Tivoli software

IBM

Support Technical Exchange:
Maximo Calibration Features and Upgrade

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Introduction

Abstract:

- This presentation is on Calibration features along with the upgrade of Calibration products from the 6.x to the 7.x platform.

Objectives:

- Overview of the Calibration functionality.
- How to Upgrade your current Calibration product to the 7.5 platform.
- Ability to troubleshoot issues that may arise.

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Maximo Calibration Versions

Release 6.5	Release 7.1.2	Release 7.5	Release x.x
			GA TBD
• Job Plan Revision Control • Certificate Number • Loop Calibrations • Data Sheets • Linear/Non-Linear Instruments • DS Revision Control • Traceability • Reverse Traceability • Calibration History • Calibration Drift • Maximo Mobile Calibration	• Uncertainty Data • Asset Template • Standard Validation • Job Plan Revision Control • Calibration Drift • Certificate Number • Loop Calibrations • Data Sheets • Linear/Non-Linear Instruments • DS Revision Control • Traceability • Reverse Traceability • Calibration History • Maximo Mobile Calibration	• Uncertainty Data • Standard Validation • Calibration Drift • Certificate Number • Loop Calibrations • Data Sheets • Linear/Non-Linear Instruments • DS Revision Control • Traceability • Reverse Traceability • Calibration History • Maximo Mobile Calibration • *Job Plan Revision Control • *Asset Template	• ***PM Revision Control*** • ***Multiple PM Frequency*** • ***Optimal Calibration Interval*** • Uncertainty Data • Standard Validation • Optimal Intervals • Calibration Drift • Certificate Number • Loop Calibrations • Data Sheets • Linear/Non-Linear Instruments • DS Revision Control • Traceability • Reverse Traceability • Calibration History • Maximo Mobile Calibration • *Job Plan Revision Control • *Asset Template
Maximo 6.x	Maximo 7.1	Maximo 7.5	Maximo x.x

* Now part of EAM

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Applications with Calibration Functionality

Asset Management

- *Assets*
- *Asset Template*
- *Locations*
- *Tools*
- *Stocked Tools*
- *Linear Assets*
- *Failure Codes*
- *Meters*
- *Condition Monitoring*

Work Management

- *Job Plans*
- *Data Sheet Template*
- *Routes*
- *Work Order Tracking*
- *Service Requests*
- *Safety*
- *Quick Reporting*
- *Labor / Craft*
- *Lock-out/Tag-out*
- *Companies*
- *Preventative Maintenance*
- *Master PM*

Materials Management

- *Item Master*
- *Storerooms*
- *Inventory*
- *Inventory Usage*

Purchasing

- *Request for Quote*
- *Receiving*
- *Receiving Inspections*
- *Requisitions*
- *Invoices*
- *Purchase Orders*
- *eCommerce*

Contract Management

- *Contracts and Warranties*
- *Purchasing Agreement*
- *Leases*
- *Rentals*
- *Services*
- *Payment Schedules*

Integrated Tooling – Configurable Data Model, Graphical Workflow Design, Escalations And Notifications, UI Based Integration, Configuration Import/Export, Upgradeability

Reporting / KPIs / Analysis

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What is different in Maximo Calibration 7.5 ?

- No longer any (CAL) applications
- Maximo Calibration part of the core EAM Install
- Calibration fields and functionality are enabled via the license key and Conditional UI.
- Calibration Fix Packs are now part of the core EAM Fix Pack schedule

Application Changes:

- Asset Template application is a new application for EAM
- Job Plan Revision Control is core EAM functionality

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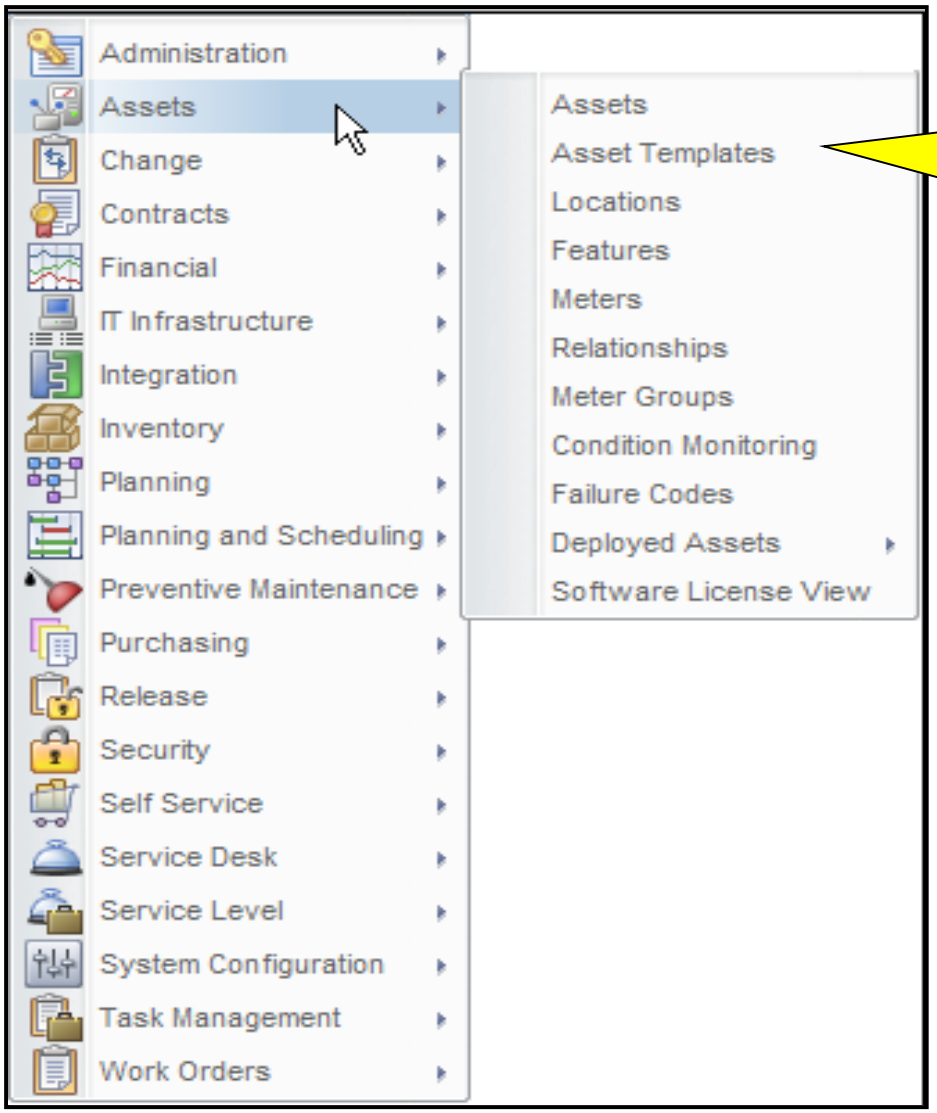
Go To Menus



