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Maximo calibration Special Interest Group (McSIG)

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Agenda

- What is Calibration
- Mechanics of a Calibration
- Calibrations in Maximo
- McSIG Overview
- Session Process
- Listing of Previous Topics
- Request for Enhancements
- New Topics
- Working Session

What is Calibration?

Calibration is the verification and/or adjustment of a device to ensure measurement accuracy per defined specifications

- Sometimes referred to as measurement sciences
- It is a periodic verification that a device is still within specifications
- It involves an initial baseline establishment (calibration) followed by a subsequent verification (calibration) after an interval of time
- If the subsequent calibration readings no longer meet initial specifications, a failure analysis needs to be performed.
  - The measurements taken with the device may be inaccurate and exceed specified requirements
  - Examples: torque wrenches, voltmeters, scales

Most product manufacturing depends upon measurements of some kind

Why is Calibration Important?

Product quality / safety / consistency /reliability

- Manufacturing equipment measurements
  - Reliably produce results meeting performance criteria
  - Reduce variation in manufacturing processes
  - Supports the integrity of manufacturing, operating, and design processes
- Design equipment
  - Ensure that a design is as intended
- Research equipment
  - Ensure measured phenomenon is accurately characterized
- Affects the bottom line
  - Higher productivity
    - Less waste
    - Fewer schedule disruptions
    - Fewer returns
  - Higher quality/more reliable products

Mechanics of a Calibration

- **Calibration of the device**
  - Requires review of previous calibration(s)
  - Requires the use of “standard” for comparison
- **Formally certifying that the device meets specifications and documenting it**
  - Usually includes a sticker applied to the device (may include a certificate form)
    - Expiration Date
    - Asset number
    - Description
    - Barcode
    - Other information as needed
- **Maintaining accurate historical data on every calibration event for every device**

Calibrations in Maximo

Calibration is very similar to routine scheduled maintenance in Maximo with the addition of datasheets for recording calibration results

- All of the usual asset information applies to calibrated assets with a few additions
  - An asset may be identified as a “Standard”
  - Assets are associated to datasheet templates
- The Preventive Maintenance interval is the calibration interval
- WorkOrders are used to document the work
- A Datasheet is attached to the WorkOrder
  - Used to document data taken at each calibration point during the calibration
  - It contains critical Pass/Fail data that is used to determine if a custodian needs to perform a failure analysis

Maximo Data Sheets

Data Sheets are necessary to provide the logging of pertinent calibration data:

- As Found/As Left statuses: Pass or Fail
  - Determines the need for failure analysis
- Environmental data (temperature, pressure, humidity) at the time of the calibration
- Test dates
- Data from predefined data points (test points)
- Data for predefined functions to be tested.
  - Meter example:
    - Voltage
    - Resistance
    - Current

Note: Standards used (tools) are logged on the WorkOrder Actuals tab

McSIG

Charter:

- ***A User directed cross-industry Maximo Calibration Special Interest Group (McSIG) established to provide a network of contacts, resources, best practices, and common approaches for the user community and to provide representative information to IBM.***

- Disclaimer: The information, views, and opinions expressed in this document or any other McSIG information are not official positions by any of the represented companies.

- McSIG Website:
  - https://www.imwuc.org/p/co/ly/gid=1077
- Documents
  - https://www.imwuc.org/p/do/si/topic=250

User Group Participants

296 Members

200 Companies

McSIG Session Process

- Brainstorm a list of topics
- Select topics to work (by vote)
- Prioritize topics (by vote)
- Work each topic
  - Brainstorm issues specific to that topic
  - Discuss solutions for each issue
  - Identify Best Practices
  - Document

- Generic Q & A discussion time

McSIG Session Summary

- First session was November 2006, Albuquerque, NM
- Last session was December 2015, Ft. Myers Florida
- 18 working sessions conducted
- Notes for each session are on the McSIG website:

  https://www.imwuc.org/p/do/si/topic=250

DataSheet Related Topics

Topic	Document Dates
Data Sheets	Nov 2006, May 2008, Oct 2008, Oct 2010, Mar 2011, Oct 2011, Oct 202
Data Sheet Template Calculations	May 2008,
Dynamic Adjustment of Calibration Intervals	Feb 2009, Oct 2012
Deadband Point Setup	Oct 2010
Auto-generate Cal Points	Oct 2010
Auto-populate Temperature/Humidity	Oct 2014

