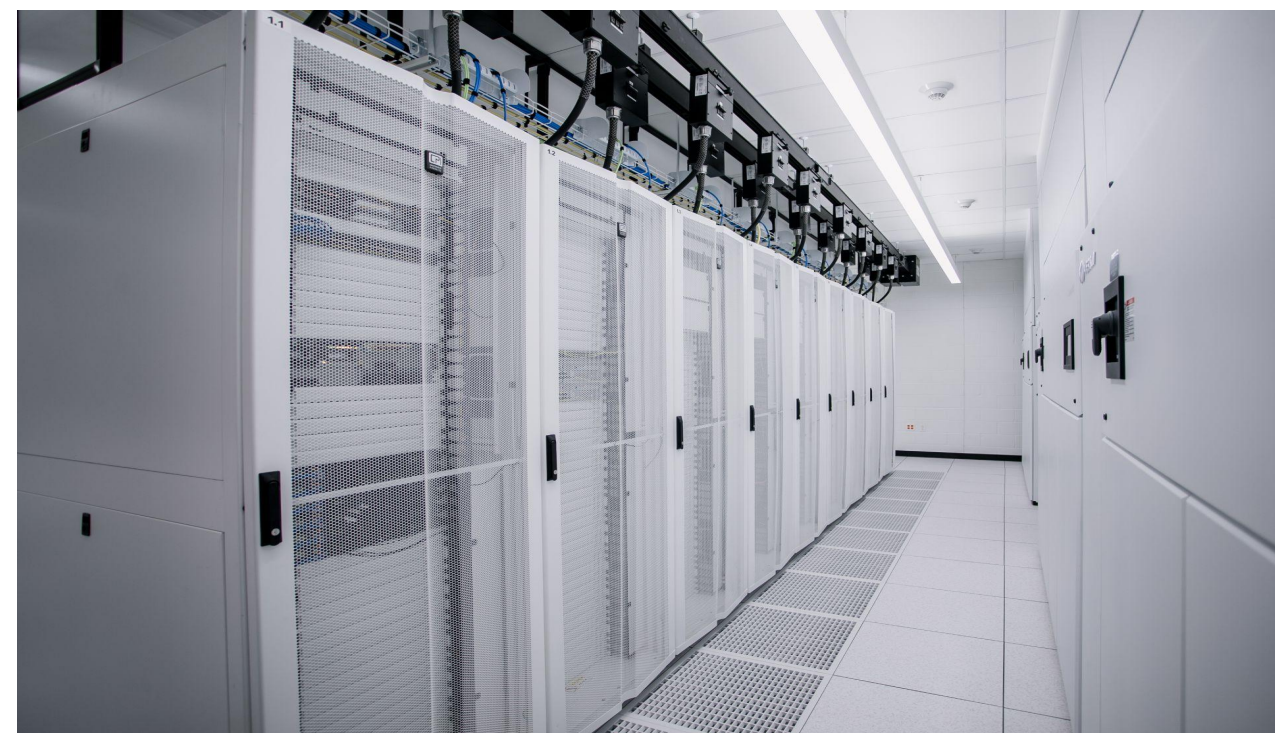
Data Centers

Completion of move into two modern active/active data centers

- ➤ Provides reliable continuity in the event of a disaster or other event
- ➤ Provides versatility for digital learning and operations
- ➤ Allows for growth capacity

Cybersecurity

Why is K-12 seeing increased events in cybersecurity?

Texas school district paid $547K ransomware demand

"There was no other choice," officials from the Judson Independent School District in Bexar County, Texas, said about their decision to pay off their hackers.