Removal of (Cal) applications

i.e. Assets (Cal)

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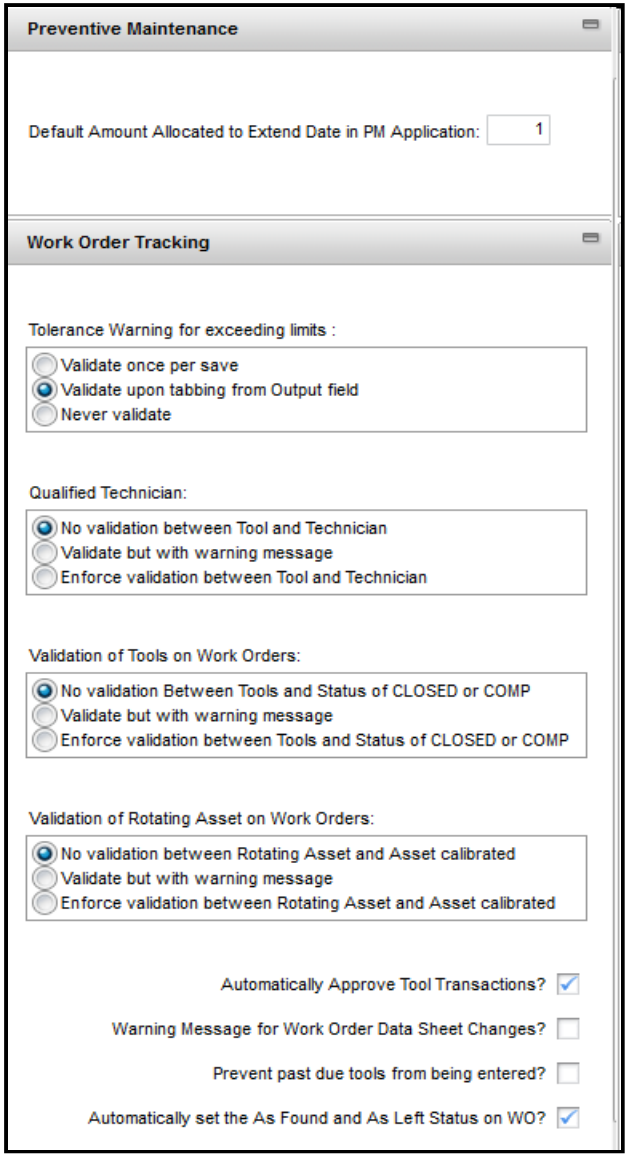
Organization – Calibration Options



Options

- Set options based on your business processes.
- Set up to validate, not validate or warn the user

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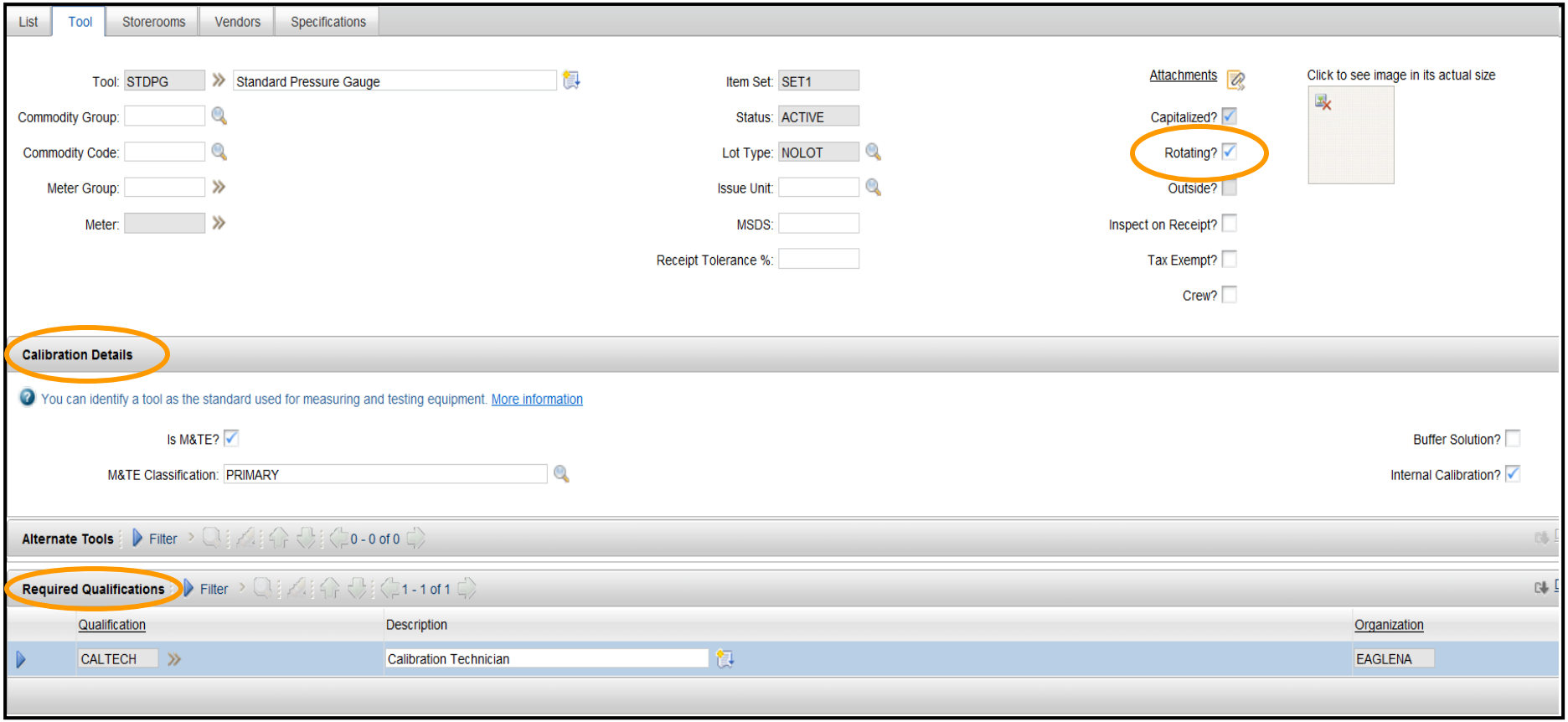
Tools



- Rotating flag enabled to define specific Assets.
- Calibration Details further defines whether the tool is a Measuring and Testing Equipment (M&TE), Buffer Solution or an in-house calibration.
- Required Qualifications can be associated to a Tool and used for Technician Validation on a Work Order in Tools Actual tab.

