PHM Technology

Decisions better made

MADE

MAINTENANCE AWARE DESIGN ECOSYSTEM

MADE 3.8.10

Release Notes

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This release advances RCM analysis by giving engineers clearer insight into failure pathways, streamlined workflows, and stronger alignment with industry taxonomies. Flexible data configuration, improved usability, and single-view reliability impact assessments work together to cut manual effort, improve traceability, and support more consistent, informed maintenance decisions. Additionally, new API versioning with legacy API support was implemented to ensure seamless integration for current users while enabling long-term adaptability.

Key Features include:

- **Failure Paths Metrics**
- **Maintenance Actions Upgrades**
- **Model-based RCM (MB-RCM)**
- **Fault Tree Analysis (FTA) Upgrades**
- **RBD and RBD Analysis Viewer**
- **API and API Versioning**

Failure Paths Metrics:

User Value: Gives engineers clearer visibility in failure mechanism pathways and the effectiveness of mitigating activities.

- Added Failure Path Viewer to failure diagram which summarizes fault path reliability KPP's
- Added comparative metrics for reliability (base vs. revised) based on control measures (maintenance effectiveness factor)

Maintenance Actions Upgrades:

User Value: Improves consistency in maintenance development by aligning taxonomies to RCM methodologies.

- Introduced user-definable maintenance terminologies aligned with selected RCM methodologies such as MSG3 and RCM II
- User defined maintenance taxonomies displays consistently across Maintenance Actions editor, MBRCM, Backfit RCM, and reports
- Maintenance taxonomy profile selection is now available at the project level
- Updated MMT, Ai, and Ao calculations in the Maintenance Actions editor to use revised values instead of base

Model-based RCM (MB-RCM):

User Value: Streamlines RCM analysis setup and monitoring, reducing manual data entry and improving traceability.

- Expanded Significant Item search functionality with new filtering criteria, including reliability, operational availability, failure criticality threshold - risk, and severity
- Improved threshold checkbox visibility
- Enabled selection of predefined symptoms in CBM worksheets when linked to failure concepts in the Failure Diagram, with support for defining and managing symptom records.

- Added status and progress indicators for Items, Functions, and Failure Modes in Significant Item search, System Functions, and Summary tabs to improve tracking in multi-MSI analyses.
- Analysis version changes are now logged and written to a CSV file which is attached to the RCM analysis as a document
- Improved section and subsection naming to better align with objectives

Fault Tree Analysis (FTA) Upgrades:

User Value: Increases flexibility in data source configuration, and improved navigation and useability

- Fault tree generation now allows users to choose between baseline or revised reliability metrics for p(f) value calculations
- Added page references for transfer gates in the FTA report, with hyperlinks for quick navigation between related sections.

RBD and RBD Analysis Viewer:

User Value: Makes it easier to evaluate the impact of maintenance on system reliability in a single view.

- Upgraded RBD Analysis viewer to incorporate the effectiveness of maintenance actions, displaying revised reliability metrics alongside baseline values
- Removed ABD (Availability Block Diagram) as this is now an invalid feature

API and API Versioning:

User Value: Simplifies long-term integration maintenance while preserving compatibility for existing API users.

- Introduced versioning options: Legacy and v1.0.0.
- Legacy: Maintains compatibility for customers already using the API without version information in the URL (e.g., http://localhost:8080/systems/fetchAll).
- v1.0.0: Recommended for new API implementations, using versioned URLs for easier future upgrades (e.g., http://localhost:8080/1.0.0/systems/fetchAll).
-     v1.0.0 is the locked initial version of the API. legacy is provided solely for backward compatibility.
- Legacy support, existing integrations will not be affected by this change.
- Resolved an issue where part feature IDs would change each time the model was reopened. IDs now persisted across sessions.
- Resolved an issue where updating hazard objects through the UI would generate a new system ID in the backend; IDs now persist as expected.
- Added cookie support for API authentication to expand integration options.
- Updated login API to correctly handle Group and Role values from request headers.
- Enhanced login API to allow empty Group and Role values when required.
- Ensured that the system ID is consistently populated in the id field of JSON payloads.
- Added support for persisting metadata fields received during import or sync operations, with the ability to return the same metadata on export.

Miscellaneous Changes and Updates

User Value: General improvements to usability, UI, and workflows.

- Fixed broken hyperlinks in the API Help section for GET, PATCH, and PUT request documentation.
- Enabled saving of Control Measures to the Library for reuse across analyses.
- Criticality profile editor project/application profile migrate button moved to appropriate section

End