meridium

Meridium Enterprise APM Release Notes

V4.0.0.0 through V4.0.1.0

Meridium Enterprise APM V4 Release Notes

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Meridium Enterprise APM Release Notes

The Meridium Enterprise APM Release Notes describe changes to the baseline Meridium APM product. If you are using customized database content, the behavior that you see in your system may differ from what is described here.

The following types of Release Notes are included, as applicable, for each release:

- **Changes to Hardware and Software Requirements**: A list of significant changes to hardware and software requirements from the previous release.

- **New Features**: A list of new features that are being introduced in the release.

- **Enhancements**: A list of significant improvements that have been made to each module in the release.

- **Resolved Issues**: A list of issues that existed in previous versions of Meridium APM that have been resolved in the release.

- **Restored Features**: Functionally equivalent V3.x features that were deferred from previous V4.x releases, but are now available in the release.

- **Obsolete Features**: A list of features that are now obsolete as a result of changes made in the release.

- **Deferred Features**: A list of functionally equivalent features that are not included in the release, but are planned for a future release.

> **Note**: For each item in the Release Notes, one or more numbers are included in parentheses at the end of the description. These values represent work items that Meridium, Inc. uses to track changes made to the product.

Meridium Enterprise APM V4.0.0.0 Release Notes

Release notes for the following versions are available:

- [V4.0.0.0](#)
- [V4.0.1.0](#)

V4.0.0.0 Release Notes

The following release notes are available for Meridium Enterprise APM V4.0.0.0:

- [What's New in V4.0.0.0?](#)
- [Changes to Hardware and Software Requirements](#)
- [New Features](#)
- [Enhancements](#)
- [Resolved Issues](#)
- [Obsolete Features](#)
- [Deferred Features](#)

What's New in V4.0.0.0?

The following Release Notes describe a series of application-wide changes that have been implemented in V4.0.0.0:

- Meridium Enterprise APM V4.0.0.0 has been completely redesigned from other versions of Meridium APM. These changes include:
    - A powerful new, user-friendly interface.

    - A web-based application that can be accessed from the latest versions of Internet Explorer, Chrome and Safari.

    - A multi-platform application that can be accessed from an Android, iOS, or Windows device.

  Even with all of these changes, Meridium Enterprise APM V4.0.0.0 is functionally equivalent to V3.6. This means that, although you may interact differently with the features, the functionality is the same as it was in our previous releases.

- Previously, Meridium APM included a series of Packaged Solutions that applied to several modules and were installed separately from the main application. Now, materials that were previously include in Packaged Solutions are included in the baseline content and do not require a separate installation and implementation process.

- Previously, Meridium APM employed the use of mobileAPM, an application that allowed users to access certain features of Meridium APM on a mobile device, such as an iPad. Now, because Meridium Enterprise APM runs on multiple platforms, the entire Meridium Enterprise APM application is available on mobile devices and does not require mobileAPM.

Changes to Hardware and Software Requirements - V4.0.0.0

The following changes to hardware and software requirements were determined for V4.0.0.0:

Meridium Enterprise APM Server

- The machine previously referred to as the Meridium APM Application Server is now referred to as the Meridium Enterprise APM Server. Throughout the V4.0.0.0 documentation, including these Release Notes, we refer to this machine by its new name.

- Windows Server 2012 R2 (64-bit) is now the only supported operating system for the Meridium Enterprise APM Server.

