
Brick House: Structuring Eqptmt & Technical Objects in SAP Plant Maintenance

Implementing SAP`s Plant Maintenance module? You`ll want to first review Warren Bell`s article on Structuring Equipment & Technical Objects. He deftly maneuvers through challenging decisions that the PM team will face. Warren explains that most firms want equipment & technical objects structured according to their production process, while SAP views it hierarchically. He stresses that the structure needs to be formed in such a way that lower & upper echelons are associated along business boundaries. Failing to carefully think through the planning stages means possibly having to restructure objects, which can end up costing the company a significant amount of time (and thus dollars).

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A Brick House: Structuring Equipment and Technical Objects in SAP® Plant Maintenance

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Editor's Note: *If you're considering implementing SAP's Plant Maintenance module, you'll want to first review Warren Bell's article on Structuring Equipment and Technical Objects. With more than ten years of PM implementation experience, Warren definitely knows what he's talking about. He deftly maneuvers you through the challenging decisions that the PM team will have to face. Warren explains that most firms will want equipment and technical objects structured according to their production process, while SAP views it hierarchically. He stresses that the structure needs to be formed in such a way that lower and upper echelons are associated along business boundaries. Failing to carefully think through the planning stages means possibly having to restructure objects, which can end up costing the company a significant amount of time (and thus dollars). Having helped you navigate the difficult decisions, Warren takes you through the configuration steps in the IMG. Warren's guide will help you get the most out of PM while avoiding the pitfalls.*

Introduction

This article is not intended to be a comprehensive study of the structuring of technical objects in SAP Plant Maintenance; rather, I'm presenting some firsthand tips based on my experience during the last ten years implementing and consulting in SAP PM, in eight countries across the globe. The tips are based on SAP R/3 Release 4.6C Plant Maintenance functionality.

When considering a hierarchical structure, the project team needs to be aware that costs incurred by lower level objects will be rolled up to the higher objects.

The structuring of equipment and technical objects is a crucial process to the long-term successful implementation of SAP PM, and yet presents itself early in the implementation process, and is usually one of the first decisions facing a project team. Fresh out of PM training, the project team faces decisions that represent some of the fundamental foundation stones required to support much of their future lives with SAP PM. They must build a brick house, for the system to succeed. Hence the decisions are daunting and often divisive to the team. While the trusty consultant or project leader can advise, he/she may not be the decision-maker for the team.

So young yet so alone is the team—hence the dilemma. This tip aims to help to reduce the pain of tough decisions by discussing the long-term consequences of making certain choices.

Structuring Rationale

The equipment in an efficient production facility needs to be organized, and usually is. Most maintenance, engineering, and operations staff recognize production equipment organized along process lines, as one would see it depicted in a P&ID (Process and Instrumentation Diagram). A transactional management system like SAP, however, requires equipment to be organized hierarchically also. The hierarchical organization supports hierarchical associations, where this is necessary. The SAP Library gives further background reasons for structuring technical objects, and some of these are:

- The time required for managing the technical objects is reduced.
- The maintenance processing is simplified.
- The time spent entering data during maintenance processing is reduced considerably.
- This allows for more specific, thorough, and faster evaluation of maintenance data.
- This facilitates the alignment of cost and asset accounting structures, such that the costs of maintenance and the investments in equipment improvements can be accumulated at appropriate levels in the hierarchy (where management scrutiny is focused).

When considering a hierarchical structure, the project team needs to be aware that since costs incurred by the lower objects in the hierarchy are

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rolled up to the upper echelons of the structure, the structure needs to be formed in such a way that lower and upper echelons are associated along business boundaries.

For example, since Power Generation is usually a plant utility with a cost center of its own, and a certain production unit making a specific product would have a separate cost center, these respective structures should form distinctly separate hierarchies below the Company corporate level.

Sufficient time should be allowed for planning the structure. The task is often "business controversial", and time will be required to work through the options and the internal politics of those options. Weigh up all the pros and cons for your company that each structuring approach will bring. Be sure to have consensus among stakeholders before moving on. Note that it takes longer to restructure objects later than it does to structure them in the first place—in some cases big time!

A typical technical object structure is shown in Figure 1, from the upper levels of company and plant, down through the various hierarchical levels of functional location. At the lower levels of functional location, actual equipment items appear. Below equipment are the material inventoried items of sub-assemblies and materials (parts).