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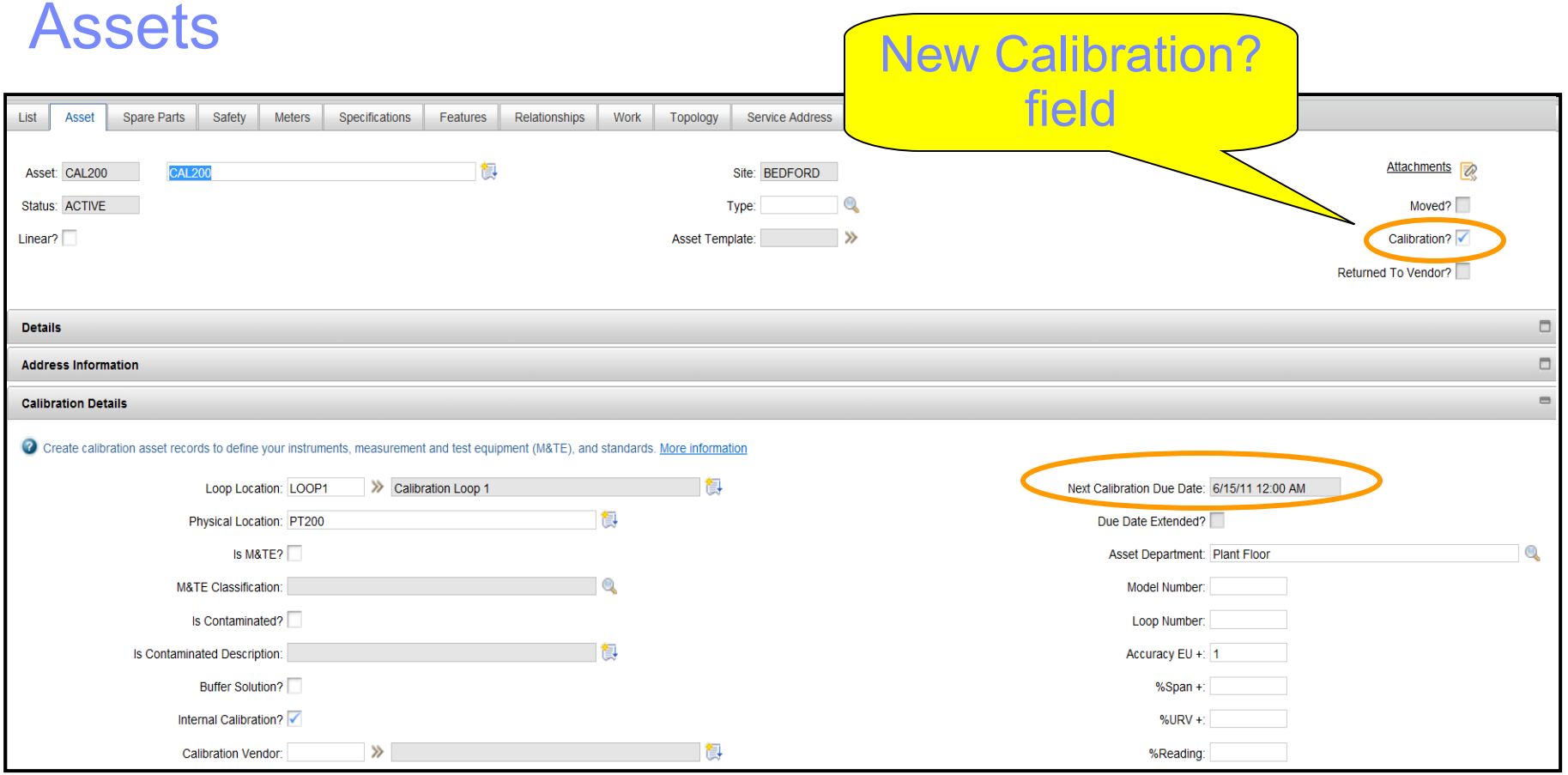
Assets



- For Standards/M&TE – Rotating Item must be added with ITEMTYPE=TOOL.
- Calibration Details are displayed when Calibration? Field is enabled.
  - Further defines whether the tool or asset is a M&TE, Buffer Solution, in-house calibration, operating range, accuracy, department, next calibration due date and whether the PM Extend Date is populated.
- Next Calibration Due Date is calculated every time you access the asset record via the application or report.

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Next Calibration Due Date Calculated?

Calibration Next Due Date (Asset/Work Order Tracking) is determined by the following:

- Search All Work Orders where
  - ASSET.ASSETNUM = WORKORDER.ASSETNUM
  - WORKORDER.STATUS <> 'CLOSED','COMPLETED' or 'CANCELED'
  - WORKORDER.WORKTYPE = 'CAL' (worktype.type = 'CAL')
  - Determine which WORKORDER.TARGSTARTDATE from All Work Orders searched has the earliest date.
    - ASSET.PLUSCDUEDATE = earliest date
- If there are no Work Orders
  - Search All PMs where PM.ASSETNUM = ASSET.ASSETNUM
  - PM.STATUS = ACTIVE
  - PM.WORKTYPE = 'CAL' (worktype.type = 'CAL')
  - Determine which PM.NEXTDATE / PM.EXTDATE from all the PMs searched has the earliest date.
    - ASSET.PLUSCDUEDATE = earliest date

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Upgrade Process to Populate 'Calibration?' Field in 7.5

- For existing clients new update scripts provided - manually run to determine which of the following impact your environment:

  (1) If any Calibration detail fields are populated in the Asset application.

  (2) If the Asset is associated to a Data Sheet.

  (3) If the asset has a PM against it with a work type of 'CAL'.

  (4) If a Work Order was generated against this asset with a work type of 'CAL'.

- Scripts are part of Install documentation.