- The minimum hardware requirements for the Meridium Enterprise APM Server have been modified. The Meridium Enterprise APM Server now requires:
  - Four processor cores, 2+ GHz (previously two processor cores, 2+ GHz)
  - 16 GB RAM (previously 4 GB RAM)
  - 100 GB of available hard drive space on, at a minimum, 7.2K RPM drives (previously 20 GB hard drive space)

- The Meridium Enterprise APM Server now requires the following components:
  - Microsoft SQL Server 2012 Management Objects Microsoft.net 4.0
  - ReportViewer2015
  - IIS 8.5
  - IIS 6.5 WMI Compatibility Roles
  - Microsoft ADOMD.Net
  - SQL Server Data Tools (SSDT) (if you are using SQL Server Reporting Services 2012)
  - WinMerge
  - Microsoft Message Queuing (MSMQ)
  - Microsoft Visual Studio 2012 Professional or Microsoft Visual Studio 2013 Professional for compiling and managing rules (TS ID: 68211)

Meridium APM Framework Machines

- Meridium Enterprise APM is no longer accessed via the Meridium APM Framework application. Now, any desktop or laptop machine can access Meridium Enterprise APM via a

web browser, assuming the machine meets the following hardware and software requirements:

- Two Processor Cores, 2 GHz
- 4 GB RAM (8 GB RAM recommended)
- 8 GB of available hard drive space
- 13" screen
- 1024 X 768 screen resolution
- Chrome 43, Internet Explorer 11, or Safari 8 (Mac only)
- Apple OS X Yosemite, Windows 7 (32-bit), Windows 7 (64-bit), or Windows 8.1 (64-bit)

- Additionally, Meridium Enterprise APM can be accessed via mobile devices. Support for mobile devices is provided in two resolution view modes: full or limited. Full-resolution view mode supports access to the entire Meridium Enterprise APM system. Limited-resolution view mode supports limited access to overview pages and data collection. The minimum hardware and software requirements for devices using full-resolution mode are as follows:
  - Two Processor Cores, 2 GHz
  - 2 GB RAM
  - 8 GB of available hard drive space
  - 7" screen
  - 1920 X 1200 screen resolution
  - Chrome 43, Internet Explorer 11, or Safari 8 (Mac only)
  - Android Kitkat 4.4, Android Lollipop 5.0, Apple iOS 7, Apple iOS 8, or Windows 8.1 (64-bit)

The minimum hardware and software requirements for devices using limited-resolution mode are as follows:

- Two Processor Cores, 1 GHz
- 1 GB RAM
- 8 GB of available hard drive space
- 4" screen
- 1024 X 600 screen resolution
- Chrome 43, Internet Explorer 11, or Safari 8 (Mac only)
- Android Kitkat 4.4, Android Lollipop 5.0, Apple iOS 7, Apple iOS 8, or Windows 8.1 (64-bit)

Meridium Enterprise APM Database Server

- The minimum hardware requirements for the Meridium Enterprise APM Database Server have been modified. The Meridium Enterprise APM Server now requires:
    - 32 GB RAM (previously 8 GB RAM)
    - 200 GB of available hard drive space (previously 100 GB hard drive space)

- Oracle 11.2 is no longer supported.

- Oracle 12.1 is now supported.

- The Meridium Enterprise APM testing environment now uses Oracle 12.1.0.2.

- SQL Server 2008 R2 is no longer supported.

- Only SQL Server 2012 versions SP2 CU2 or above are now supported.

- SQL Server 2014 is now supported.

- The Meridium Enterprise APM testing environment now uses SQL Server 2012 Standard Edition SP2 CU2 and SQL Server 2014 Standard Edition RTM.

SQL Server Report Server

- The minimum hardware requirements for the SQL Server Report Server have been modified. The SQL Server Report Server now requires:
    - Two processor cores, 2+ GHz (previously one processor cores, 2+ GHz)
    - 8 GB RAM (previously 2 GB RAM)
    - 25 GB of available hard drive space (previously 10 GB hard drive space)

- SQL Server Reporting Services 2008 is no longer supported.

- SQL Server Reporting Services 2014 is now supported.