Nearly half of K-12 providers hit by ransomware paid to have data restored

A survey of lower education providers in 14 countries found recovery costs averaged about $2.18 million for those paying ransoms.
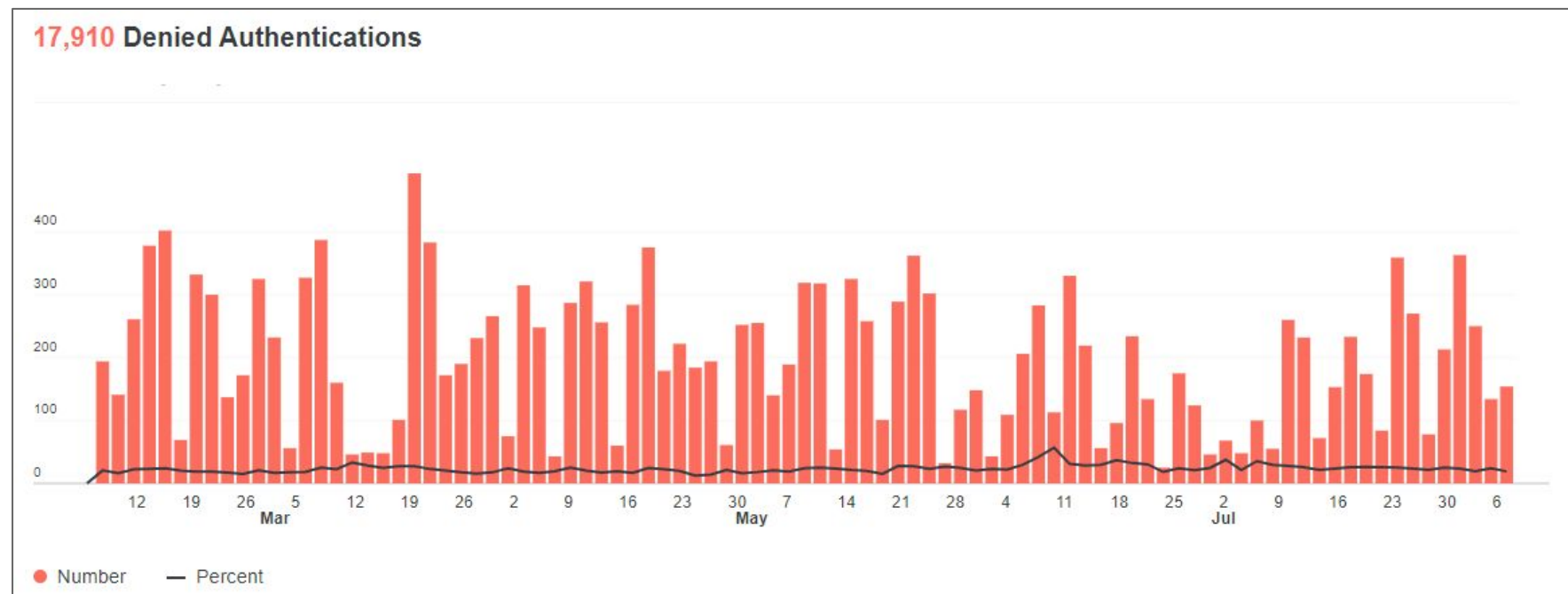
Cybersecurity