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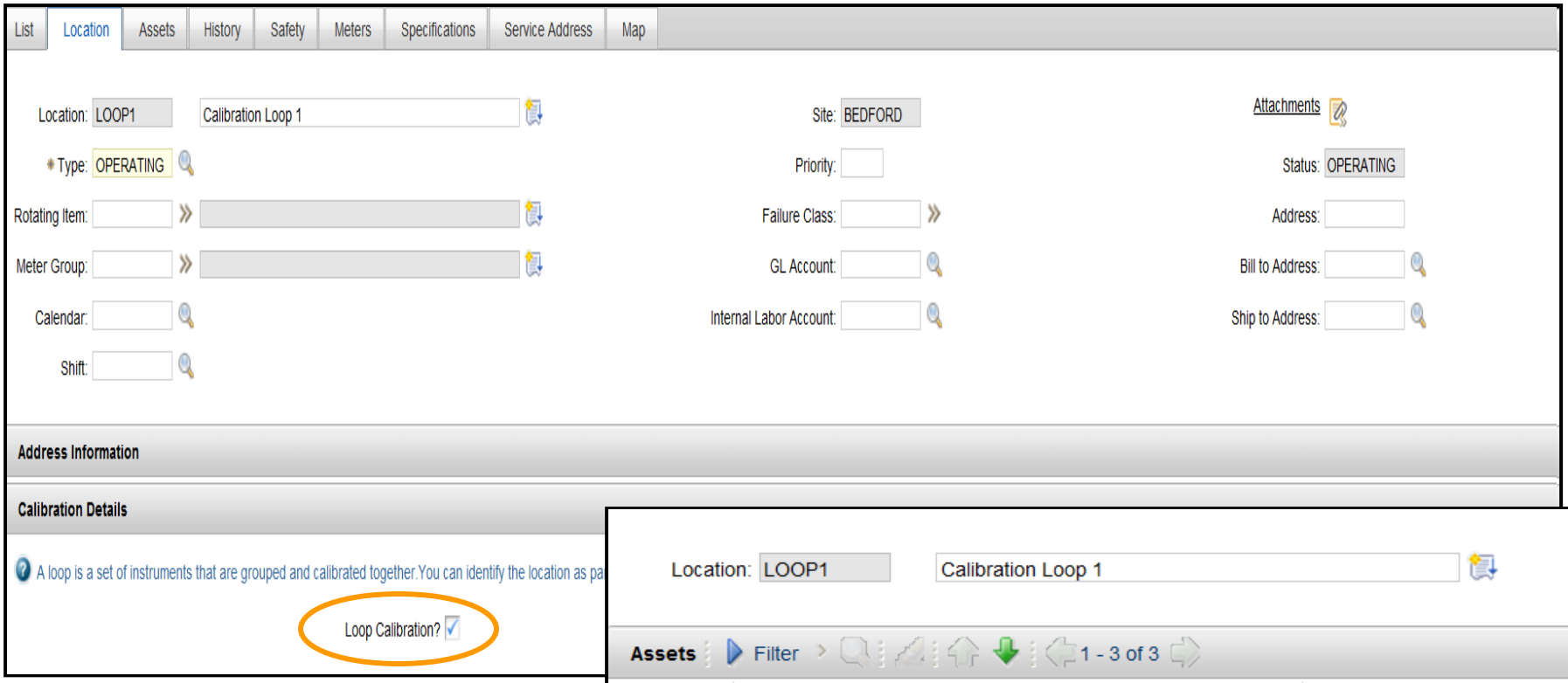
Locations – Loop Calibrations



- A Loop is defined as a set of instruments that when grouped together and calibrated the Input and Output of the whole group determines the Pass or Fail of the Calibration.