New Features - V4.0.0.0

The following modules have new features in V4.0.0.0:

- [APM Connect](#)
- [Foundation](#)
- [Risk Based Inspection](#)

APM Connect - New Features - V4.0.0.0

The following new features have been added to V4.0.0.0:

- New to V4.0.0.0 is APM Connect EAM V1.5.0 and WPA V1.2.1. These releases support the following integration adapters:
  - EAM
    - SAP
      - Equipment
      - Functional Location
      - Work History
      - Notification Management
      - Technical Characteristics
      - Work Management
  - Work Process Adapters
    - Taxonomy Adapter
    - Equipment and Functional Location Adapter
    - Work History Adapter
    - RCM Adapter
    - FMEA Adapter

  (TS ID: 139902)

- Scheduling Work Orders has changed for V4.0.0.0. APM Connect integrates with Meridium Enterprise APM in Operations manager. Work order creation is now managed by a scheduler in Operations Manager. (TS ID: 142668)

Foundation - New Features - V4.0.0.0

The following new features have been added to Meridium Enterprise APM Foundation in V4.0.0.0:

Assets

- New to V4.0.0.0 is the Asset Hierarchy. Meridium Enterprise APM is built on the premise that, within your company, there are multiple functional locations that can be organized in a hierarchy to represent the fact that some locations belong to other locations. These relationships create the Asset Hierarchy. (TS ID: 61807)

- Creating analyses has changed for V4.0.0.0, with the introduction of the Asset Group. When you upgrade to V4.0.0.0, you can group assets and share those groups to different kinds of analyses. Additionally, when you upgrade, any ACA systems, RBI Corrosion Loops, or Hazards Analysis System Nodes you had saved will automatically become Asset Groups in V4.0.0.0. (TS ID: 61807)

Family Policies

- The *family policies* feature has been introduced in V4.0.0.0.

  You can use this feature to configure certain actions to be taken when a record changes in the Meridium Enterprise APM database. Family policies allow you to make changes in a similar manner as family-level rules, but family policies are created in a user interface where knowledge of Visual Basic.Net (VB.Net) is not required.

  Family policies can be accessed in the **Family Management** section of Configuration Manager.

  For more information about this feature, see the *Rules and Policies* section of the Meridium Enterprise APM Administrative User Help system.

  (TS ID: 73598)

Hyperlink Utility

- The Hyperlink Utility tool has been introduced in V4.0.0.0.

  You can use this feature to make a copy of the URL associated with the active tab that you are viewing in the application, and you can use this feature to generate a link to the active tab that you are viewing in the application. You can then use this link to a add to a Dashboard, create a query, send in an email message, or create a desktop shortcut.

  (TS ID: 129871)

Translations

- In V4.0.0.0, the support for Japanese language is available in Meridium Enterprise APM. (TS ID: 160471)

Risk Based Inspection - New Features - V4.0.0.0

The following new features have been added to V4.0.0.0:

- You can now create an RBI Asset Risk Report that displays an at-a-glance summary of an asset's details in RBI, Thickness Monitoring and Inspection Management. (TS ID: 61248)

- You can now create a Pipeline Analysis, which is an analysis of the records that contain risk information. Pipeline Analyses function the same way as RBI Analyses; however, they are specific segments of a larger pipeline. With Pipeline Analyses, you can:
    - Manage Potential Degradation Mechanisms for a pipeline segment.
    - Create Analyses for a pipeline segment.
    - Calculate Analyses for a pipeline segment.
    - Manage Inspections for a pipeline segment.
    - Manage Recommendations for a pipeline segment.
    - Manage Damage Mechanisms for a pipeline segment.
    - Create customize calculation for a pipeline segment.

