

OIE Use Case 5 – Asset Installation/Removal Updates

This Use Case describes the process for updating O&M systems of serialized asset configuration updates. The updates originate from a Work Management System (WMS) that has a successfully completed work order for asset removal/installation/commissioning. In some circumstances, the completed work can be verified against an I&C Device Monitoring System that senses that a new device has been installed/removed.

Background

One of the largest headaches for any complex facility or plant is keeping accurate track of the uniquely identified physical assets which are currently installed in a given functional location. [Use Case 1](#) and [Use Case 2](#) deal with “top-down” Design Engineering-driven activities and [Use Case 3](#) deals with the situation where this is a “bottom-up” process, but routine remove/replace operations are work flow-driven rather than design-driven.

While all organizations make an attempt to properly keep track of this information for classes of assets with critical functions, experience has shown that substantial process and information gaps routinely exist. After a few years of operations, there is often a substantial difference between the assets that are shown to be installed in the system of record and those that are actually installed. This situation is normally verified and at-least partially corrected when a “walk down” takes place in conjunction with the implementation of some new related system. This is an expensive, labor-intensive process and it does not solve the fundamental problem, which results in its recurrence. Lack of proper management of this seemingly straight-forward element of configuration change can have profound consequences for reliability, EH&S, quality, and yield.

Scope

The scope of this use case is limited to remove and replace corrective maintenance.

Preconditions

This Use Case is predicated on [Use Case 1](#) and [Use Case 10](#) occurring prior so that the I&C Device Monitoring System, Work Management System and O&M Systems are populated with functional location and equipment asset information.

Successful End Condition

A reconciled, completed work order for asset removal/installation has been published to any interested O&M systems.

Actors

Business Actors

- Operations
- Maintenance Planner
- Technician

System Actors

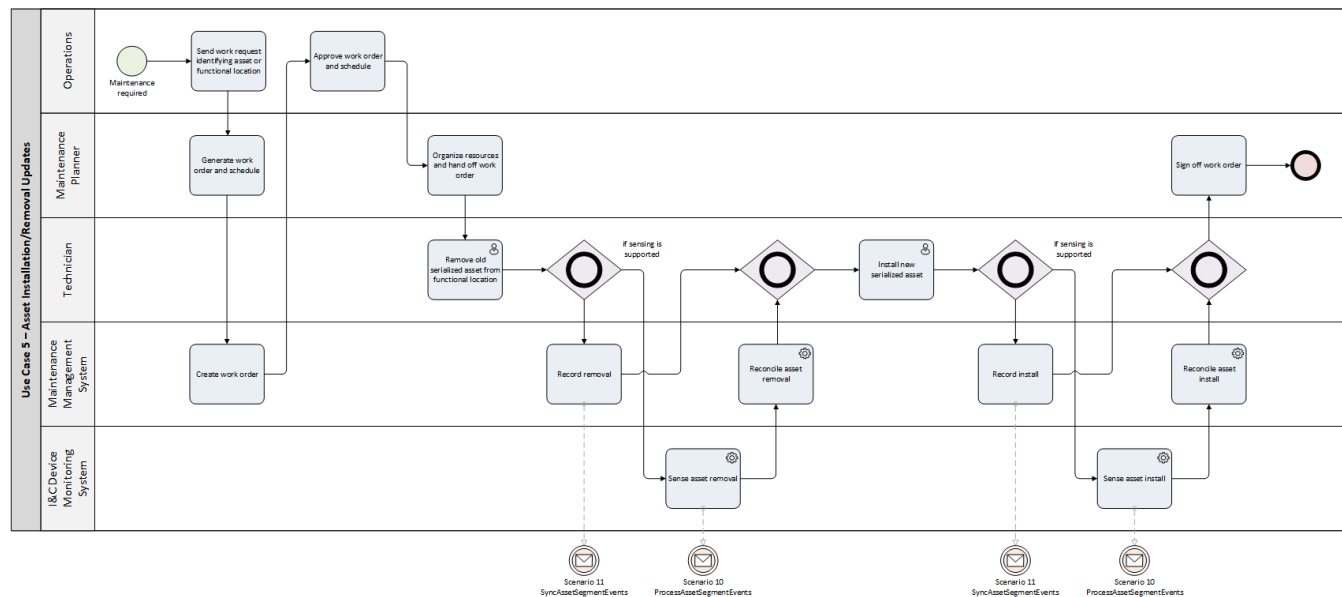
- Maintenance Management System
- I&C Device Monitoring System (as part of a Condition Monitoring System)

Triggers

Operations sends a work request to Maintenance identifying a particular plant item that needs maintenance.

Main Success Scenario

Note: The following is a simplified workflow of corrective maintenance that is intended to indicate the interoperability-based interactions with enterprise and automation systems within a general business process context.



Send work request	Operations sends a work request to Maintenance identifying a particular plant item that needs maintenance.
Generate and approve work order and schedule	The Maintenance Planner generates a work order and schedule in the Maintenance Management System against a functional location or asset. The work order is given approval by Operations.
Organize resources and hand off work order	The Maintenance Planner organizes necessary resources (materiel and information) for the work order before handing it off to the Technician.
Remove serialized asset from functional location	The Technician physically removes the equipment from its previous location and registers the removal into the Maintenance Management System. This may occur immediately via a portable on field device or through a lengthier data entry process.
Sense asset removal and reconcile with work order	If available, an I&C Device Monitoring System may sense the removal of the asset and send a notification to the Maintenance Management System. The Maintenance Management System attempts to reconcile the removal with any recent work orders.
Install serialized asset on functional location	The Technician physically installs the equipment onto the designated location and registers the installation into the Maintenance Management System. This may occur immediately via a portable on field device or through a more lengthy data entry process.
Sense asset install and reconcile with work order	If available, an I&C Device Monitoring System may sense the install of the asset and send a notification to the Maintenance Management System. The Maintenance Management System attempts to reconcile the install with any recent work orders.
Sign off work order	Once the work order has been deemed complete (following any subsequent activities and audits, etc.) it can be signed off and closed.

System Interoperability Scenarios

- [Scenario 10 – Push Intelligent Device Removal/Installation events from CMS to MMS](#)
- [Scenario 11 – Publish Asset Removal/Installation events from MMS to O&M](#)

Version Applicability/Alignment

Use Cases do not specify generic or specific data requirements; however, they have a lifecycle and can be associated with versions of CCOM and other MIMOSA standards based on when they are introduced, updated, or deprecated. For example, newer Use Cases may not be able to be supported by older versions of CCOM, while older Use Cases may become obsolete as the standards and OIIE evolves over time.

This Use Case is applicable to the following versions of CCOM:

- CCOM 3.x (part of OSA-EAI 3.x)
- CCOM 4.x

NOTE Use of 'x' in the version number indicates a variable version. For example, "4.x" indicates applicability to all versions of CCOM with the MAJOR version '4', regardless of MINOR and PATCH versions.

Document Versioning

Version	Date	Major Changes
1.3	2020-11-13	Updated name of scenario 10 in process diagram
1.2	2020-06-29	Updated to use OpenO&M template
1.1	2019-01-20	Updated to new Use Case Architecture.
1.0	2018-02-07	Imported from website-based documentation.