

Change Management Systems – Is There a Better Way?

Richard Hunzinger
B-SCADA, INC | CRYSTAL RIVER, FL

Imagine if a type of hardware used in your process has proven to be ineffective and you've decided to replace it with another model. Not only does the hardware change, but changes must be made to your overall control logic. This is likely to require changes to your PLCs, your SCADA system, and your HMIs. And what if the new equipment is even less efficient and you decide to roll back to the previous version? All of these control logic changes must be undone.

Change Management Systems

These concerns have become of such major importance that many companies are investing thousands of dollars and countless man-hours in software designed specifically to help manage plant-wide changes. These Change Management Systems are intended to reduce the overall cost of implementing plant-wide changes by automating as much of the process as possible. A good CMS will provide the following features:

- A backup/archive of prior revisions of programs
- Tools for documenting changes
- A historical record of what and when changes were made, and by whom
- User- or role-based permissions determining who is able to make changes
- Disaster recovery procedures to recover from hardware failures
- Notification of changes

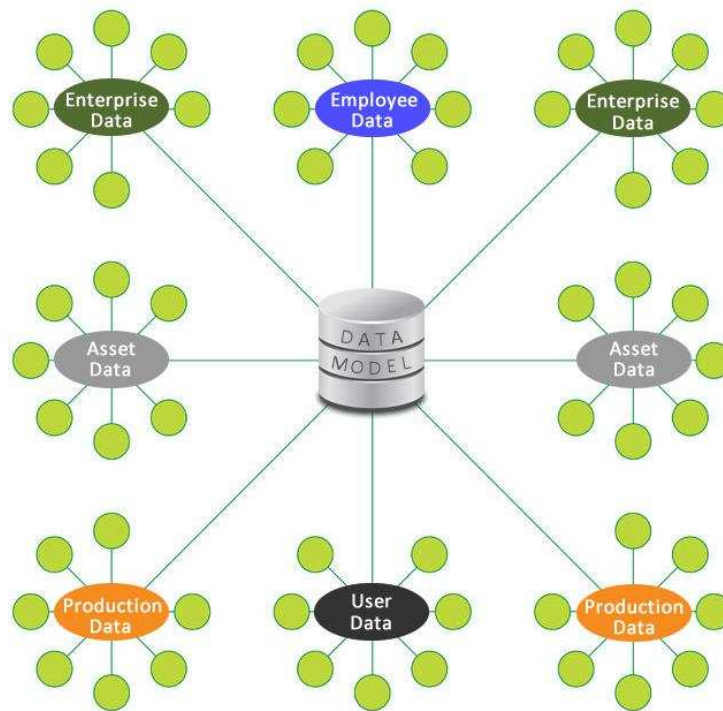
These change management functions have been performed manually in most cases, requiring enormous investments of time. Furthermore, the updates made to PLCs and SCADA systems typically require taking the process down while changes are made. This inevitable downtime creates another enormous gap in profitability. Even when a sophisticated CMS is employed, there is no way to avoid the fact that traditional SCADA and HMI systems are inextricably linked to the hardware that they are monitoring. Any significant change will require taking the entire process down and starting it up again after the changes are fully implemented.

Is There an Alternative?

If it seems that change management is just a fancy new way for software developers to make more money on some unnecessary product designed to solve imaginary problems, just think about what would be involved in making plant-wide changes in your enterprise. Would you have to make changes to your SCADA system? How long would that take? Would you have to update your HMI screens? How many of them? And how long would you have to take the process down in order to make these changes? Consider the cost of the labor. Consider the lost production due to downtime. And imagine if the change you made does not produce the intended result, and you want to roll the process back to a previous state. How much more time and money would that cost?

The benefits of change management are various and undeniable, but is it possible to realize

these benefits without introducing another management system - another system that will itself need to be managed? What if your HMI/SCADA system allowed you to manage plant-wide changes with ease, and without extravagant investments in labor or lost production? One way this is possible is through the concept of Data Modeling. By creating a logical model of your plant and your processes, your control logic is abstracted away from the actual hardware and becomes much more flexible and scalable. A change made to a piece of equipment in your data model will automatically be in effect for anyone who is using that model. Data modeling also allows you to create templates of your HMI screens that can be used for all assets of the same type, so instead of making changes to dozens of different screens a change can be made to the template and will be automatically applied to all instances of that template. And since graphics are bound to data in the model instead of actual hardware, changes can be made to your HMI screens without taking the process down. As today's enterprises become more automated, and as more data points become measurable, a SCADA system that employs data modeling is becoming more and more of a necessity. The good news is that such a system will surely pay for itself in a short time as efficiency is increased and downtime is reduced, providing a significantly lower total cost of ownership.



Data Modeling is becoming more of a necessity in today's data-driven enterprise

The need for a CMS can be eliminated in many cases by using an HMI/SCADA system that employs data modeling. And while data modeling alone will not replace the full range of features

provided by a quality CMS, many of the benefits can be duplicated, and additional benefits can be derived from the ability to perform these change management tasks from inside of your SCADA system without having to deploy a separate system.

Consider the example of B-Scada's Status Enterprise HMI/SCADA software, which takes full advantage of the data modeling concept. Status Enterprise allows you to deploy system-wide changes with ease, and allows these changes to be logged and accessed later for review. The packaged Database Utility allows you to create regular backups of your model and mimics so that they can be rolled back to an earlier version should the need arise. You can create user roles and workspaces to determine who has access to what information and what capabilities will be allowed. By combining the power and efficiency of high-quality SCADA software with the sophistication of data modeling, it is possible to incorporate capabilities that bridge the gaps between process control, maintenance management, change management, asset management and resource planning. With the dawning of the new interconnected industrial environment, industry 4.0 or the 'Internet of Things', there has never been a better time to change your expectations about SCADA software and what it can do to bring your enterprise into the 21st century.