Documents: https://www.imwuc.org/p/do/si/topic=250

DataSheet Related Topics

Topic	Document Dates
Uncertainty Fields	Oct 2014
Dynamic & Function Checks	Oct 2010, Oct 2014
Time Constant/Response	Oct 2010
Viewing Associated Data Sheets	Mar 2011
Connecting Data Sheets to WorkOrders	Mar 2011
V7, Non-linear Calibrations	Oct 2011

Documents: https://www.imwuc.org/p/do/si/topic=250

Calibration Data Related Topics

Topic	Document Dates
Delayed Issue Calibrations	May 2008
Calibration Data From External Sources	May 2008, Oct 2008.
External Commercial Calibration Labs	Oct 2008
Vendor Calibrations	Oct 2008, Mar 2011
Limited Calibrations	Feb 2009
Overlapping Standard Pairs	Feb 2009
Trending Data	Oct 2010

Documents: https://www.imwuc.org/p/do/si/topic=250

Calibration Data Related Topics

Topic	Document Dates
Calibration Stickers (labels)	Mar 2011
Reverse Traceability	Mar 2011
Forward Traceability	Oct 2011
Calibration Tag Report	Oct 2012
Dynamic PM Intervals	Oct 2012
Datasheet “As Found” Conditions	Feb 2014
Drift Analysis	Oct 2014

Documents: https://www.imwuc.org/p/do/si/topic=250

Document Related Topics

Topic	Document Dates
Reporting	Nov 2006, Feb 2007, Oct 2010, Mar 2011
Attachments & Document Systems	Feb 2007, Oct 2008
Decreasing Paper	Feb 2010
Sharing Data with Non-Users	Feb 2010
Calibration Certificate Report	Oct 2012
Documenting Info for Work Order Generation	Oct 2014

Documents: https://www.imwuc.org/p/do/si/topic=250

Calibration Date Related Topics

Topic	Document Dates
Change Control & Versioning	Nov 2006, Feb 2014
Error Correction	Nov 2006, Oct 2008
PM Date Issues	Jul 2007, Feb 2009, Oct 2012, Feb 2014
Multi-interval PM	Feb 2009
Loop Calibrations	Feb 2015
Extension Automation	Feb 2015

Documents: https://www.imwuc.org/p/do/si/topic=250

Maximo System Related Topics

Topic	Document Dates
Mobile Calibrations	Nov 2006, Mar 2011, Mar 2012, Feb 2014
Standardized failure Codes	Feb 2010
Interface Protocols	Feb 2010
Upgrade: V6 - V7	Mar 2011
Language – Globalization	Mar 2011
User Interface	Oct 2011
Batching Work Orders	Mar 2011
Database Migration	Mar 2011
User Interface	Mar 2011

Documents: https://www.imwuc.org/p/do/si/topic=250

Process Related Topics

Topic	Document Dates
Best Practices	Jul 2007
Work Order Status Progression	Oct 2010
Work Models	Mar 2011
Training	Oct 2011
Job Plans	Oct 2011
PM Routes	Feb 2010
Direct Print – WOPRINT	Feb 2014
New Asset Creation	Feb 2014
V5.5/6 Lessons Learned	Feb 2015

Documents: https://www.imwuc.org/p/do/si/topic=250

Other Topics

Topic	Document Dates
E-SIG Configuration	Oct 2010
Recall System	Oct 2012
Reducing Mouse Clicks for Reports	Oct 2010
Operator Logs	Feb 2014
Citrix/Virtual Desktop	Oct 2014
Documenting Process Calibrators	Oct 2014
Predictive Analytics	Feb 2015
Data Migration	Feb 2015 - Best Practices

Documents: https://www.imwuc.org/p/do/si/topic=250

Request for Enhancements

- Used to help determine what enhancements to add to Maximo
  - RFEs with a large number of “Yes” votes are more likely to be added to Maximo
- Use the McSIG Forum
  - Posting on the Forum will send emails to members so that the request will be distributed to an interested audience

