



Solution Overview

Customer

Palm Beach Aggregates

Industry

Construction Aggregates and Hydro-Storage

Key Benefits of Thin Clients

Withstands Harsh Conditions
Remote Management
Scalability

Applications Deployed

Wonderware InTouch for Terminal Services
IndustrialSQL
Hypack's DredgePack software
Trimble RTK

Markets Served

Paving, Construction, Water Storage

ACP Solutions

Arista MicroBox-5824



About ACP ThinManager®

ACP's ThinManager® is an enhancement to the basic Windows® Terminal Server operating systems such as Windows® 2000 Server and Windows® 2003 Server. The features added by ThinManager® focus on the industrial market, allowing users to replace the PCs they are now using on the factory floor with inexpensive "Windows terminals" that are much easier (and less expensive) to maintain. While any Thin Client will allow multiple instances of existing Windows® software to run on a single PC (the Terminal Server) only ACP Enabled Thin Clients running under ThinManager® provide the functionality, redundancy and I/O required in industrial installations.

Kruse Controls Selects ACP's Thin Client Technology for Dredging Operation

"Supervisors and owners can view reports from anywhere in the world"

— Jay Wise, Kruse Controls

Twenty miles west of Palm Beach sits about 5500 acres that are in need of a good dredging. And after being upgraded with ThinManager Ready Thin Clients, the Sam Houston, owned by Palm Beach Aggregates in Florida, is just the dredge for the job.

There are six pits on the property, ranging in size from 111 to 200 acres. When the Palm Beach County Water Authority purchased water storage rights they specified the contours they required with final depths ranging from 45 to 50 feet. Jay Wise, Ed Pabst, and Doug Coulter of Kruse Controls (the project integrator), along with Chris Branas of Phillips & Jordan (parent company of Palm Beach Aggregates) are building a new automation package on the 30-inch dredge to control swing, ladder depth and stepping ahead. This allows the creation of the specific profile without constant operator input.

The removed material - good quality shell and sand - is being pumped about three miles away to a 1245-acre development site aided by two 4500 horsepower booster pumps. GPS-equipped bulldozers move the material into the final elevation and contours.

Adding Operator Interface Stations in a Harsh Environment

The ThinManager Ready Thin Clients provide the ability to access the system from various locations on the dredge. Rather than individual computers which are vulnerable to the vibration and other hostile conditions of a dredging operation, Kruse Controls used Thin Clients and touch screens. Dredge workers and supervisors are allowed access to various functions based on their level of expertise and authority.

Another client on the below deck allows the engineers to view a daily maintenance list as well as a maintenance list for all the equipment based on hours of operation. The customer plans to add several more Thin Clients at other locations on the dredge. The clients are mounted in out-of-the-way places, but if one is damaged it is easy and inexpensive to replace with only a minimum of lost time.

Operators have the ability to view real-time operating information associated with the starboard and port winch torques, dredge pump, cutter, auxiliary equipment and boosters, as well as daily production reports, shift production reports, downtime reports (specifying reasons for downtime), efficiency reports and production trends.

Another Benefit - Off Site Monitoring

These reports are emailed from two industrial servers on the dredge to any owners and supervisors who require the information. In addition, with proper passwords and authorization, they can log into the system to view the dredge in operation, and query real time reports from anywhere in the world using a simple web browser.

Two industrial servers on the dredge run Wonderware's InTouch for Terminal Services, Industrial Application Server and IndustrialSQL Server, as well as Hypack's DredgePack.

Future Plans

Also in the works is integration of the booster pumps into the operating system, using wireless Ethernet. Kruse Controls has completed automation on Booster 3, which is not yet in service. There are two boosters in use and the third will be added as the pipeline is lengthened. All the boosters will follow the dredge pump speed, biased by each individual booster intake pressure.

These pumps are now started and stopped manually by the dredge operator, in communication by radio with engineers monitoring the pumps. This is an exacting and difficult job, given the size and horsepower of the pumps.

Palm Beach Aggregates is now achieving 19 hours of operation per day and producing 1,000,000 to 1.3 million cubic yards per month. This is a result of good management and maintenance, the technical expertise of Jay Wise and the other engineers at Kruse Controls, and, of course, ACP's ThinManager software.



ACP®