    (TS ID: 62991, 73477, 73478, 84391, 84392, 84393, 84394, 84395, 84396, 122256, 122676, 130453)

- To facilitate Pipeline management, a new set of System Code Tables have been added:
    - MI PIPELINEBELOWWATERSURFACE
    - MI PIPELINEPROTECTIONCOVER
    - MI PIPELINEWARNINGSTRIP
    - MI PIPELINEBELOWBOTTOMWATERWAY
    - MI PIPELINECONCRETECOATING
    - MI PIPELINEACTIVITYLEVEL
    - MI PIPELINEABOVEGROUNDFACILITY
    - MI PIPELINELINELOCATING
    - MI PIPELINEEDUCATIONPROGRAM
    - MI PIPELINERIGHTOFWAY
    - MI PIPELINEPATROLFREQ
    - MI PIPELINEPREVIOUSDAMAGE
    - MI PIPELINESCADA
    - MI PIPELINEPOPULATIONDENSITYADJUSTED
    - MI PIPELINESOILTYPEFACTOR

- ○ MI PIPELINEHIGHVALUEAREAFACTOR
- ○ MI PIPELINESUGGESTEDCLEANUPCOSTS
- ○ MI PIPELINE SEGMENT TYPE

(TS IDs: 103785)

- The following new families and their associated rules have been added to create Pipeline Analyses:
  - ○ Pipeline Component family.
  - ○ Third Party Degradation Mechanism Evaluation (DME)

(TS ID: 106008, 106009)

Enhancements - V4.0.0.0

The following modules have enhancements for V4.0.0.0:

- [Asset Health Manager](#)
- [Asset Strategy Implementation](#)
- [Asset Strategy Management](#)
- [Calibration Management](#)
- [Foundation](#)
- [Hazards Analysis](#)
- [Inspection Management](#)
- [Metrics and Scorecards](#)
- [Policy Designer](#)
- [Process Data Integration](#)
- [Production Loss Analysis](#)
- [Recommendation Management](#)
- [Reliability Centered Maintenance and Failure Modes and Effects Analysis](#)
- [Risk Based Inspection](#)
- [Rounds](#)
- [SIS Management](#)
- [Thickness Monitoring](#)

Asset Health Manager (AHM) - Enhancements - V4.0.0.0

The following enhancements have been made to AHM in V4.0.0.0:

- The grid in AHM showing readings associated with an OPC Tag record now displays reading values directly from the process historian. Readings that are stored in the Meridium Enterprise APM database via OPC Reading records can still be viewed using Record Manager. (TS ID: 122095)

- Starting in V4.0.0.0, when a valid health indicator source record (e.g., Measurement Location record) is added to the Meridium Enterprise APM database, related Health Indicator records can be created automatically. Administrative users can manage whether or not health indicators are created for each potential source record.

    When you upgrade your database to V4.0.0.0, no new Health Indicator records will be created. Instead, any valid health indicator source records that are linked to an asset and not linked to a Health Indicator record will be *excluded* from the automatic health indicator creation by default.

    > 👥Note: After upgrading, you can include any of these records as necessary. Alternatively, prior to upgrading to V4.0.0.0, you can use the Health Indicator Builder in V3.0.0.0.0 to create Health Indicator records for the necessary source records.

    To support these changes, the following fields were added to the Health Indicator Mapping family:

    - Type Field
    - Type Value

    When you upgrade to V4.0.0.0, if you are using custom health indicator mappings, you must specify values in these fields to ensure that the mappings are used for the appropriate reading type.

    (TS IDs: 99424, 99423, 60943)

- Users in the MI AHI Administrator and MI AHI User security groups have been granted View permissions to the following Catalog folders:

    - \\Public\Meridium\Modules\AHI
    - \\Public\Meridium\Modules\AHI\Dashboards
    - \\Public\Meridium\Modules\AHI\Queries
    - \\Public\Meridium\Modules\AHI\Queries\Dashboard Queries

    (TS ID: 61082)

- The icons reflecting the status of Health Indicators have been enhanced to better convey

the latest knowledge about the indicator. In V4.0.0.0, the color of the icon reflects whether the status stored in the Health Indicator record is synchronized with the latest reading value associated with the Health Indicator source. In addition, if a numeric Health Indicator does not have any limits, then no status is displayed. (TS ID: 90892)

Asset Strategy Implementation (ASI) - Enhancements - V4.0.0.0

The following enhancement has been made to ASI in V4.0.0.0:

- V4.0.0.0 includes a completely new, intuitive implementation workflow for packaging Actions from multiple strategies, to be executed in Meridium Enterprise APM or SAP.

