



PROJECT PROFILE

SCADA platform virtualization

City of Huntington Beach

Project background

The City of Huntington Beach, California is a full service, predominantly residential city with a population of about 200,000 located in northwestern Orange County. The City owns and operates both the water utility and wastewater collection system serving its citizens. Their assets include 27 sewer lift stations, 10 wells, 5 reservoirs, 16 flood stations, and 9 turnouts where imported water from Metropolitan Water District is resold to several local cities and agencies.

The City has engaged EA through two consecutive, 3-year professional services agreements to provide as-needed SCADA integration and support to the City's water utility department.

Client background

The City's SCADA system, which consists of two separate Wonderware applications and several peripheral systems, was hosted on multiple physical servers. This configuration presented several key risks and drawbacks including reduced security, no host redundancy, and labor-intensive management.

Due to the large quantity of physical servers, EA proposed a solution to virtualize the City's platform, upgrade to the latest Microsoft OS versions, upgrade to the latest Wonderware product versions, and establish a platform replica (test platform) to develop and test changes before deploying to site.

EA solution

The project resulted in a reduction from 13 physical servers to 3 servers with a SAN. The two primary physical servers provide redundancy for SCADA services via primary and standby virtual machines. In addition, EA stratified the SCADA network from one flat network to four isolated networks according to function and criticality.

Before the project was completed, EA guided the City through a Department of Homeland Security SCADA audit of their legacy system. EA cybersecurity knowledge and feedback from the DHS audit workshop were incorporated into the SCADA infrastructure.

Project Manager



Clarence
Go

Project Technical Lead



Steven
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Key Insights:

- Physical server to virtualized platform conversion and consolidation
- Complete platform software upgrade including Windows and Wonderware
- Test platform development Department of Homeland Security audit

Key Technologies:

- VMWare ESXi bare-metal hypervisor
- Redundant and virtualized Wonderware InTouch and Application Server