Critical Water Operations: Moving Forward with a New Setup

One of Ireland's Largest Pharmaceutical Companies Deploys New Thin Client Infrastructure.

Solution Overview

INDUSTRY Pharmaceutical

ISSUES Old and failing PCs
PC management

ACP SOLUTION App-Link,
Mirroring,
Shadowing

cim

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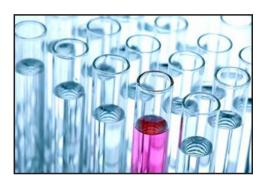Phone: +353 1 8853400
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When it came time to replace old PCs that had been used to manage the critical water operations at one of Ireland's largest pharmaceutical companies, they called on SolutionsPT and Control & Information Management Ltd (CIM) in Dublin to recommend a new path forward. The customer needed to replace the system they were using to control the clean water input and the wastewater output for all of their facility's processes. Both were GMP systems, critical to the site's operation, providing water to the multiple buildings located at the site.

Once it was determined that the customer wanted to take advantage of centralized technologies like VMWare and Terminal Services to deliver applications to thin clients, CIM didn't hesitate to recommend ACP ThinManager for the job.

Pain Points
It wasn't just the fact that the PCs were old and failing that brought on the switch to thin clients. It was taking an enormous amount of time to manage the PCs (updates, patches, etc.) and when one would fail, as they often do in harsh production environments, the downtime was costing everyone.

By centralizing the applications and OSs onto terminal servers, CIM would be able to deploy more rugged thin client devices as end user terminals. With no fans or hard drives, these units would be able to stand up much better than their PC counterparts.

CIM chose to deploy Advantech UNO units that are ThinManager-Ready. This means that they could preconfigure each client prior to deployment and easily change configurations on the fly to fine tune the system to operational efficiency in a very short amount of time.

A New Setup
Replacing the legacy InTouch SCADA system with InTouch version 2012 R2 running on terminal servers proved a smart move, but CIM needed an efficient way to manage the terminal servers and the deployment of the HMI to the new thin client terminals.

Initially the setup was four terminal servers and five thin clients. The servers were virtualized and located in the central manufacturing virtualization environment, VMWare ESXi. The servers were setup as redundant pairs to ensure the systems maintained the maximum uptime. One server pair ran the water for production SCADA and the other server pair ran the wastewater SCADA. The thin clients were located in a number of control rooms around the site. This setup would determine if the customer would move on to using thin

clients to run the entire plant.

James Syder from CIM shared how this decision was made. "We heard about ThinManager from Solutions PT and a project we were working on for another client. They were being managed by a U.S. company that already used ThinManager and told them it was really good. We originally used it strictly for the terminal server redundancy, but then we found out about App-Link, Mirroring, Shadowing and the other powerful features and thought this is something we need to be using with every Terminal Services project and include it in our package offering."

"We had done Terminal Server environments before and the one thing that was always tricky about it is that you have 10-15 clients and you start setting them up one at a time. Then you get through about half of them and you realize that you missed something on the first one. So you go back and start again. With ACP, you do it all in one place and just fire it up when you're ready."

"If we had to change something, we could just change it in one place and not have to return to each individual terminal. It's one thing to walk around to a bunch of thin clients in an office, but it's another when you have to walk across a large facility with multiple buildings and go up and down stairs. It's time-consuming."

Quick Replacement Proves the Better System

"There has only been one client failure since the installation, and it was replaced so quickly that it actually took longer to physically retrieve the client from storage than it did to plug it in and start using it," Syder mentioned. The time and money saved from this one replacement covered a large part of their ThinManager investment. The customer had stated that in the past it took up to five days to replace a unit in that capacity. The thin client did not have to go through the validation procedure since the

applications running at that terminal did not have to be reinstalled or reconfigured. They were actually still running in the terminal server environment and came right back up once the new thin client was in place and powered up. Syder described it like this, "The whole thing was more like replacing an I/O card in a PLC. Just a simple swap out with limited paperwork to accompany the hardware change."

Syder also spoke of how the ThinManager shadowing feature has increased productivity at the plant. "The customer has been able to really increase visualization into their process by taking advantage of the shadowing feature from ThinManager. Engineers can now easily support operators from other locations by shadowing the operator session from any terminal on the ThinManager network. This saves a tremendous amount of time that the engineers would normally have to spend traveling from terminal to terminal for troubleshooting."

Moving Forward

When asked if the customer has any plans to use a mobile solution like ThinManager's Relevance solution, Syder said they see the benefit of using a mobile solution to get around the expense of having so many fixed HMI terminals.

"Thin clients alone have helped overcome some of this," Syder said. "In certain areas where they used to have three PCs to control and monitor part of the process, they now have a single client running multiple sessions. Mobile would be even better. It is on their radar."

Since this initial install CIM has also upgraded the facility's tank farm, and it is now running on a 12 client system managed by ACP ThinManager. Syder concluded, "From this initial project the customer has seen the savings the technology offers and have gone on to use it again and again."