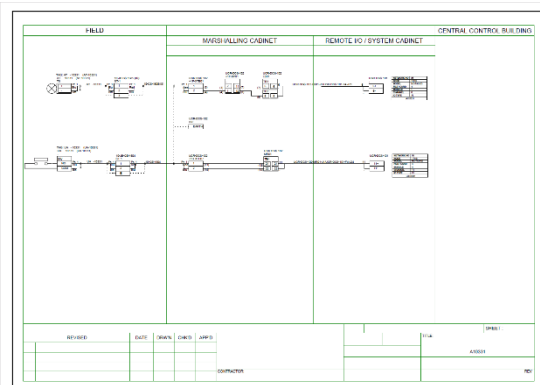# Database Merging for Smart Instrumentation

Data Migration and Transformation

Summary

Under this service, TecSurge consolidates multiple SmartPlant Instrumentation databases into a single database, simplifying access to key plant information, and streamlining future modifications and changes.

Original Loop Drawing from Project SPI Database

Differentiators

- Extensive SmartPlant Instrumentation expertise and in-depth industry knowledge
- Fit-for-purpose use of standard product functionality (such as the merging and import utilities), and proprietary automation tools
- Experience working with a wide range of SPI versions and database sizes

Challenges

Many plant owners have standardised on SmartPlant Instrumentation as the key application for instrumentation and control systems design data. Typically, projects are required to hand over instrumentation data in SPI format, and are given a snapshot of any existing SPI database as an input (for brownfields projects).

Unfortunately, there are several common scenarios that can cause this approach to become more complicated:

- Intellectual property controls may restrict the owner to providing the EPC with a "seed" database, rather than a full copy of the existing data set.
- Scope of work separation between the EPC and control systems vendor, or between multiple EPCs, may require each organisation to work in separate copies of the SPI database.
- Changes to the existing plant database may be required while the project is underway.

Any of these scenarios can easily lead to a situation where the owner is left with multiple SPI databases (sometimes even from different SPI software versions), representing data generated from different projects, scopes or points in time. This makes finding accurate information, or integration with other plant systems extremely difficult, devaluing the investment in the application.
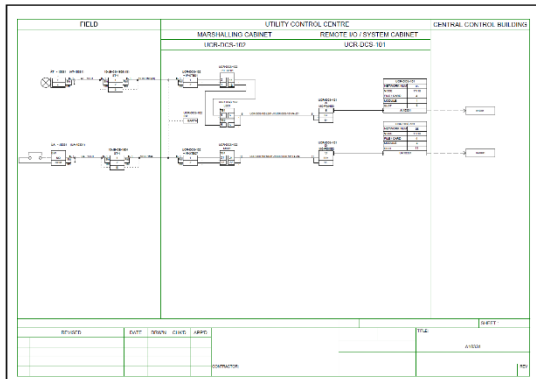
Merging (and upgrading, if necessary) these multiple databases into a single, consistent SPI database is the obvious solution, however this is not a simple task, and requires specialist knowledge and expertise to accomplish.

Deliverables

A typical project completed by TecSurge will result in the following deliverables:

- Updated and consolidated SPI database
- Output documents from the original database which have been merged, including:
  - o Loop Drawings
  - o Specification Sheets
  - o Wiring Diagrams
  - o Hook Up Diagrams

Migrated Loop Drawing after Database Merging (with wiring changes)

Other deliverables such as issue logs, minutes and management reports are also typically generated and issued for client review.

Work Process

TecSurge applies a two-stage approach to database merging projects. In the first stage, the databases are merged together, and this work is performed wholly by the TecSurge services team. In an optional second stage, discrepancies resulting from the merging stage are resolved, and this work can be completed by TecSurge, or by the owner's instrumentation engineering team with support from TecSurge if preferred.

Stage 1: database merging

During a kick-off meeting, TecSurge will clarify the background and intent for the merging requirement, to better understand which data needs to be preserved, removed and/or made compatible with the master database.

Next, TecSurge will check compatibility of the source and target databases and issue a report to the client containing incompatibilities or changes required to complete the merge successfully.

Based on client feedback from the report, TecSurge prepares the source database, applies the necessary adjustments, executes the database merge, and issues a summary report to the client. Any issues which cannot be resolved at this point are identified, to be resolved during the second stage.

Finally, TecSurge generates all the documentation of the newly merged data and issues to the client for review.

Stage 2: inconsistency resolution

TecSurge prepares and submits an estimate and scope for this second stage based upon the inconsistencies to be resolved as identified in the first stage.

Upon approval, TecSurge resolves the inconsistencies, working with the client instrumentation engineering team to resolve any further technical queries as necessary

TecSurge delivers the merged, consistent database to the client for review and project completion.

Quality Assurance

TecSurge applies standard SPI database verification tools to ensure error-free project completion. In addition, selected project deliverables are generated and visually reviewed before being submitted to the client for review and approval.

If this service describes your situation, and you're able to provide the engineering inputs and answers to the questions listed here, please contact us today to discuss your options. Let's talk.

Contact us

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