

# Creating a Functional Process Control Configuration in HFM

*Designing and deploying a user-centered Process Control module helps an oilfield services company keep precise and essential controls on their data*

## Background:

### About Complete Production Services ("CPS")

Complete Production Services is one of North America's leading oilfield service providers, offering all-inclusive field support solutions, equipment and well-production optimization and enhancement to the world's largest oil and gas companies.



Based in Houston, Texas, CPS provides both technologically innovative and time-tested methods to develop hydrocarbon reserves, reduces operating costs and enhances oil and gas production by calling on its local basin expertise and leadership in the major oil and gas regions from Canada to Mexico.

## Business Issues:

In 2006, CPS rolled out Hyperion System 9 ("HS9") Financial Management ("HFM") to consolidate the financials of their divisional entities and meet management reporting requirements.

In November of 2007, CPS decided that in order to standardize the finalization of the actuals,

provide additional security control on the data and maintain SOX compliance, they needed to employ the Process Control feature available within HFM. This would allow users to verify data for their units of responsibility and pass access control to the next reviewer(s) established. At each level, only the specified reviewer(s) has the ability to modify the data until the process unit is passed along to the next level. Ultimately, the data is approved, published and locked down. Additionally, an electronic audit trail is now available for internal audits of both the data and the process.

## Implementation Process:

### Diagnosis:

Percentix was selected to design and deploy the Process Control configuration as our consultants had contributed to the HFM implementation for CPS. Design options were considered and created after a review of the application's metadata and security setup and a complete module requirements gathering.

The biggest challenge faced with CPS's requirements was the multi-level nature of the users functioning as data reviewers. For example, User A might need to be Reviewer 1 for Entity X, but need to be Reviewer 2 for Entity Y. When assigning roles to users or groups in



Shared Services for HFM, the assigned role is not restricted according to security class rights.

Therefore, if User A is given both Reviewer 1 and Reviewer 2 access, the user would have both roles for every entity she has been assigned "All" or "Promote" data access. This would not be a functional design, nor would it be compliant with SOX regulations. A different kind of setup was needed.

CPS wanted to start using the Process Control module by the next week, and have a fully functional and documented procedure by the following week. After an on-site application review and design discussion, Percentix proposed a comprehensive solution to meet the needs of management while remaining SOX compliant.

The first major component to the solution was a reengineering of the existing user groups and subsequent security provisioning. CPS already had a functioning security configuration centered on the entity structure. Essentially two user groups existed for each class created for the entity dimension: one for data entry, one for data viewing. The need for process control reviewers would elaborate on the first group, requiring new user groups to be created.

**Design:**

At the time of implementation, CPS needed 5 review levels in all. Due to the fact that "Submit" and "Approve" steps are required steps before the data can be "Published" (thereby giving view access to all users with Read/All/Promote data access), the roles utilized would need to be Reviewer 1 – 3, Submitter and Approver. Distinct users groups were created to reflect this.

For CPS, the roles of Submitter and Approver were consistent and presently needed by only one user each, so two new groups were created to house each role, and one user assigned to each. The review levels, however, were both inconsistent in quantity across the entities and in named reviewer.

One entity may need just one Reviewer before being promoted to the Submitter while another would need three. And, as mentioned, User A may need to be Reviewer 1 in one case and Reviewer 3 in another.

The solution called for a way to assign each user/group a single reviewer role and still have a functioning Process Control module. The combination of a creative security design with email alerting and administrator-designed review level tracking grids created a functional workaround.

The security provisioning took on a right-to-left sort of perspective in that if only one review level was needed, that review level would be the last review level available, three. If two were needed, levels 2 and 3 were utilized. The diagram below shows a simplified excerpt from CPS's consolidation structure:

Entity	Security Class	Process Control					
		START	REVIEWER 1	REVIEWER 2	REVIEWER 3	SUBMIT	APPROVE
Complete Production Services Consolidated	Class A	Admin				John	Chris
Complete Energy Services Consolidated	Class B	Admin				John	Chris
Mid-Continent Consolidated	Class C	Admin			Lauren	John	Chris
MC 1	Class C	Admin			Lauren	John	Chris
MC 2	Class C	Admin			Lauren	John	Chris
MC 3	Class C	Admin			Lauren	John	Chris
MC 4	Class C	Admin			Lauren	John	Chris
MC 5	Class C	Admin			Lauren	John	Chris
Rockies Consolidated	Class D	Admin	Tom	Mike	John	Chris	
R 1	Class E	Admin	Jason	Tom	Mike	John	Chris
R 2	Class F	Admin	Kelly	Tom	Mike	John	Chris
R 3	Class G	Admin		Tom		John	Chris
Parent A	Class H	Admin	Michelle	Tom	Mike	John	Chris
R 4	Class H	Admin	Michelle	Tom	Mike	John	Chris
R 5	Class H	Admin	Michelle	Tom	Mike	John	Chris
R 6	Class H	Admin	Michelle	Tom	Mike	John	Chris
R 7	Class G	Admin		Tom		John	Chris
IPS Consolidated	Class I	Admin			Kate	John	Chris
Total United States	Class J	Admin		Fred	Kate	John	Chris
US 1	Class J	Admin		Fred	Kate	John	Chris
US 2	Class J	Admin		Fred	Kate	John	Chris
US 3	Class J	Admin		Fred	Kate	John	Chris
US 4	Class J	Admin		Fred	Kate	John	Chris
US 5	Class J	Admin		Fred	Kate	John	Chris
US 6	Class K	Admin	Brad	Fred	Kate	John	Chris
US 7	Class J	Admin		Fred	Kate	John	Chris
US 8	Class J	Admin		Fred	Kate	John	Chris

This method of provisioning allowed for users/groups involved in process control to maintain a single process control role. However,



this presents another challenge: the grey boxes indicate role/entity intersections where no named user exists.

These are process control actions that need to be taken by the application administrator.

To facilitate this task, a set of data entry grids were created: one grid for each review level with the relevant entities included in the rows and the data view set to review level. For example, entities MC 1- 5 would be included in one grid entitled "Promote to Level 3". After the admin has promoted these units to level 3, Reviewer 3 (Lauren) has the ability to access the data, revise if needed, and promote to Level 4 (where John would then submit to Chris).

In certain instances such as entity R3 and IPS Consolidated, the admin cannot take all necessary actions at the beginning of the process control initiation. In the case of R3, Tom must first verify and promote the data. In the case of IPS Consolidated, all child entities must be promoted to Level 3 before the parent can be promoted. Additional data grids with specific names were created to easily distinguish these entities as delayed action entities.

Email alerting was employed so that all users were immediately notified when a process unit was available for review. In the case of the admin, a tailored alert system can be created externally using the corporate email forwarding rules. For example, Tom can setup a forwarding rule for when he receives his confirmation email after promoting R3 so that the admin is alerted in this relevant instance (as opposed to whenever any entity is promoted).

## Deliverables:

The deliverables for this Process Control implementation included metadata revisions, user group creation, security configuration, data grid creation and user guide documentation. Additional documentation such as security tables like the one pictured here were provided for easy future reference by the application administrator.

## Deployment:

Percentix consultants' extensive HFM implementation experience and detailed product expertise led to a successful completion of the Process Control module in just 2 weeks.

UAT and training began in the second week as all details, questions and challenges were addressed and resolved.

## Contact Information

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