Notice how the technical object identifiers change from the alphanumeric functional location identifiers to the numbered ranges of equipment, assemblies, and materials.

Common Structuring Issues

Some of the long-term difficulties with equipment structuring can be ameliorated as follows:

- Finding the equipment in a large structure against which a notification for work or services needs to be assigned:

  The notification, when executed through a work-order, will precipitate work and costs. Hence, for appropriate management of resources (labor, materials, and costs), it is critically important to assign the work to the actual equipment item to receive it, or to the lowest structural item in its proximity (if the equipment is not actually represented in the structure).

  This may require the work originator to search through the technical

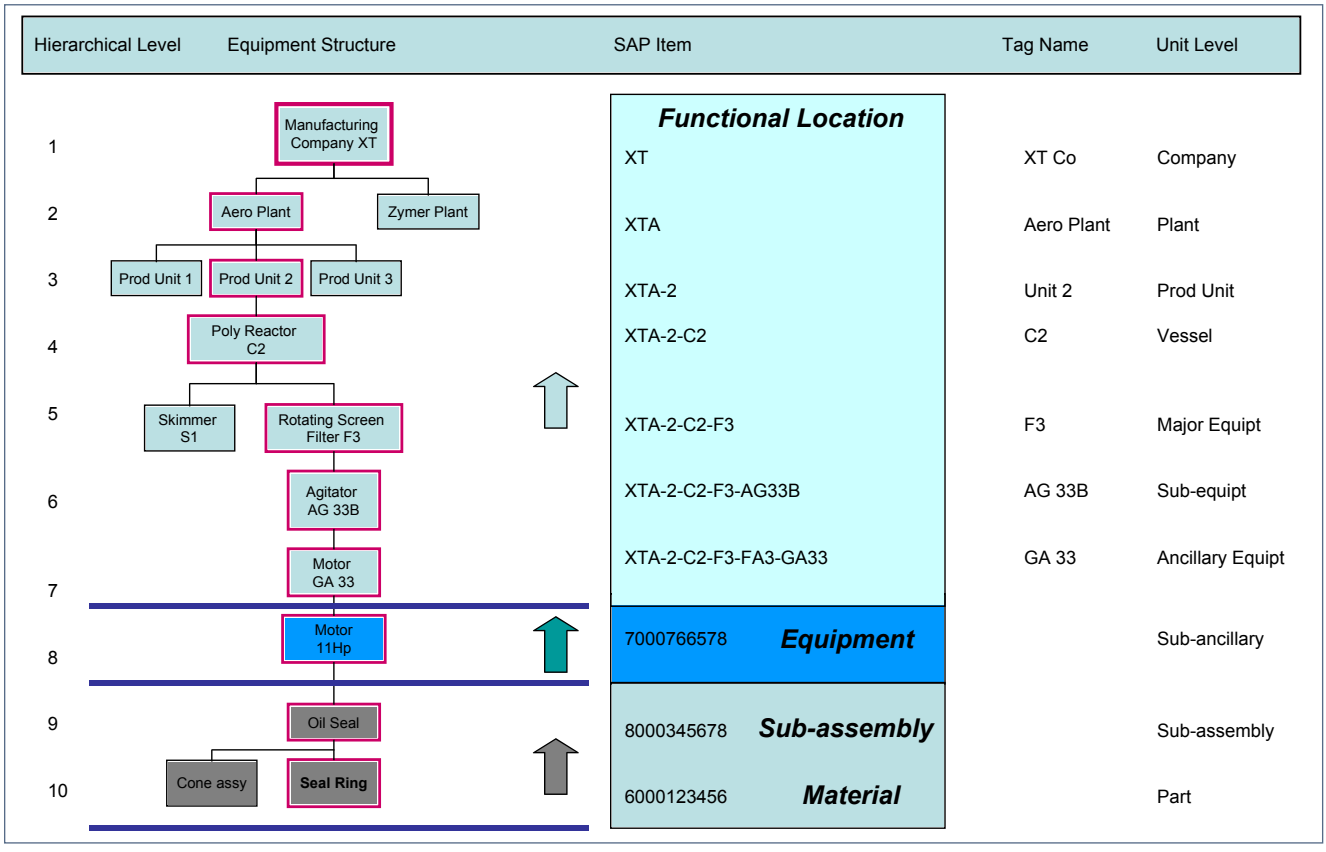

Figure 1: A Typical Technical Object Structure