

Northwest ISD Case Study



About Northwest ISD

Northwest Independent School District is home to more than 30,000 students across 34 campuses in the Dallas-Fort Worth metroplex. Spread over 234 square miles, Northwest ISD serves all or part of 14 cities, towns, and communities in Denton, Tarrant, and Wise counties. The construction of thousands of new homes in the district's boundaries in recent years has made Northwest ISD the fastest-growing school district in north Texas, with enrollment growing by 1,000 to 1,600 new students annually.

The district includes 23 elementary schools, seven middle schools, and four high schools. Voters approved a \$2 billion bond issue in 2023, which will fund the next round of development, including new schools, athletic facilities, and technology.

Company

Northwest Independent
School District

Country

USA, Texas

Industry

Education

Business Challenges

Support the technology demands of the rapidly-growing school district, including one-to-one computing, online testing, and smart building applications.

Panduit Solution

Category 6A U/UTP Copper Cabling and Connectivity

Telecommunication Racks and Cable Managers

UPS Systems

Atlona Velocity™ AV Control and Asset Management

School District Addresses Tech Demands Amidst Rapid Growth

Business Challenges

As one of the fastest-growing school districts in Texas, Northwest Independent School District (NISD) is facing the challenge of keeping up with rapidly increasing technology demands. The district needs robust network infrastructure that can support technologies such as one-to-one computing programs, online testing, IP cameras, building automation systems, and more.

NISD is an early adopter when it comes to technology, including the implementation of one-to-one computing for students. The district first launched a one-to-one program in 2008, and since 2017 has provided a Chromebook to each student. This puts significant bandwidth demands on the wireless network in the 34 schools the district operates.

Additionally, NISD is leaning into smart and connected building technologies, adding systems like IP cameras, lighting, HVAC, sensors, and others to the network. In fact, Christopher Lee, director of technology at NISD, says these Internet of Things (IoT) applications are a bigger footprint today than standard networking.

With rapid growth at the heart of the district, supporting that progress is critical. This means the installed infrastructure must be flexible and scalable to accommodate multiple new schools opening each year based on prototypical designs. Reliability and quality are top priorities given the district's limited IT staff to support and maintain the network.



The Solution

To build out a robust and future-proof network foundation, Northwest ISD has partnered with Panduit and Superior Fiber & Data Services, Inc., to deploy an end-to-end solution encompassing structured cabling, network racks/cable management, copper and fiber cabling and connectivity, UPS systems, and AV distribution.

For structured cabling, the district has standardized on Panduit Category 6A U/UTP copper cabling to support higher bandwidth needs now and into the future. The fiber backbone utilizes Panduit armored cable solutions. All telecommunications closets are outfitted with Panduit racks, vertical cable managers, and connectivity.

These solutions support both wired and wireless connectivity across all campuses, with recent expansion into spaces like gymnasiums.

“Wireless is an integral part of our designs, making sure we have the wireless capacity where we need it,” Lee says. Their most recent wireless project involved adding wireless connectivity to cover the floors of competition gyms in their high schools. This allows the gyms to be used for online standardized testing. In 2023, NISD upgraded wireless access points through about half of the district – about 1,500 access points – with the rest of the district being completed in 2024. Wireless capacity isn’t limited to indoors only, as the district tries to cover wireless demand in outdoors areas of campus also. One unique project for the district came during the Covid-19 pandemic, when NISD created Wi-Fi zones in parking lots at strategically placed schools, so families who did not have internet access at home could visit those zones to connect.

To improve reliability, the district is installing new Panduit UPS systems district-wide to protect against power disruptions. This project is funded through e-rate funds, a federal funding program that NISD relies on every year to bolster their network solutions. In 2024, all remaining e-rate funding for the district is going to the UPS project, which is replacing aging UPS units at all campuses. “We take advantage of it up to the last dollar we can possibly spend,” Lee says. “We try not to leave anything unspent any time the federal government is willing to match or help us pay for things.”

To support AV signal distribution in selected areas, including fine arts, athletics, and training, NISD has turned to Atlona’s Velocity control system, due to its flexibility and ease of use. “What we’re finding with Atlona and their IP-based model, is we’ve got better functionality for technicians or fine arts people to get in and make small changes without us having to put in a ticket, bring in a vendor, and spend a bunch of money,” Lee says. “All I’ve had is positive feedback that Velocity is easy to use and does what it is supposed to do.”



The Result

By taking a comprehensive, end-to-end approach with Panduit infrastructure solutions, Northwest ISD has a scalable network platform to support evolving digital curriculum and operations for years to come. The high-performance structured cabling provides ample bandwidth for one-to-one device programs, online testing, IP cameras, and future needs such as IoT system integration.

Reliability improves with the new UPS backup systems and the robust Panduit structured cabling components which are covered by a 25-year warranty.

Quality is top of mind when NISD chooses a vendor for their technology systems, and that desire for quality is what has solidified Panduit as the district's first choice for network infrastructure solutions. With the district's "student-first" objective, selecting products and manufacturers that will last and provide a return on investment is top of mind.

"We are always looking at where we get the best value for taxpayer dollars. A lot of times, that's lip service in school districts, but it's something that really drives our school district. We base those decisions on what makes the most sense for taxpayer dollars, that's going to impact the kids, and give them the best possible opportunities."

— **Christopher Lee**
Director of Technology at NISD

The Panduit 25-year warranty also plays into that longevity decision, Lee says. "These buildings are rated to last 25 to 50 years. It's very important to us to know that we have those 25-year warranties in place, and we do everything we can to protect those."

At the end of the day, Northwest ISD has a technology foundation to support its growth and vision of providing cutting-edge learning opportunities for years to come.



The Power of Partnership

The district appreciates the partnership with both Panduit and Superior Fiber & Data Services, Inc. "One of the reasons Panduit is such an important partner for us is not just the quality of the product and understanding that we can trust the products no matter what they are. It's the support aspect of what Panduit brings. It's knowing that people are willing to step in and do whatever it takes to make any situation right."

For Superior Fiber & Data Services Inc., their focus is on being a full partner to NISD. "We're a partnership with all of our school districts," says Superior's Randy Fuller. "We make suggestions, we find ways to save them money, we support their efforts in the community. We work with them on a daily basis."

PANDUIT®

Panduit Corp
World Headquarters
Tinley Park, IL 60487

cs@panduit.com

US and Canada: 800.777.3300

Europe, Middle East, and Africa: 44.20.8601.7200

Latin America: 52.33.3777.6000

Asia Pacific: 65.6305.7575

www.panduit.com