

Utah State Capitol



CUSTOMER BENEFITS

- Expandability, interoperability, and systems integration
- Increased energy efficiency
- Local and remote access
- Enhanced security systems

PROJECT AT A GLANCE

Location:

Salt Lake City, Utah, USA

Project type:

BMS and security

Number of buildings:

4

Equipment:

TAC Vista BMS with LONWORKS®

CCTV

TAC I/NET card access system

Duress/panic system

Facilities staff:

10

Installation:

2008



Utah's citizenry rededicated the state's official "home" in 2008 after a major renovation made it brighter, cleaner and better prepared to last well into the future.

The Challenge

When Utah achieved statehood in 1896, the planning began for the state's Capitol. Inspired by the grandeur of the U.S. Capitol, Utah built its own landmark between 1912 and 1916. Today the Capitol is home to the House of Representatives, Senate and Supreme Court, as well as several other organizations.

Evidence of the attention to detail and deep appreciation for aesthetics – inside and out – abounds at the Capitol. From the copper-covered dome rising 165 feet above the rotunda floor to the sculpted lawns and gardens, the Capitol remains a spectacular centerpiece of a 40-acre campus that overlooks Salt Lake City.

Motivated to protect this state treasure from earthquakes and to ensure its viability for the future, the state approved an extensive, 3-year renovation project. The goal was straightforward: integrate the beauty of the past with the benefits of modern technology while remaining flexible to meet future needs.

GOVERNMENT PROFILE

For government facilities, a building solution that delivers energy efficiency, comfort and security is critical and necessary. TAC's proven solutions and reliable service provide government officials with a controlled, dependable indoor environment backed by savings that help protect the investment of taxpayers.

TAC has proven experience in working with government agencies to take advantage of building management solutions that maximize energy efficiency and performance. This is all part of Building IT solutions for government facilities – designed for economy, operational efficiency and the flexibility to address future needs.

A piece of the larger project translated into implementing a new building management system (BMS) and more energy-efficient lighting, as well as advanced security equipment. In addition, the state specified LONWORKS® technology because this protocol facilitates interoperability among different systems from multiple vendors.

Utah-Yamas Controls, a TAC partner since 1991, submitted a proposal to use the TAC Vista™ BMS, TAC I/NET™ and Pelco security equipment, and LONWORKS lighting panels for the renovation project. Ultimately, the state awarded the contract for this work to Utah-Yamas Controls.

The Solution

Utah-Yamas installed a TAC Vista BMS to monitor and manage all system operations – from HVAC and lighting to air circulation and cold/hot water pumps. The TAC Vista server resides in the Capitol's facilities office and operates on a dedicated IP network. Facilities staff can access the BMS from either a local workstation or via the Web from virtually anywhere.

The BMS dynamically adjusts 14 air-handling units (AHU) and 400 variable air volume (VAV) boxes as needed to ensure proper air circulation throughout the Capitol. Motion sensors on 75 percent of the VAVs, as well as in many of the larger offices and caucus rooms, help control lighting and HVAC systems based on demand. The BMS also controls 35 computer room air conditioning (CRAC) and fan coil units to assure proper operating temperatures in data rooms.

Other equipment integrated with the BMS includes: 20 LONWORKS® lighting control panels to manage interior and exterior lighting; carbon monoxide and ventilation units to assure proper air quality in the parking garage; and power meters using the Modbus protocol to monitor and manage energy consumption.

The TAC I/NET system controls card access to 140 interior and exterior doors in the Capitol, as well as another 60+ doors in other parts of the campus. Card access also controls entry to an underground parking garage.

State troopers monitor and manage an integrated closed circuit TV (CCTV) system and duress/panic system from a separate control center at the Capitol.

The CCTV system from Pelco comprises 90 fixed cameras, 15 pan/tilt/zoom (PTZ) cameras and six digital video recorders (DVR). An integrated matrix bay provides easy access to all equipment on the Capitol campus, including a total of 150 cameras, 20 CCTV monitors, 11 DVRs, and four matrix keyboard control stations. The wireless duress/panic system consists of 50 duress stations, multiple receivers and 10 wireless repeaters dispersed throughout the campus.

The Bottom Line

More than 20 different organizations use the Capitol's facilities. The TAC Vista BMS provides flexibility to meet individual needs with more than 30 options for HVAC scheduling and over 40 for lighting.

Motion sensors detect when certain areas are not being used, automatically turning off lights and HVAC to conserve energy and reduce costs. Airflow stations and carbon dioxide sensors monitor conditions, enabling the BMS to dynamically adjust airflow and the intake of outside air to maintain desirable levels.



This part of the renovation project gave the state what it wanted and needed – unprecedented systems control, flexible scheduling, integrated systems, scalability and dynamic response to changing conditions. These factors will serve this historic landmark well through the 21st century and beyond.