ACQUIRED DATA SOLUTIONS

SOLUTION

To upgrade the source code ADS identified all software drivers needed to deploy each application.

- ✓ Virtual Machines (VMs) were used with software-simulated devices to test the application in a clean Windows 10 environment to ensure all drivers were correctly identified.

- ✓ The VM deployment tests debugged the software installation and helped recognize ActiveX libraries that were needed to run the application.

- ✓ The external hardware solution utilizing PXIe technology to replace the embedded devices. The PXIe system included a PXIe chassis and compatible PXIe modules to replace the PCIe devices.

- ✓ A MXI interface, via a thunderbolt connection, was used to connect the Windows 10 computer to the PXIe chassis and PXIe modules.

VRLTC Tap Changer

PBA II Bushing Potential Device

CASE STUDY

ADS Successfully Refactored Legacy Transformer Equipment Testing Systems for a Global Technology Manufacturer

OVERVIEW

ADS was hired by a global technology manufacturer to refactor multiple legacy testing systems for transformer equipment including load tap-changers and bushing potential devices. ADS was tasked with upgrading the source code to run on Windows 10 computers as well as replacing the embedded PCI devices with an external solution.

THE CHALLENGE

The client needed multiple hardware and software upgrades to modernize and improve the performance of the tests. The tests analyze the ability of the equipment to meet operational requirements before delivering the unit to customers. The tests utilized custom-developed LabVIEW software to control and acquire data from various serial devices and Programmable Logic Controllers (PLCs). Additionally, the test systems used PCI Data Acquisition (DAQ) and control devices, embedded in the computer chassis. The client needed the source code to run on Windows 10 computers and have the embedded PCI devices with an external solution replaced.

CONCLUSION

ADS traveled on site to the manufacturing plant to assemble hardware, install the custom applications and software drivers, and confirm operation of the upgraded test systems. ADS also set up SQL server interfaces to product databases and OPC server interfaces to the PLCs. The refactored systems were successfully upgraded to Windows 10 and utilized external PXIe hardware. An installation package including the custom applications, software drivers, and instructions for hardware and software installation was delivered to the client to complete the project.