Dallas Water: Modernization of water pumping and distribution infrastructure

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Dallas Water Utility

- Provides Water and Wastewater services to the City of Dallas and 31 nearby customer cities
- Approximately 1450 employees
- Rates based on the cost of providing the services
Dallas Water Utilities meets water distribution challenges with the latest from AVEVA

Business Challenges

• Meeting growing customer needs
• Environmental
• Technical
### Business challenges

- **Growth**: 2021 / 2022 - Highest population growth of any U.S. metro - 170,396 new residents
- **Higher population**: Stress on water supply and existing infrastructure = system expansion
- **Climate Change**: Projected temperature increases = additional supply challenges via increased in evaporation
- **Cybersecurity threats**: Threat to service availability
- **Delivery System**: Network / pumping optimization
- **Resiliency**: Aging infrastructure & Aging workforce
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Outcomes Sought
• The latest AVEVA technology
Outcomes sought

- **Quality of Service**: High performance, always available operation
- **Streamline Operations**: Optimize alarming through rationalization and reduction schemes
- **Cyber Safety**: Monitor and analyze network intrusion events (in response a DoS event)
- **Service Resilience**: Optimize process flow and energy consumption using AVEVA PI System dashboards
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AVEVA Products Deployed & Delivered
• SCADA
• Historical
• Cybersecurity
AVEVA products deployed & delivered

- Telvent OASyS upgraded to top-of-the-line AVEVA Enterprise SCADA product
- Two control room AVEVA PI System historical systems fed with real-time data from the field.
- Enterprise PI System synchronized the two control room AVEVA PI System entities, providing timely data for current and post-hoc SCADA field data analysis.
Project implementation

- **Prime Controls**: Integration Prime Contractor
- **Schneider Electric**:
  - SW supply & expert SCADA integration services
  - Cybersecurity Group - Network monitoring intelligent tools, installation and configuration services
  - Custom application ports and improvements (eg host control strategy package)
  - UI upgrade to high-performance graphics.
  - Pump station upgrade support in parallel with the main project
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Challenges Addressed
• Technical
• Business
Dallas Water adopts AVEVA SCADA and AVEVA PI System for water infrastructure modernization

**Challenge**

- Highest population growth of any U.S. metro will require system expansion
- Climate change and projected temperature increases impact on supply
- Cybersecurity threats and service availability
- Delivery system / pumping optimization
- Resiliency: aging infrastructure & aging workforce

**Solution**

- Upgrading pumping and distribution operational support systems with AVEVA HMI/SCADA and data management software

**Results**

- Improved efficiency, reduce maintenance costs
- Hyper availability, advanced alarming, high performance, advanced security capabilities leading to clearer situational awareness and improved operational insight
- High performance, high capability post-hoc data analysis for system fine-tuning and improved procedural analysis capabilities
Conclusion

• **Challenges:** DWU is facing simultaneous population growth and water supply challenges

• **Approach:** DWU is upgrading its pumping and distribution operational support systems with AVEVA Products Enterprise SCADA & AVEVA PI System

• **Outcomes:** DWU is anticipating efficiency and cost improvements
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