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User Defined Data Sheets

Calibration Test Points, Function Checks and Dynamic Checks

Configuration Tab

Linear & Non-Linear Instruments

Analog & Discrete Test Points

EU, %SPAN, %URV, %READING

Tolerance on Input or Output

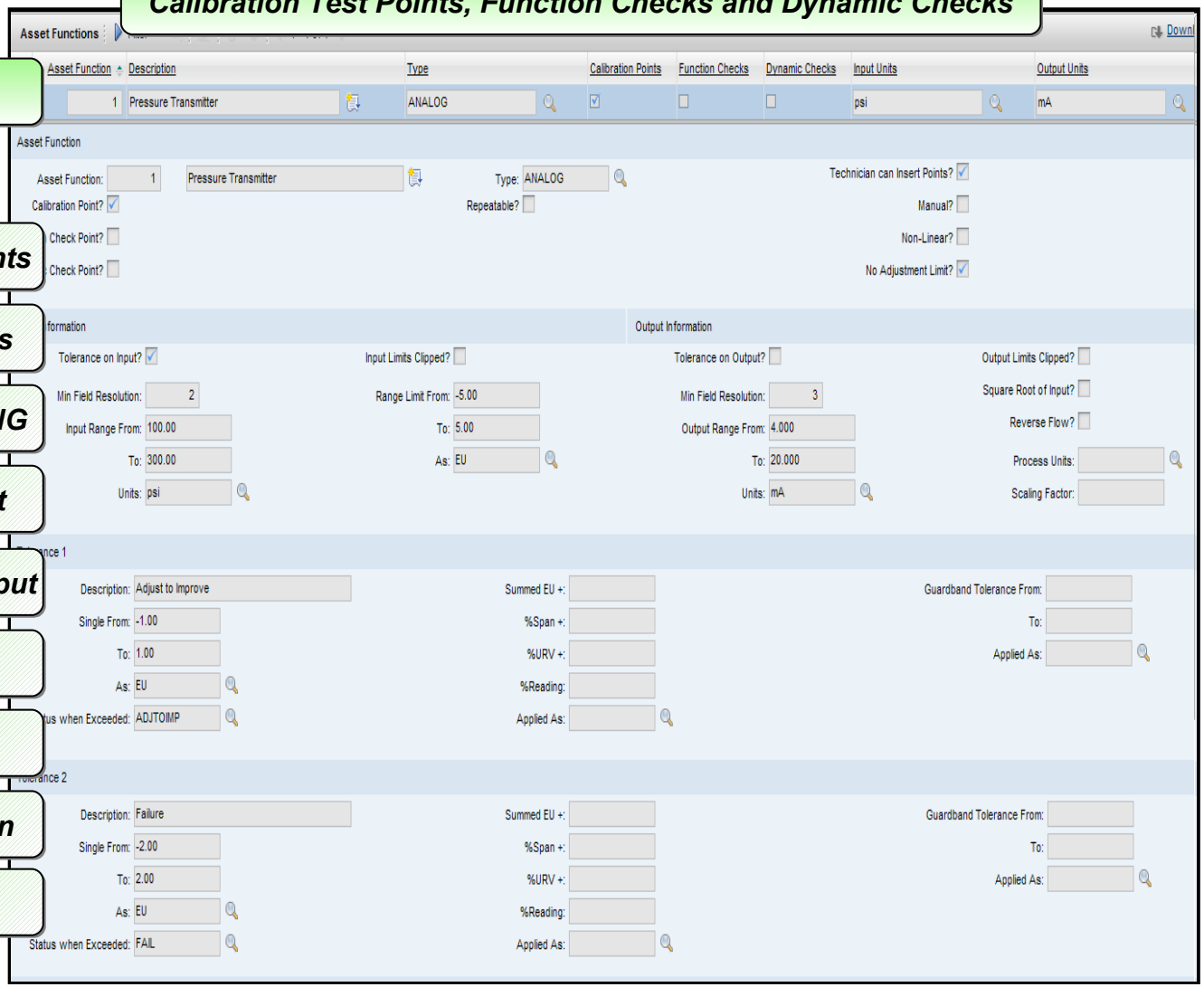
Limits Clipped on Input or Output

Squared or Squared Root

Repeatable Test Points

Average & Standard Deviation

Manual Test Points



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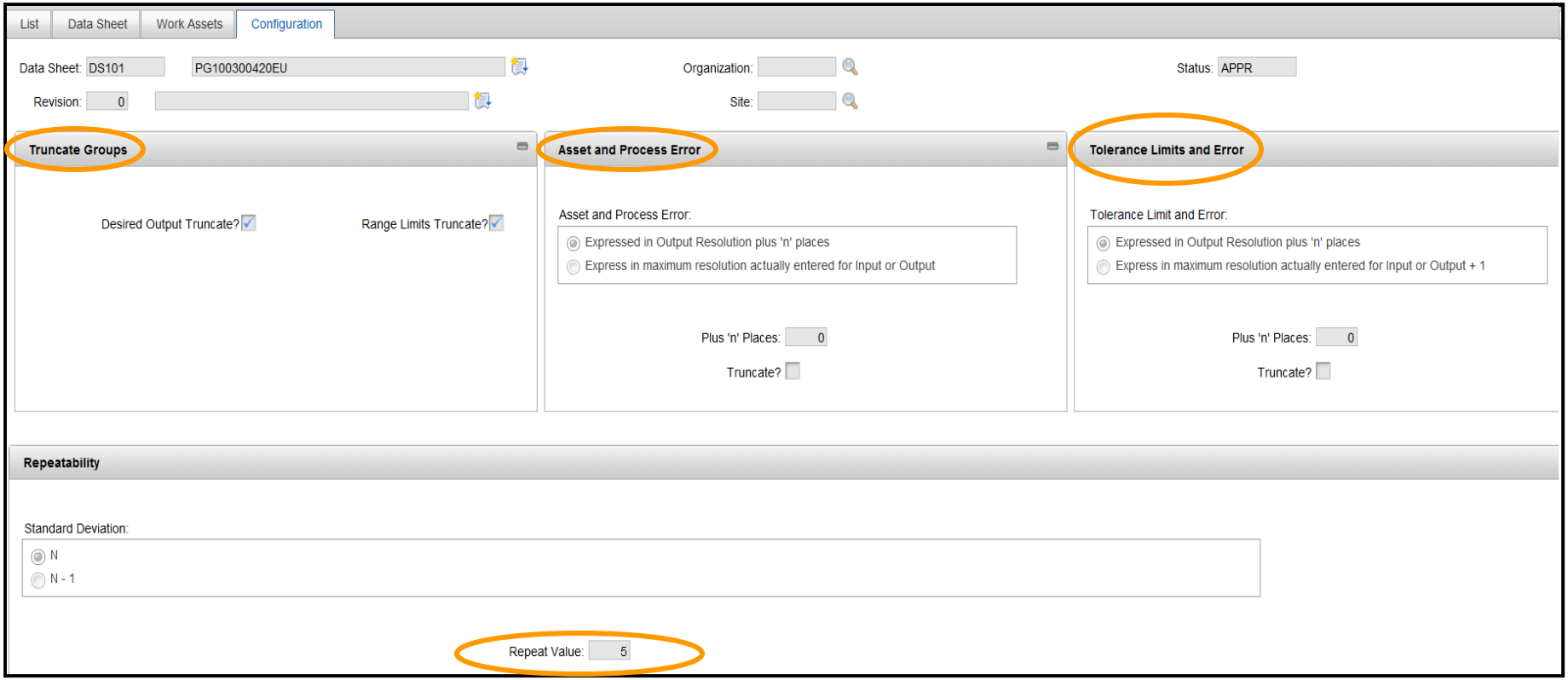
Data Sheet - Configuration Tab



- Configuration Tab is data sheet specific so each data sheet can be configured differently.
- Use the configuration tab so that calibration results can be displayed in a particular numeric format on the Work Order Data Sheet tab.
- Defines the format for Desired Output, Asset Error, Process Error, Tolerance Limits, Tolerance Error and Repeatable Points

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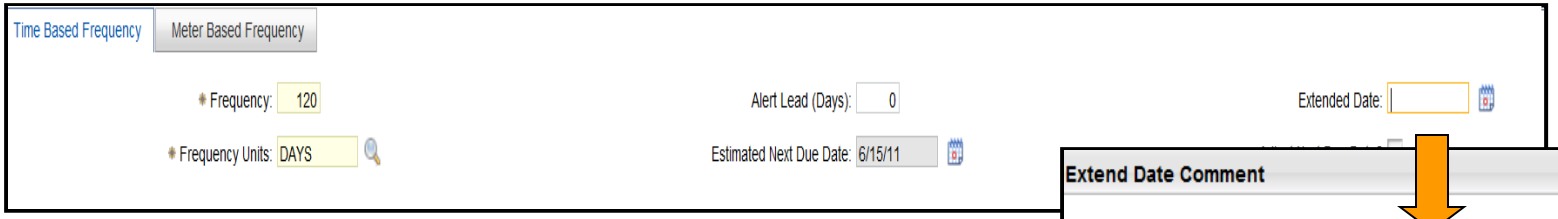
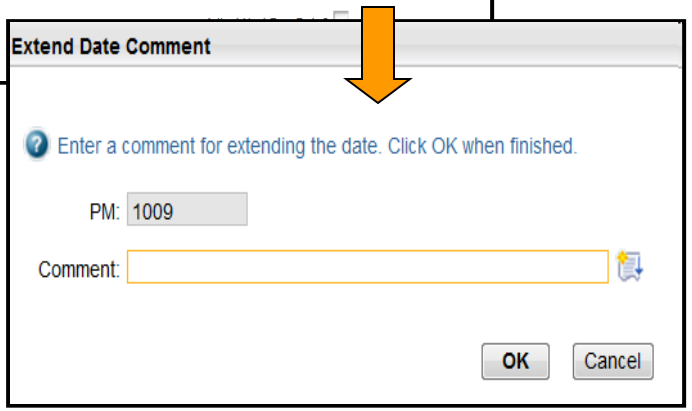
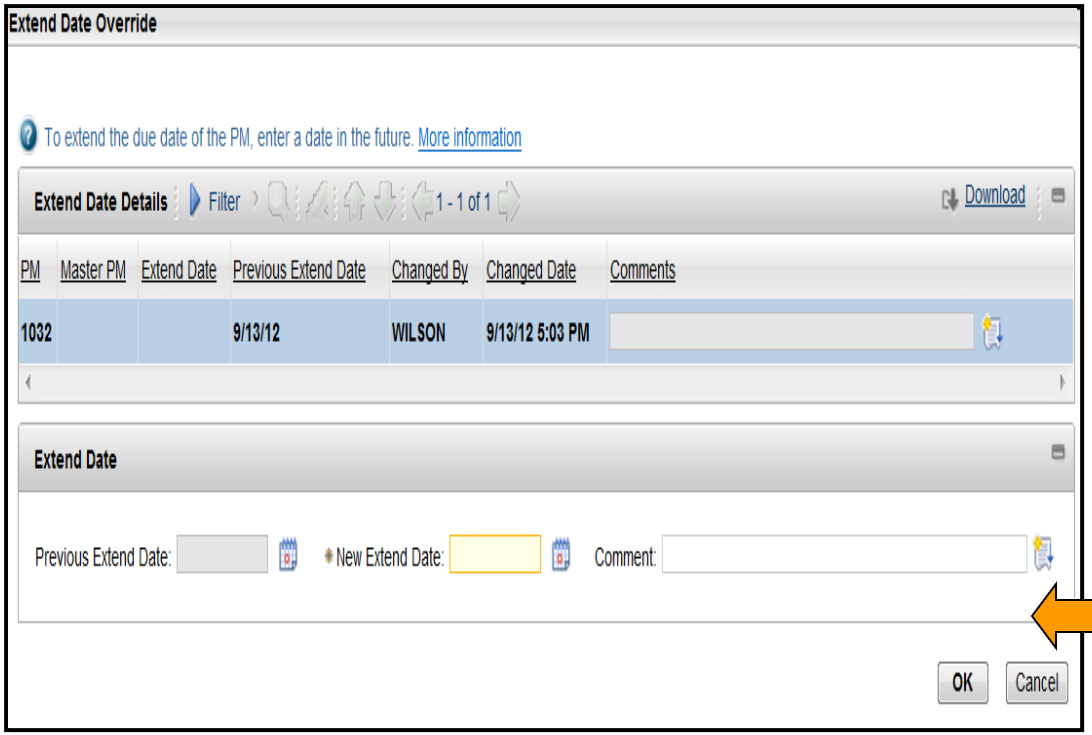
Preventive Maintenance – Override Extend Date







