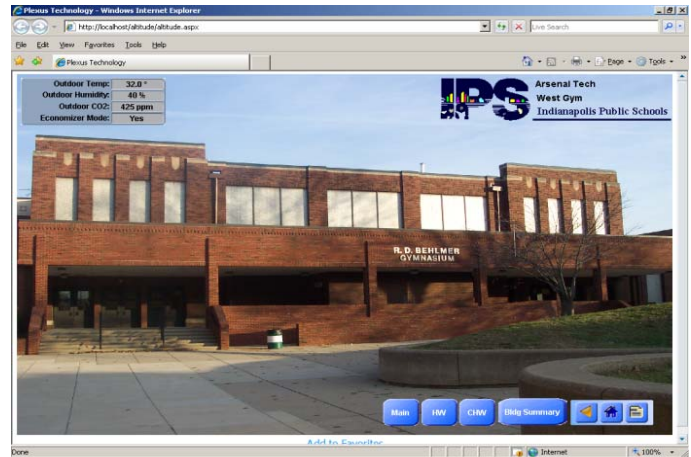# CASE STUDY

Indianapolis Public Schools, Indianapolis Indiana USA

Facility Type: School District

Circon System Integrator: Davis Industries, Inc.

THE CLIENT

Indianapolis Public Schools (IPS) has an enrollment of over 32,000 students and 71 facilities across the school district. IPS offers more magnet and option programs than any other Indiana school system, and specializes in services to meet the needs of all children through vocational education training, alternative programming, and highly trained teachers who are sought after by school systems throughout Marion County.

THE CHALLENGE

IPS has undertaken a major capital improvement project with a 15 year goal to improve comfort and ventilation in the majority of their school facilities. All projects are to incorporate new building automation control systems that report back to the facilities department over the IPS Local Area Network. Davis Industries was the successful proponent and installing System Integrator on six of these project including: Arsenal Tech West Gym, H.L. Harshman Middle School, Gambold Middle School, Joseph J. Bingham Elementary School, Christian Park Elementary School and Charity Dye Elementary School.

THE SOLUTION

The fully integrated, open protocol BAS solution provided by Davis Industries made it possible for IPS to have a seamless and expandable network to control its major facility functions. While each project utilized various types of mechanical systems a common goal to provide adequate ventilation and comfort for occupancy comfort while maintaining energy efficiency was maintained. A measurement and verification system was installed as part of the building automation system which monitored quantity of outdoor air introduced to the space, CO2 levels and energy usage.

The Circon integrated building automation system allows for the selection of best of breed products that are monitored and controlled on a single network. Each facility is connected to the IPS LAN and a web server hosts the graphics, scheduling, trending and alarming for each site. Connectivity to the outside world allows IPS maintenance staff to monitor and control their facilities from anywhere in the world. Each site utilize LonMark Certified devices commissioned using Circon's Network Integrator, an LNS based network management software tool. Multiple vendors products incorporated in each site include: Circon, Echelon, Honeywell, Trane, Carrier, Neurologic, Airtest and others.

THE DETAILS

HIGHLIGHTS

- Delivered a full featured, open and interoperable Building Automation System
- Implemented advanced ventilation control for individual classrooms through IAQ sensing
- A single LonWorks® network
- Provided a cost effective networked solution
- A flexible and adaptable design

- Circon HVAC control products for VAV systems, fan coil units, boilers and chillers
- Provided a control system platform that facilitates future expansion and integration
- Multi–vendor control products
- Web–based control network graphical user interface
- A high level of comfort and functionality

HVAC CONTROLS

→ Integrated multiple vendor control products
→ Provided efficient energy usage
→ Delivered intelligent monitoring and control

Circon programmable HVAC controllers control the main Air Handling Units and the chillers and boilers. Circon Terminal Unit VAV and fan coil unit controllers control terminal units that service each classroom. All HVAC controls are integrated onto a single, distributed network. Davis Industries was able to integrate LonWorks controllers from multiple vendors into the new open system.

SYSTEM MANAGEMENT

→ Central Web Server hosting graphics, schedule, alarming and trending of all sites
→ Provided unlimited user access through any Web browser
→ Integrated into existing IPS LAN

Each facility is connected to the owners LAN using an Echelon i.LON600 or Loytec LIP router. A Plexus web server running Altitude Manager hosts the graphics, scheduling, trending and alarming for each site. Connectivity to the outside world allows IPS maintenance staff to monitor and control their facilities from anywhere in the world.

SYSTEM COMPONENTS

- Circon Programmable HVAC Controllers
- Honeywell LonWorks Terminal Unit Controllers
- Trane LonWorks Terminal Unit Controllers
- Plexus Altitude Web Server

- Circon Terminal Unit Controllers
- Echelon i.LON 600/Loytec LonWorks IP Routers
- Carrier LonWorks Terminal Unit Controllers
- Airtest LonWorks IAQ Sensors

If you would like further information on this case study, Efficient Building Automation Corporation (EBAC), or more on our products and services, please refer to the contact information below.

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