SAP® Certified
Integration with SAP NetWeaver®

SELF-TESTED
FOR COMPLIANCE
OPC FOUNDATION

PETROCHEMICAL REFINERY

Overview

This company is a government owned integrated Oil and Gas Company engaged in the principal activities of the exploration for, development of and production of hydrocarbons and the manufacturing and marketing of petroleum products.

The company operates a refinery which has a capacity of 190 thousand barrels per day (30,000 m3/d). The refinery is powered via a number of electrical substations which provide power for a number of refinery units including; Crude Distillation Units, Catalytic Reforming Units, Catalytic Cracker, Steam Plants, Control Room and Medical Centre, among others.

The Challenge

This Oil & Gas Company has a SCADA system used to monitor 115 medium voltage Circuit Breakers at nine different electrical substations. For each breaker, the Voltage, Amperage, Kilowatt, Frequency and Power Factor are monitored and also recorded inside a SQL database. This circuit breaker data is made available via an OPC DA server installed on the same server.
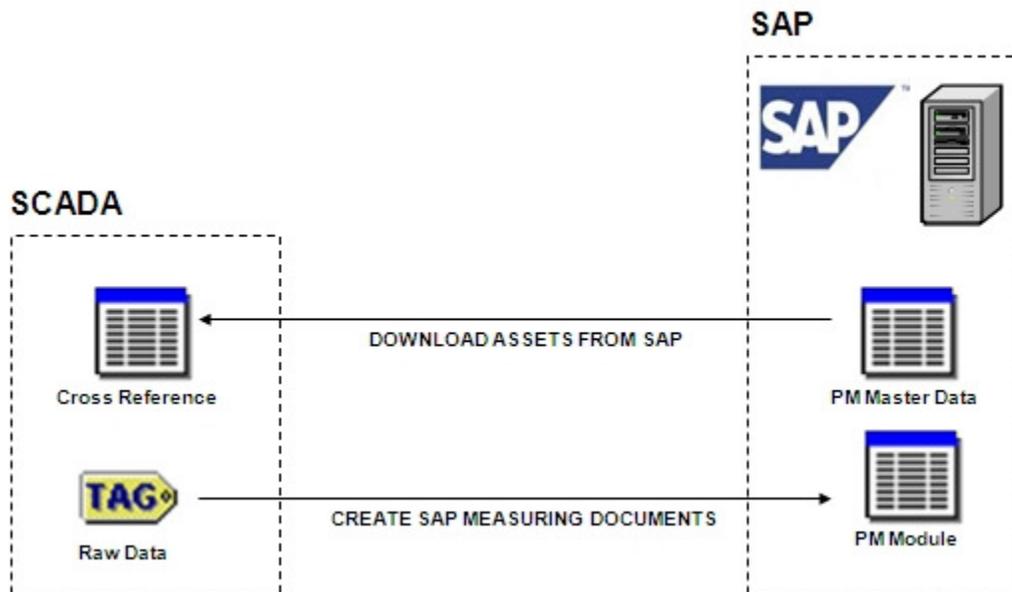
The customer wished to take the raw operational data from the circuit breakers and load these data as Measuring Points into the SAP PM Module. The SAP PM module Measurement Documents had been pre-configured by the customer and the requirement was that the SAP PM module should receive the raw circuit breaker data in real-time and analyze it to create SAP Work Notifications based upon detection of any out of tolerance values.

The Solution

The functional requirement for the NLINK OPC to SAP Solution was to download the Measuring Points from the SAP PM module and build a cross-reference table between SAP Functional Locations and the OPC data tags. When new circuit breaker data is received by the OPC server, these data are passed to the NLINK OPC to SAP Solution which applies the cross-reference and then loads these data into the appropriate SAP Measuring Points.

The delivered *NLINK OPC to SAP Solution* provided four distinct SAP interfaces:

SAP Interface Description

Download Asset Master from SAP, where the Functional Location, Equipment and Measurement Point structure for a given Planning Plant is retrieved from SAP to make it easy to assign OPC Tags to the Measurement Points they should post readings against.

Create SAP Measuring Documents, where measurement data (such as pump run-hours, etc.) are posted to SAP Plant Maintenance via Measurement Documents against existing Measurement Points on Equipment or Functional Locations. The posting can be subject to:

- A Condition Threshold that must be crossed, such as a number of readings exceeding a particular value within a set amount of time.

- A Re-issue Interval that prevents posting multiple measurement documents to SAP within a certain time period.

- An Update Interval that allows measurement documents to gather for a length of time and then post to SAP periodically.

Activity Logs, summarizing the readings that cause a posting to SAP, the data posted, and the results are written to text files and/or the individual activity log messages are sent via e-mail as alerts.

For this customer, measured data provided by the OPC server included such physical characteristics as: Voltage, Amperage, Kilowatt, Frequency and Power Factor.

Benefits

The *NLINK OPC to SAP Solution* was able to provide this customer with a cost-effective, out-of-the-box supported solution that completely automated the required interfaces between the SCADA and SAP systems.

All services work performed by Junot Systems professional services group was done remotely from the US without any Junot Systems personnel required to make an on-site visit the refinery. This approach greatly reduced the cost to the customer while simultaneously speeding up the time to deployment.

About Junot Systems

Junot Systems, Inc. is a specialist provider of SAP integration solutions for the manufacturing and process industries. Headquartered in Houston, Texas, Junot Systems, Inc. has deployed and supported its NLINK product suite for over 15 years in a variety of vertical markets, both in the US and overseas.

About Junot Systems' Solutions

NLINK® is a configuration-based product suite that installs in minutes and requires absolutely no custom coding to be deployed. NLINK's patented and SAP Certified Interfaces work with any version of SAP and require no additional SAP components to be purchased or installed into the SAP landscape.

NLINK is a registered trademark of Junot Systems Corporation. SAP is a registered trademark of SAP AG. Other names of actual companies and products mentioned herein may be the trademarks of their respective owners.