Extend Date Validation

- Comment Field is Now Required – Explains **Why** the Date needs to Extended.
- Default Allocated Amount for Extending a Date is 1 then date becomes read-only.

After Default Amount is used the Override Extend Date Option must be used - Security Access in Action Menus

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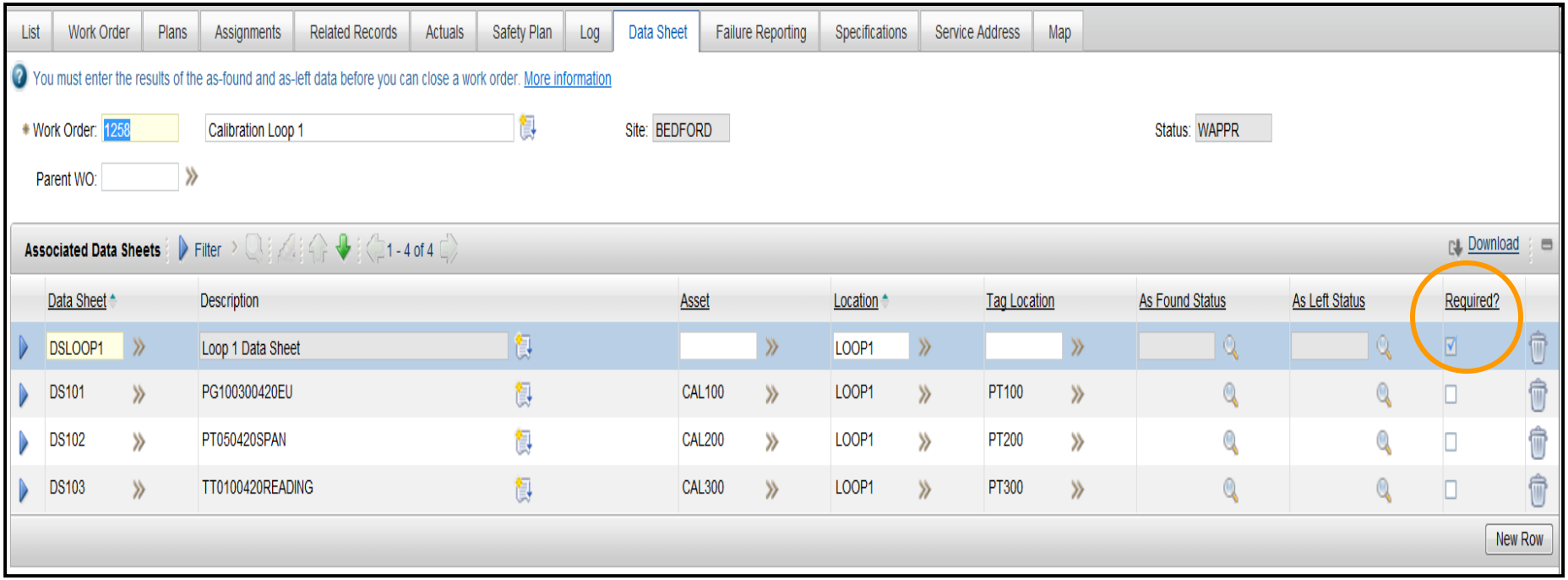
Work Order Tracking



- Data Sheet Tab is where you enter all As Found/ As Left calibration data.
  - Work Order must be in at least APPR status for Data Sheet fields to be editable.
- Data Sheet status of Pass/Fail is automatically calculated based on the readings enter.
- Can associate multiple data sheets but only 1 needs to be required.
  - If you start entering readings on an optional data sheet then they become required.
- All As Found and As Left data must be entered for Required Data Sheets before a Work Order can be set to Complete or Closed Status.
  - Only the Data Sheet statuses of 'Missing' or 'Broken' allows you to circumvent this rule.

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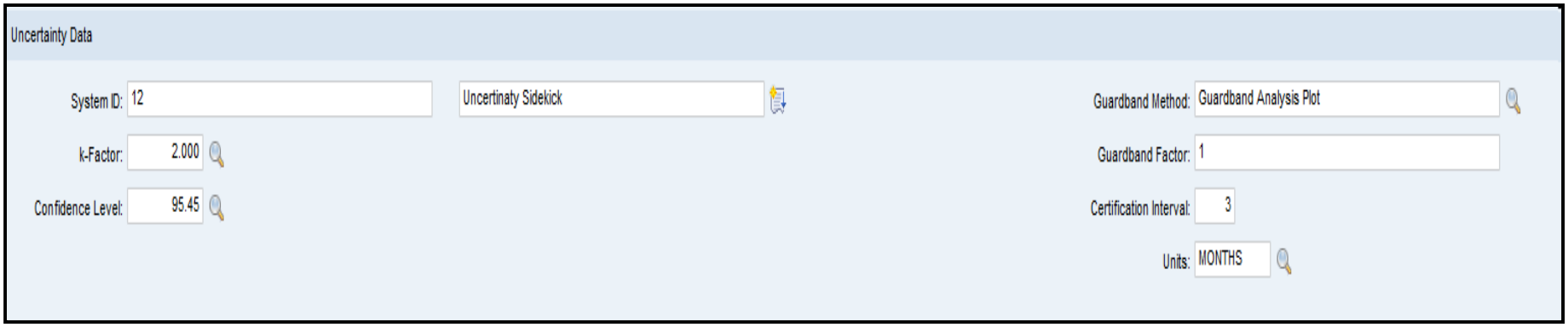
Uncertainty Data



- Ability to enter Uncertainty Data manually or automatically via the Integration Framework.
- Integration Framework Configuration:
  - Create object structures for uncertainty – Data Sheet and Work Order Data Sheet.
  - Create a publish channel for each uncertainty object structure.
  - Create an enterprise service for each object structure.
  - Configure the external system to transfer the uncertainty data.