Asset Strategy Management (ASM) - Enhancements - V4.0.0.0

The following enhancements have been made to ASM in V4.0.0.0:

- Common integration to strategy methodologies, which places strategy management in the center of all workflows, are now available in V4.0.0.0.

- To improve the ability to analyze the effectiveness of your strategies, Performance Recommendations have been added to V4.0.0.0.

Calibration Management - Enhancements - V4.0.0.0

The following enhancements have been made to Calibration Management in V4.0.0.0:

- Calibration templates are now stored at the following locations:
    - **Template Library:** Contains a list of *all* the calibration templates that you have created. These templates are *not* linked to an Asset.
    - **Applied templates:** Contains a list of calibration templates that are linked to an Asset. The Apply Template feature allows you to create a copy of the template and link the copy to an Asset. The Re-apply Template feature allows you to overwrite the information in an applied template with that of a template stored in the library.

  (TS ID: 63051)

- When you link a Standard Gas Cylinder to a Calibration, the details of the related Standard Gas Components are now populated in the Calibration. (TS ID: 63069)

Foundation - Enhancements - V4.0.0.0

The following enhancements have been made to Meridium Enterprise APM Foundation in V4.0.0.0:

Catalog

- The Catalog folder **\\Baseline** contains two new folders to support Home Pages and where they are stored: Dashboards and Security Groups. (TS ID: 133795, 102630)

Dashboards

- The Key Performance Indicator (KPI) widget is now available for adding KPI data to a dashboard. (TS ID: 119119)

Configuration Manager

- You can now manage families by writing rules against a family. To do so, you must have the Developer license. (TS ID: 148207)

- You can now define the behavior of the field by using the **Field Behavior** tab in the **Fields** page for a family in Family Management. (TS ID: 120998)

- You can now specify whether site filtering is required for a family by selecting the **Enable Site Filtering** check box in the **Information** page of Family Management. (TS ID: 138251)

- You can now view the status of the multiple jobs that are scheduled in the application by using the **Scheduling** page. (TS ID: 131569)

- Previously, **Units of Measure** and **Units of Measure Conversion Set** were two separate sections in Meridium. Now, they are together in the **Units of Measure and Conversions** in Configuration Manager. (TS ID: 115576)

Date Fields

- The way in which dates and times are stored has been simplified in V4.0.0.0. In previous releases, dates and times were stored in one of three ways:
  - If the logged in Security User had a time zone specified in his or her Security User record, the date and time was stored in that time zone.

- If the logged in Security User did *not* have a time zone specified in his or her Security User record, the date and time was stored in the time zone of the Meridium Enterprise APM Server.

- If the field was flagged as a UTC field in the Configuration Manager, the date and time was stored in Coordinated Universal Time (UTC).

Beginning with V4.0.0.0, *all* dates and times are now *stored* in Coordinated Universal Time (UTC). Dates and times are *displayed* to each user according to the time zone that is defined in his or her Security User record. For example, if a time is stored as *6:00:00 P.M. UTC*, if you are logged in as a Security User with the time zone *(UTC - 05:00) Eastern Time (US & Canada)*, you will see the time as *1:00:00 P.M*.

To facilitate this enhancement, every Security User record must specify a time zone. If you are upgrading from a previous version of Meridium APM, and your database contains existing Security User records for which time zones are *not* defined, you must specify a time zone in each record before you can successfully upgrade the Meridium APM database.

To simplify this process, a new utility, *Time Zone Update*, is available in this release. You can run this utility to detect which Security Users do *not* have a valid time zone specified. The utility will generate a Microsoft Excel spreadsheet of *all* Security Users, where you can specify valid time zones. The Database Upgrade Manager application will automatically import this spreadsheet during the upgrade process.