Ransomware Targeting K-12 Grew a Massive 827% Last Year, SonicWall Reports

Malware Attacks Also Rose Significantly as Did Attacks on IoT Devices

Cybersecurity

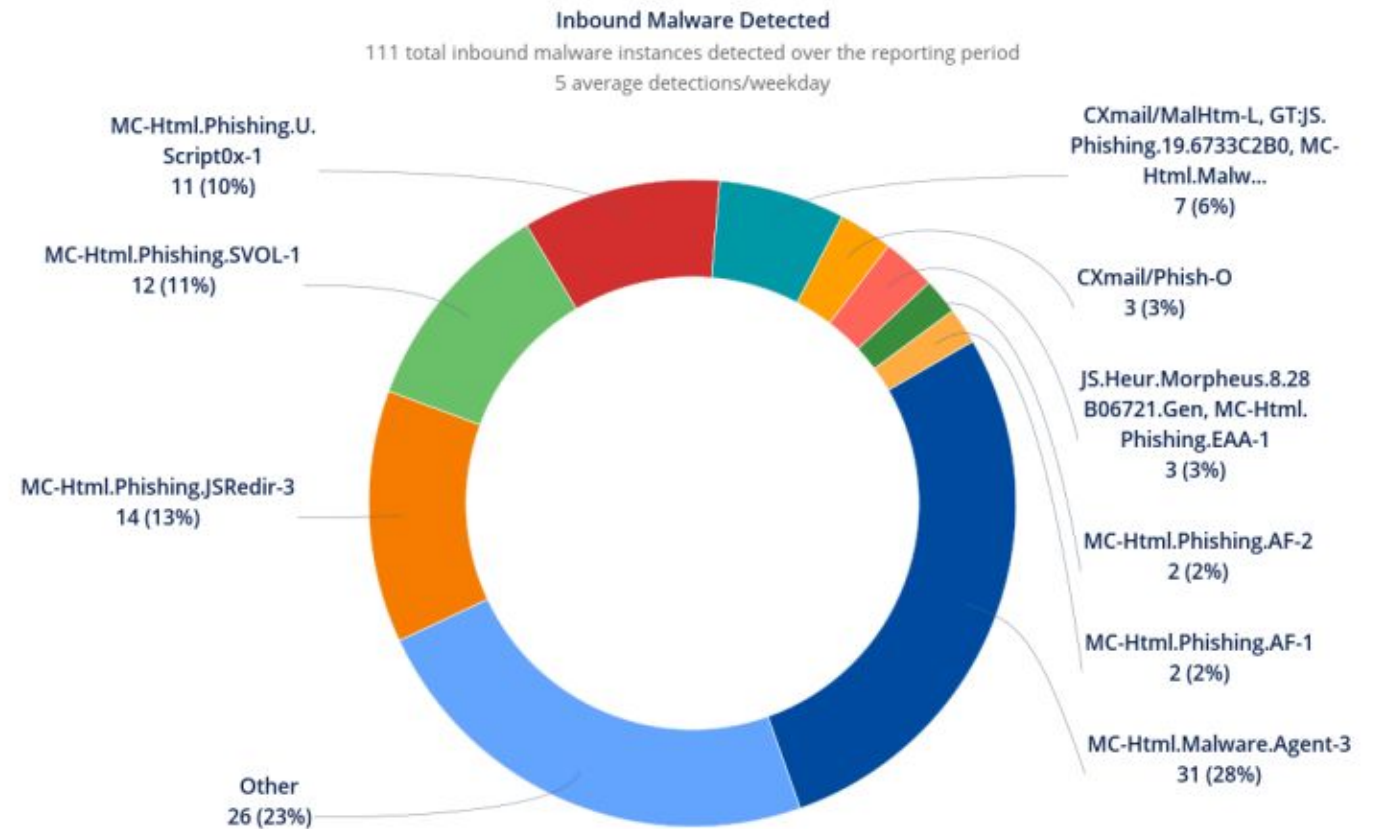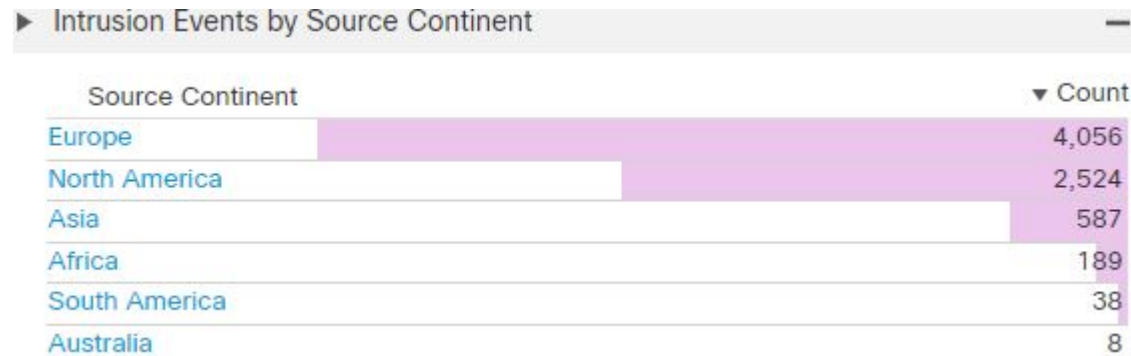What cyber events are we seeing in NISD recently?

Cybersecurity

What cyber events are we seeing in NISD recently?

Top Inbound Malware
Secure Email Gateway

mimecast®

Inbound Malware Detected
111 total inbound malware instances detected over the reporting period
5 average detections/weekday

MC-Html.Phishing.U.
Script0x-1
11 (10%)

MC-Html.Phishing.SVOL-1
12 (11%)

CXmail/MalHtm-L, GT:JS.
Phishing.19.6733C2B0, MC-
Html.Malw...
7 (6%)

CXmail/Phish-O
3 (3%)

JS.Heur.Morpheus.8.28
B06721.Gen, MC-Html.
Phishing.EAA-1
3 (3%)

MC-Html.Phishing.JSRedir-3
14 (13%)

MC-Html.Phishing.AF-2
2 (2%)

MC-Html.Phishing.AF-1
2 (2%)

MC-Html.Malware.Agent-3
31 (28%)

Other
26 (23%)

Intrusion Events by Source Continent

Source Continent	Count
Europe	4,056
North America	2,524
Asia	587
Africa	189
South America	38
Australia	8

The distribution of malware detected in inbound mail. The count increments (+1) for each recipient. Details about the Malware Detections can be found in the Threat Dashboard.

