Cogeneration Plant

ARF (American Ref-fuel) the loading congeneration utility company in the USA has several power plants in the North East US while their corporate headquarters is in Houston, TX. With aggressive buyouts, ARF bought some Westinghouse power plants which burn waste to generate clean power. They have 3 gas turbines and steam turbines(MW) for power production. ARF helps keep the country environmentally clean by burning the city trash. The real time data from these turbines, boilers and bunch of other anciliary devices has to be monitored and carefully controlled. ARF engineers have always wanted to stay at the forefront of technology and have standardized on using Microsoft products for all desktop applications, "The strict federal and state laws for plant emissions necessitate an immediate, accurate and consistent reporting of all the critical plant data" according to Ron Hitzel, the principal I&C engineer for ARF. To accomplish this a latest state of the art windows based system was required that also can handle the very large quantity of real time data (about 500 floating points) to be read from their PLCs and DCS. ARF chose Parijat Controlware, Inc. (Houston, TX) to use Microsoft's flagship Visual Basic as a challenge to accomplish this task. By using VB5, the industry's established standard, there was no need to use DDE or any exportation or conversions of data for reporting etc. Custom reports may be developed using MS Reports Designer or Crystal Reports, a built-in engine for reporting. The database used was Microsoft SQL Server, another built-in feature of VB for relational desktop databases. Parijat developed the communication driver for WDPF as an ActiveX component and also the application using VB5. ARF engineers developed all the process graphics themselves as VB forms and linked VB controls with WDPF points @ VB design time without any VB programming and without using antiquated DDE technology. Parijat provided the VP Kit, a utility product developed in VB for SCADA and HMI applications which has alarming and trending capabilities built in and may be completely modified by the end-user. "The response time is better than the proprietary legacy HMI products that we have currently in use at some of our other plants" says Ron Hitzel. The whole project (including the driver development) was developed for a cost less than the cost of the proprietary legacy HMI products of other vendors. "This is ARF's product and we are free to modify, and distribute the runtime copies of the product. We do not have to mess with any software protection keys and have to contend with any limits on "Tags" or point quantities to deal with. Microsoft's products with Parijat's help have made this possible. ARF system is going to grow with Microsoft for any future operating systems or any future versions of VB. We never realized that this $89 product (VB) that almost everyone already has, can be so successfully used for applications where most expensive proprietary HMI packages failed. We can configure the displays (VB Forms) much like the legacy HMI products and the screen updates are extremely fast." Says Ron. ARF's system involves a server at Pennsylvania and several PC's in Houston office. Only one computer requires VB for development purposes.

The other client PC's , networked via company's Intranet have only Windows OS and the VB executable application. Previously properietary HMI package, DDE communication server, MS Office, and PC Anywhere had to be used. The VB executable is performing the necessary functions of all of these products in one single application. ARF has plans to use VB for some of their continuous emissions monitoring applications also.

"We have helped several of our Fortune 500 corporate clients worldwide in similar situations by using native Microsoft products to perform what was not possible by the leading proprietary HMI products without compromising anything" says Rakesh Verma, one of the principals of Parijat.

7/28/16

General Info about PCI products/projects: Click here
Parijat License: Click here
Tech-support on PCI drivers: Click here