Digital learning takes flight at Abilene, Texas, public schools over AI-driven Wi-Fi

The Abilene Independent School District in Abilene, Texas, strives to offer engaging and effective K-12 education building the knowledge and skills students need to grow into productive citizens. As part of the biggest school bond in its history, Abilene Independent School District (ISD) built four new schools and upgraded 16 schools. The district chose AI-driven wireless networking from Juniper to power digital learning and district operations.

OVERVIEW

Company	Abilene Independent School District (Texas)
Industry	Education
Products Used	AP43, AP63, EX2300, Wi-Fi Assurance, Wired Assurance, Marvis VNA
Region	Americas

CUSTOMER SUCCESS AT-A-GLANCE

17,600
Students, faculty, and staff

20
Schools have Wi-Fi 6, including 13 elementary, 4 middle, and 3 high schools

50,000
Wi-Fi-connected devices, both district-owned and student and staff personal devices

Mist AI
Decreases user-generated network support tickets

● ○ ○ CHALLENGE

A network to support digital learning

"We needed a modern network that was easier for our technicians to manage," says Cary Owens, CTO of Abilene ISD. "Our controller-based Wi-Fi was aging and difficult to maintain."

With cloud-based software and other digital resources a critical part of student engagement, learning, and assessment, Abilene ISD wanted to refresh the wireless networks for its schools and district offices.

Abilene ISD was building the LIFT Center, a sleek, modern, 125,000-square-foot building for a high school and new career and technical center. It was also constructing new elementary schools, including Dyess Elementary, which serves the families of nearby Dyess Air Force Base.

Abilene ISD issued a request for proposal for a complete replacement of its wireless LAN, seeking a secure, scalable, and easily managed solution providing connectivity to as many as 75,000 devices at 42 district locations.

SOLUTION

AI-driven network simplifies network operations

Abilene ISD chose the Juniper AI-driven wireless network solution. With the upgrade partially funded through the U.S. Federal Communications Commission's E-Rate discount program, the district first deployed Juniper wireless networks at The LIFT Center and Dyess Elementary, followed by a complete refresh at the other school sites and district offices.

Juniper wireless access points work in conjunction with the Juniper Mist cloud architecture driven by Mist AI™ to deliver optimized user experiences to students, faculty, and staff. The Juniper AP43 provides high-performance Wi-Fi 6, virtual Bluetooth® LE, and IoT capabilities for indoor operations, including connectivity for mobile devices and IoT sensors, while the Juniper AP63 provides Wi-Fi 6 for outdoor connectivity.

Mist AI simplifies network operations for Abilene ISD's network technicians. Juniper Mist Wi-Fi Assurance automates wireless operations to make device connectivity more predictable, reliable, and measurable. Individual service levels are continually measured, so IT has clear visibility into user experiences in real time. Marvis, the Juniper virtual network assistant, uses natural language to understand intent and delivers actionable recommendations to proactively fix an issue before users know it exists.

Cloud Ingenuity, a solution provider in Texas, designed and deployed the Juniper network. "At a time when our personnel resources were constrained, Cloud Ingenuity was instrumental to the successful rollout of the new network," says Owens.

OUTCOME

Preparing students for a bright future

Abilene ISD's investment in new facilities and instructional technology are an advantage in attracting families and retaining teachers and staff. Enrollment at The LIFT Center is growing, as students seek practical pathways to become carpenters, electricians, software developers, welders, chefs, engineers, auto mechanics, and more.

With Juniper, Abilene ISD can provide high-density Wi-Fi connectivity in its classrooms, labs, gyms, cafeterias, and auditoriums. Wi-Fi is readily available in schoolyards, athletic fields, and other outdoor spaces. Wi-Fi-enabled cameras on school buses support student safety. Wi-Fi is also used for smart climate controls in the new buildings.

Based on its positive experience, Abilene deployed Juniper EX2300 Switches for access-layer networking in portable classrooms, along with Juniper Mist Wired Assurance for simplified management.

> **"Students and staff have a better wireless experience, and a Juniper network is simpler for our technicians to support."**
>
> Cary Owens
> CTO, Abilene Independent School District

Corporate and Sales Headquarters

Juniper Networks, Inc.

1133 Innovation Way

Sunnyvale, CA 94089 USA

Phone: 888.JUNIPER (888.586.4737)

or +1.408.745.2000

www.juniper.net

APAC and EMEA Headquarters

Juniper Networks International B.V.

Boeing Avenue 240 1119 PZ Schiphol-

Rijk

Amsterdam, The Netherlands

Phone: +31.207.125.700