Cybersecurity

What are we doing about it?

➢ Implementing around the clock monitoring (MDR)
➢ Data loss prevention products and monitoring
➢ Staff training
➢ NIST Framework
➢ Least privileges access
➢ Phishing campaigns
➢ Complete MFA enrollment with bus drivers and guest educators

THERE'S NO SILVER BULLET WITH CYBERSECURITY; A LAYERED DEFENSE IS THE ONLY VIABLE OPTION.

— JAMES SCOTT

Opening 5 Campuses

➢ Construction coordination
➢ Fiber access inside the building
➢ Network gear installation
➢ Configuration for WAN and LAN
➢ Security camera configuration
➢ Access Control
➢ Campus Phones
➢ Public Address (PA)
➢ Digital Signage
➢ Classroom setup
➢ Office setup
➢ Food service technology
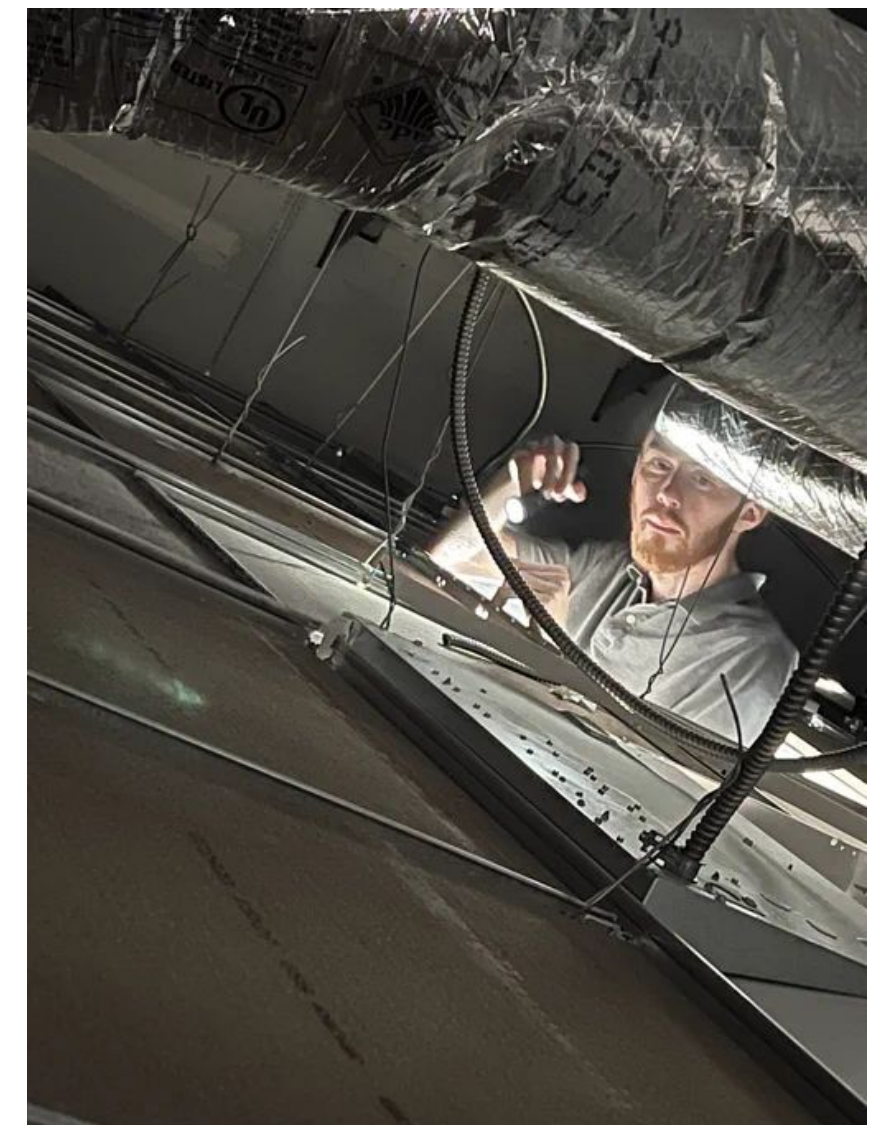
Other Summer Projects

➢ Finalized projectors to TVs in all classrooms across NISD

➢ Informacast completion - PA and Emergency Alerts

➢ Upgrade of enterprise storage

➢ Onboarded 608 teachers

➢ 388 students in TechnoCamps

➢ Prepare for laptop refresh for staff