***Whitepaper on the Uncertainty Data Configuration will be part of the documentation for this release.

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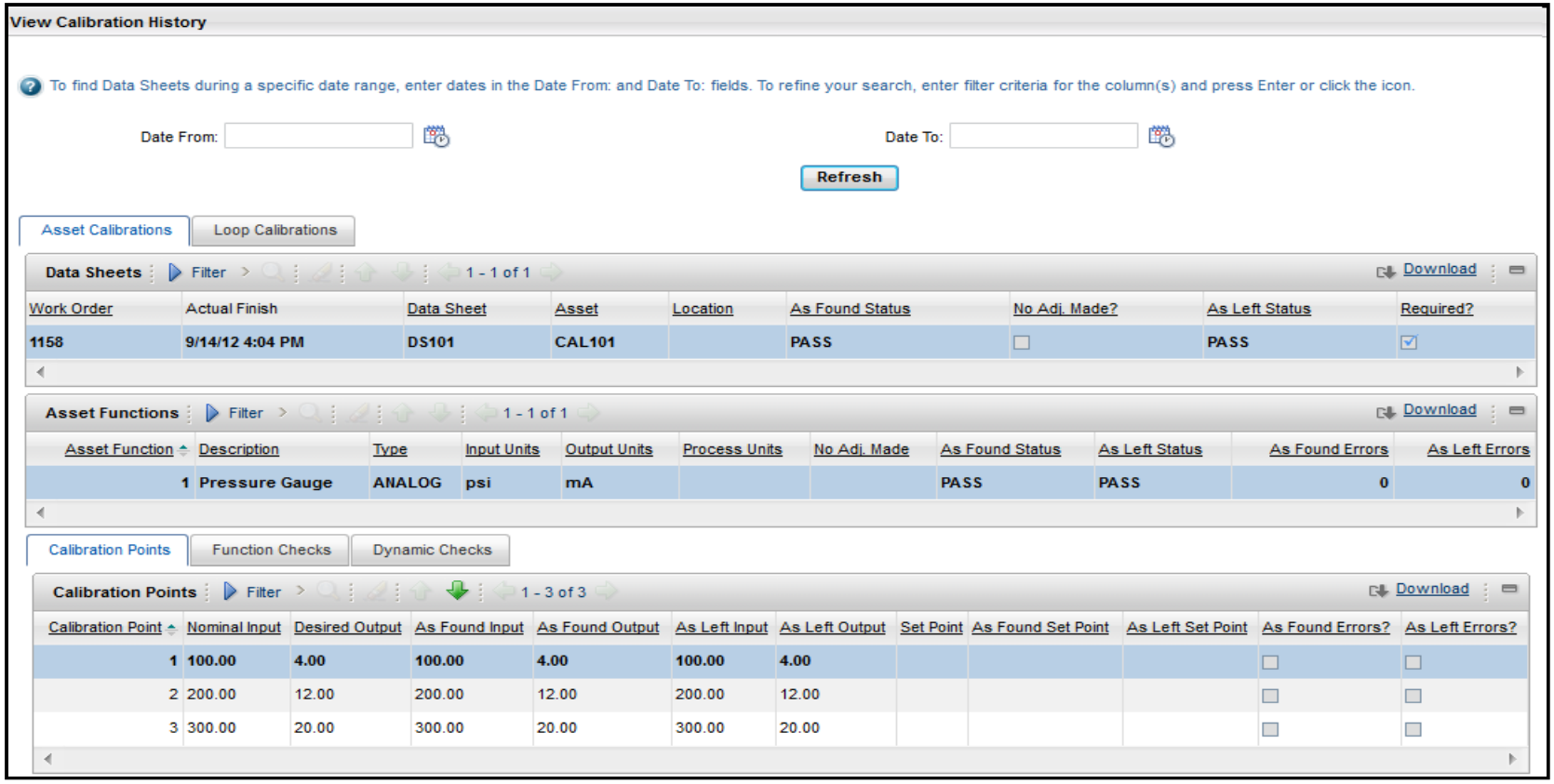
View Calibration History



Select Action Menu > Assets and Locations

- View past calibration Work Order results for the asset or location once the work order status is set to Complete or Closed.

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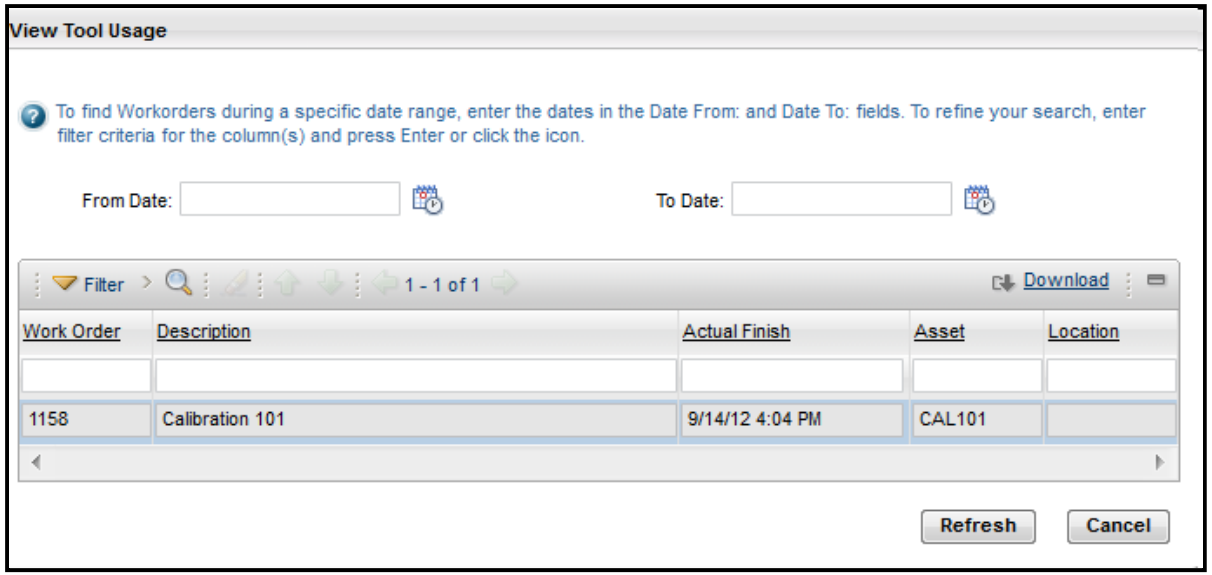
View Tool Usage



Select Action Menu > Assets

- View past Calibration Work Order where the Tool was used to Calibrate the Instrument.