Some Suggested Topics

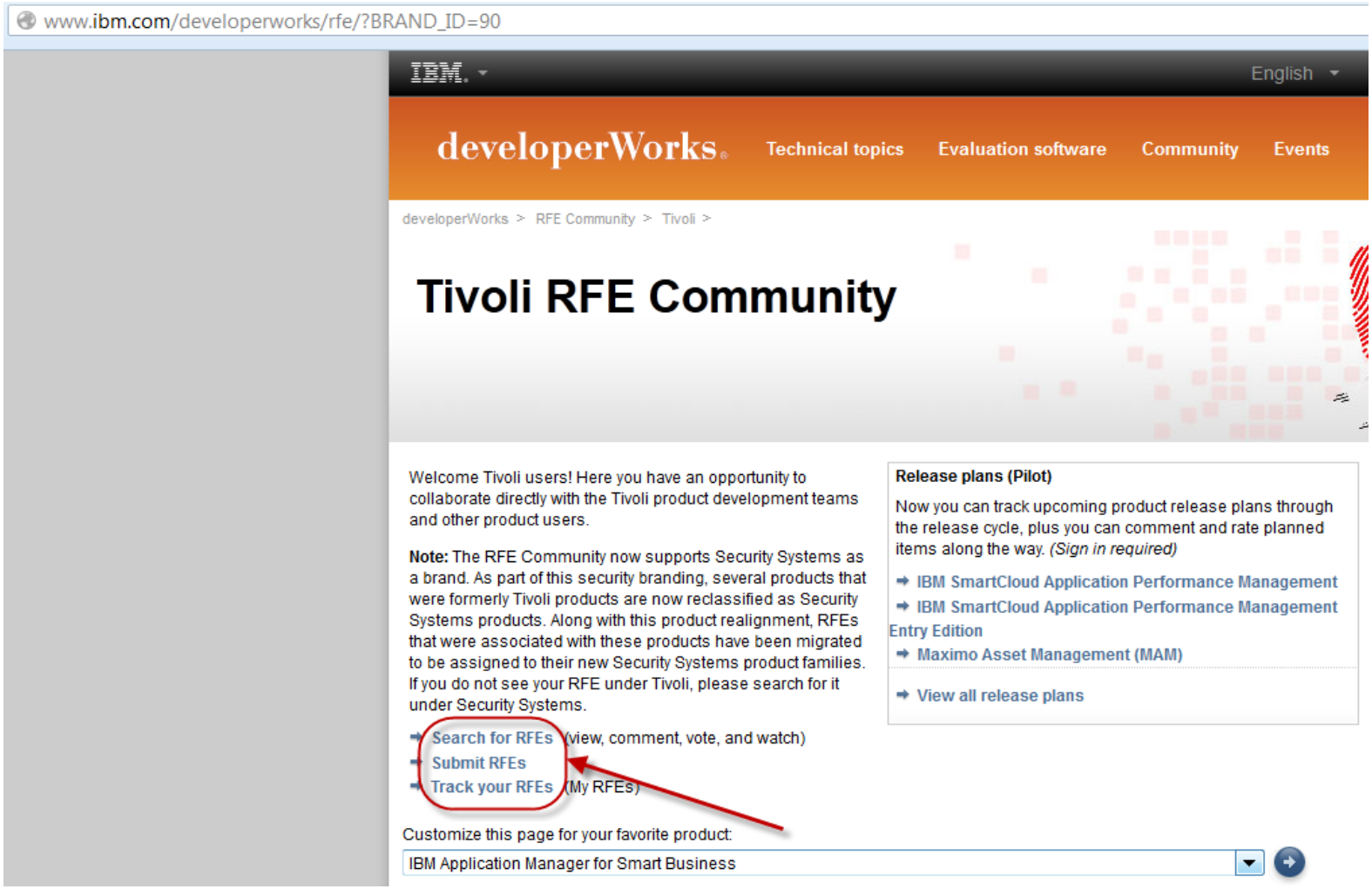
- Lessons learned with 7.5/6
- Automation Scripting
- Wireless calibration label printing for on-site calibrations
- Predictive Analytics

Working Session

- Brainstorm new topics
- Prioritize topics
- Work topics in priority order
- Discuss and document issues, solutions, and best practices

- Adjourn

End

RFE Website

http://www.ibm.com/developerworks/rfe/?BRAND_ID=90