Building Automation Systems

Strategic Energy Monitoring and Planning

Department of County Assets
Facilities and Property Management
12/17/15

Building Automation Systems // Outline

- **Background**
- **About Building Automation Systems (BAS)**
- **Values and Challenges**
- **Video ~ Integrated Engineering**
- **Conclusions and Recommendations**

Building Automation Systems // Background

- **Early 1980's –** Multnomah County begins investing in Building Automation System (BAS) infrastructure
- **1989 -** Competitive selection process awards Landis Gyr-Powers Multnomah County's first BAS contract
- **1994 -** Board Resolution 94-149 granted sole source exemption based upon compatibility with the existing infrastructure
- **Late 1990's** - Siemens Building Technology acquired Landis Gyr-Powers' BAS division
- **2000** – Board Resolution 00-109 granted 5 year sole source exemption to Siemens based upon compatibility with existing infrastructure
- **2005** – Board Resolution 05-209 granted 5 year sole source exemption to Siemens based upon compatibility with existing infrastructure
- **2009** - Multnomah County awarded an ***American Reinvestment and Recovery Act* (ARRA)** grant to integrate and centralize BAS system for energy saving opportunities
- **2011 –** PCRB unanimously approves a 5 year sole source exemption to Siemens based upon compatibility with existing infrastructure.
- **Today** - County's BAS maintenance contract is scheduled to expire **June 30, 2016**

Building Automation Systems // About BAS

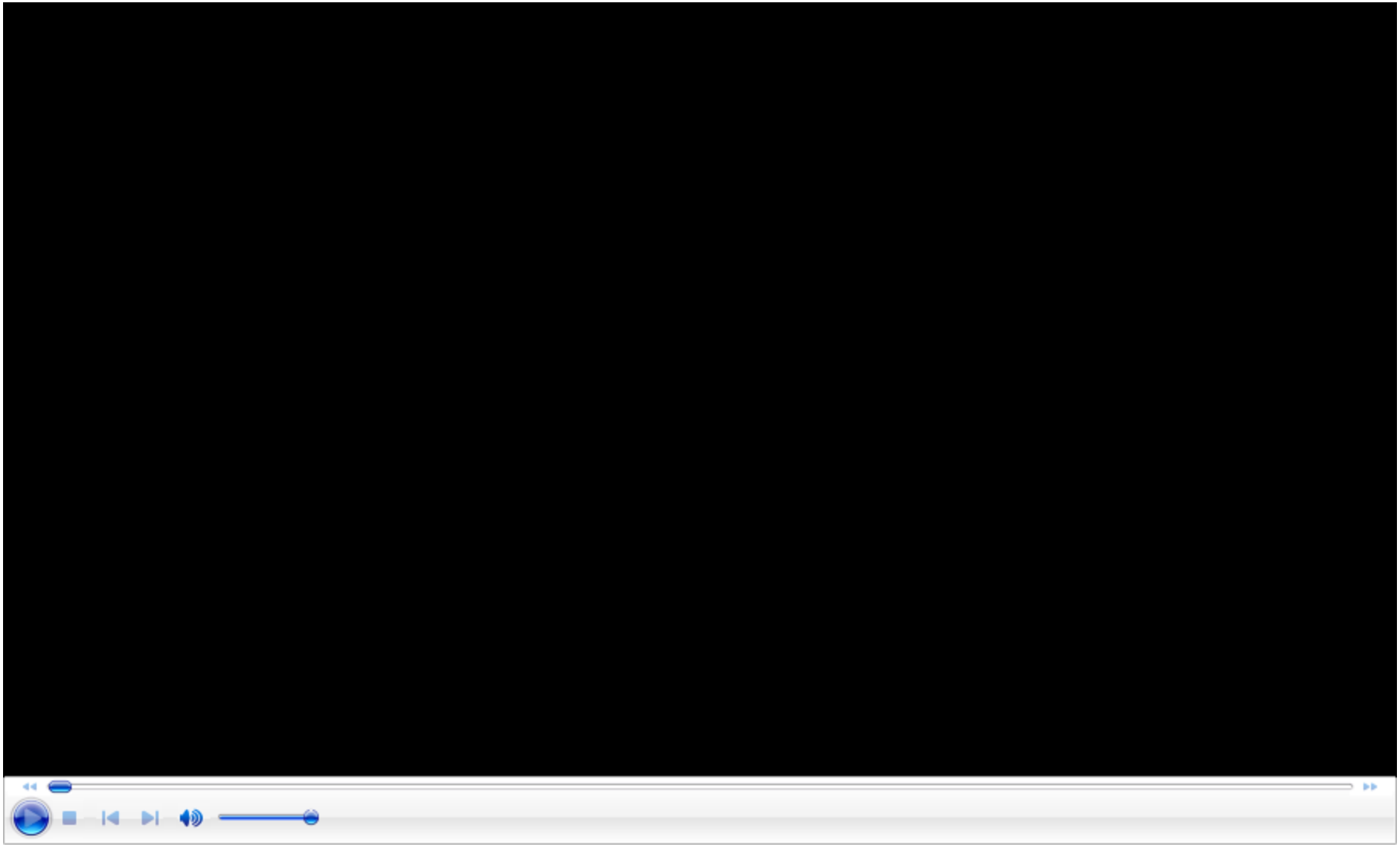
- **Building Automation Systems (BAS)**
  - BAS is an advanced technology for monitoring and controlling the indoor environment
  - Complex system of proprietary software and hardware
  - Multiple sensors measures the environment in the buildings
  - Tied into control panels integrated into a central operating system
  - Operating system resides on the county's secure network

- **Multnomah County's BAS**
  - Consistently invested in BAS System to expand operational and energy efficiency
  - Installed in 40 of the county's largest facilities
  - Currently controls 80% of the county's operating space
  - The County's BAS system is operated and maintained by HVAC Engineers
  - Facilities relies on the BAS to maintain indoor air quality, comfort and efficiently manage resources
  - Dramatically increased response time
  - Efficiencies allow funding to be available for critical services

Building Automation Systems // Values and Challenges

- **Value of Multnomah County's BAS**
  - Upgrades for maintenance and capital improvements are seamless
  - Our system is built on the county's central IT network
  - Our system operates securely behind county IT firewalls
  - County HVAC Engineers can access from strategic locations
  - Support critical County initiatives
    - **Climate Action Plan**
    - **Facilities Asset Strategic Plan**
    - **Energy and operational savings**
    - **Extends lifecycle of machinery**
- **BAS System Challenges**
  - BAS systems are not standardized across the industry
  - Each vendor's BAS system is proprietary
  - Each proprietary system requires its own infrastructure
  - Proprietary systems don't necessarily speak the same language

Building Automation Systems // Systems Integration Video



Building Automation Systems // Conclusion

- **Conclusions**
  - County has an extensive investment in an effective infrastructure
  - Standardized platform unavailable at full capabilities across the industry
  - Multiple vendors requires redundant infrastructure
  - Current system efficiencies saves substantial operating costs that are passed through to critical county programs.

- **Recommendations**
  - Facilities seeks a sole source extension for Siemens to support the County's existing infrastructure
  - Provide opportunity for competing products that complement our existing system in new construction.