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Calibration Functionality

		Features				
	Assets	Assets defined as Calibration instruments	Tools defined as M&TE	Asset Templates	Locations as Tag Ids	Loop Calibration set-up
	Data Sheets	Customer defined resolution configurations	Linear and Non-Linear Instruments	Repeatable Test Points	EU, %SPAN, %URV, %READING	Function and Dynamic Checks
	Job Plans And PMs	Revision Control	Calibration Tasks	Planned Labor, Materials and Tools	Associated Data Sheets	Calibration Specific Intervals
	Work Orders	Workflow enabled	Overdue Standard Validation	Out-of-Tolerance Notifications	Ability to enter Uncertainty Data	Maximo Mobile with Calibration
	History and Reports	Calibration History	Tool Usage	Calibration Drift	Calibration Errors	Overdue Calibrations

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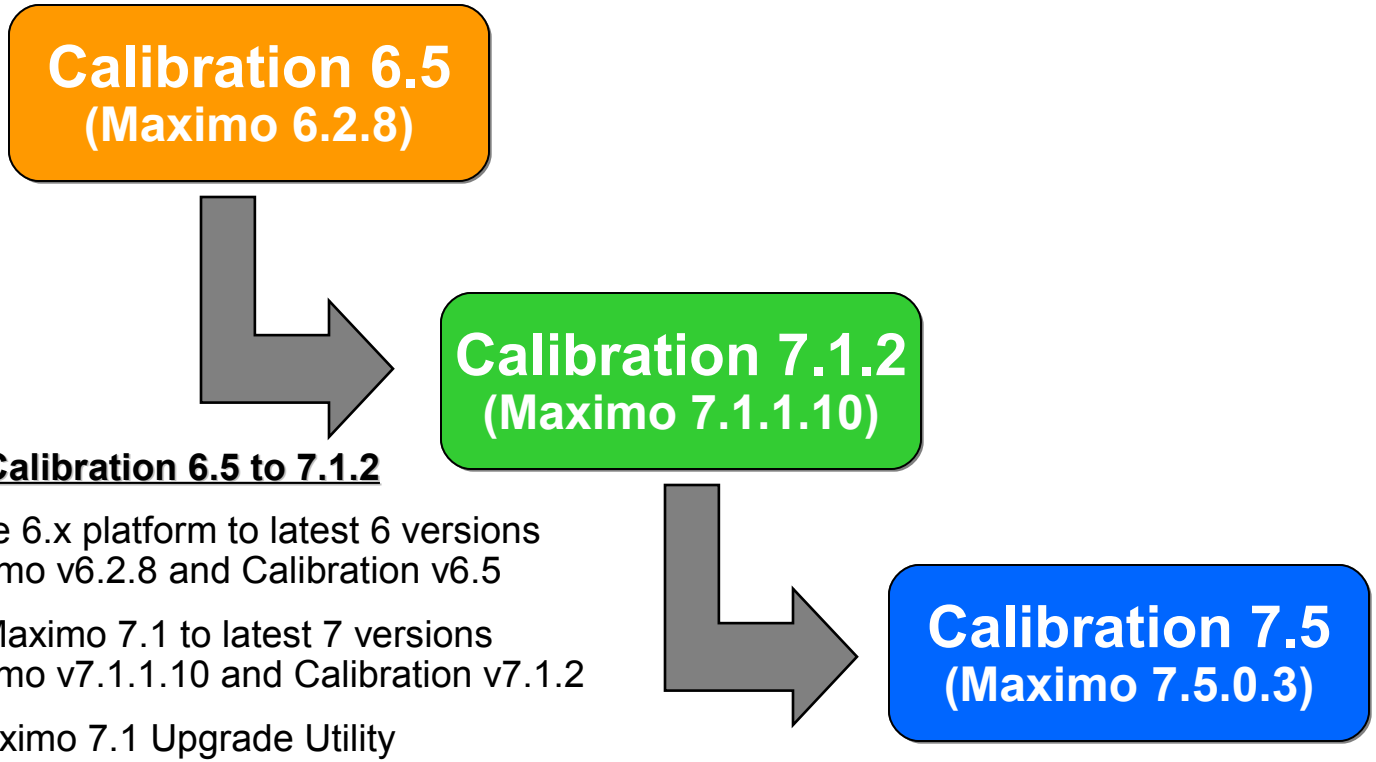
Example Calibration Upgrade Path



Upgrade Calibration 6.5 to 7.1.2

- Upgrade 6.x platform to latest 6 versions
  - Maximo v6.2.8 and Calibration v6.5
- Install Maximo 7.1 to latest 7 versions
  - Maximo v7.1.1.10 and Calibration v7.1.2
- Run Maximo 7.1 Upgrade Utility

Upgrade Calibration 7.1.2 to 7.5

Upgrade 7.1.x platform to latest 7.1 version
  - Maximo v7.1.1.10 and Calibration v7.1.2
- Install Maximo 7.5 to latest 7.5 versions
  - Maximo v7.5.0.3 and Calibration v7.5 license
- Run Maximo 7.5 Upgrade Utility

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Areas to Watch for when Upgrading to 7.5 ...

In Maximo Calibration 7.5 there are no longer any (CAL) applications
- **everything has been moved to core applications**

Problem
- None of the Calibration related bookmarks were saved after upgrade.

Problem
- Maximo groups loses its permissions to Calibration applications after Upgrade.

Problem
- All customization made on 6.2 applications are being dismissed when upgrading to 7.5

Note: Tech Note released and resolutions outlined in latest release of Upgrade Guide

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References

- **Asset Management Information Center**
  - http://pic.dhe.ibm.com/infocenter/tivihelp/v49r1/index.jsp?topic=/com.ibm.mam.doc/welcome.html
- **Maximo 7.5 What's New**
  - http://pic.dhe.ibm.com/infocenter/tivihelp/v49r1/index.jsp?topic=/com.ibm.mam.doc/overview/whatsnewmam75.html
- **System Requirements**
  - http://www.ibm.com/developerworks/wikis/display/maximo/System+Requirements+for+Version+7.5+Maximo+Products
- **Upgrade Resources**
  - http://www-304.ibm.com/support/docview.wss?uid=swg21266217
- **Upgrade Webcast**
  - http://maximotimes.com/maximo/webcast-upgrading-maximo-6-or-7-1-to-maximo-7-5/

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Thank you…

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