(TS IDs: 62660, 84243)

Global Search

- The global Search feature now returns applications and catalog items, in addition to records. Further, an administrative user can configure the search settings to change the way that items are returned by the global search. (TS ID: 61812)

Record Manager

- Beginning in V4.0.0.0, you can configure access from Meridium Enterprise APM to a shared network drive for the purposes of saving Reference Documents externally. (TS ID: 132218)

Security Manager

- Starting in V4.0.0.0, privileges can be assigned to users by assigning groups to Security Roles.

- To access Meridium Enterprise APM, all Security Users must have a valid user ID and password. By default, Meridium Enterprise APM requires that all passwords meet a

certain set of baseline conditions, which are defined in the baseline password policy.

Beginning in V4.0.0.0, an administrative user can now change the baseline password policy to make it more or less restrictive, as needed.

> ⚭ **Note:** Some baseline password restrictions are hard-coded and cannot be overridden by an administrative user. For example, passwords cannot be empty.

(TS ID: 69161)

- In order to filter data by sites in previous versions, you had to create security groups and apply family filtering for that group. In V4.0.0.0, you can assign users directly to a specific site. (TS ID: 115382)

- Previously, all users had inherent Execute permissions for the //Public/Meridium folder and its subfolders, but did not have View permissions to access these folders in the catalog unless specifically granted. In V4.0.0.0, all users have inherent View permissions to the //Public/Meridium folder. However, Execute permissions must now be granted explicitly to Security Users and Security Groups.

Hazards Analysis - Enhancements - V4.0.0.0

The following enhancements have been made to Hazards Analysis in V4.0.0.0:

- When you delete a Hazards Analysis, the following linked records are also deleted, rather than just *unlinked* from the analysis:
  - Causes
  - Consequences
  - Safeguards
  - Risk Assessments
  - Systems/Nodes

  > ⚎**Note**: The Recommendations linked to a Hazards Analysis are *not* deleted when you delete the analysis.

  (TS IDs: 62621, 62625)

- In addition to copying a Deviation, What If, Cause, Consequence, and a Safeguard, you can now copy a System/Node to a Hazards Analysis. As a result of this change, you can no longer copy a Hazards Analysis (TS ID: 62709)

- The data models for HAZOP Analysis and What If Analysis are changed such that:
  - The Systems/Nodes are now linked to Assets or Functional Locations.
  - You *cannot* link an Asset or a Functional Location directly to a Hazards Analysis. All the Assets and Functional Locations linked to all the Systems/Nodes of a Hazards Analysis are automatically linked to the corresponding Hazards Analysis.

  (TS IDs: 68868, 75217)

- The Meridium Enterprise APM system creates an asset group of all the Assets that are linked to a Hazards Analysis (by linking to the Systems/Nodes, Causes, and Safeguards in the analysis). You can view these asset groups on the **Asset Group** page. However, if you unlink an Asset from the Hazards Analysis, the corresponding asset group is *not* updated. In that case, you must remove the Asset by accessing the asset group. (TS ID: 75217)

- You can now assess the mitigated risk for Safeguard in a Hazards Analysis even if the Safeguard is *not* an Independent Layer of Protection. (TS ID: 78497)

- In the **IPL Credits** box in the Safeguard datasheet, in addition to selecting a value from the drop-down list, you can now also enter a numeric value. This allows you to enter a value that is not available in the list. (TS ID: 78808)

- Previously, you could modify a Hazards Analysis irrespective of the state of the analysis. In V4.0.0.0, you cannot modify a Hazards Analysis if the state of the analysis is not *Planning*. (TD ID: 83130)

Inspection Management - Enhancements - V4.0.0.0

The following enhancements have been made to Inspection Management in V4.0.0.0:

- You can now add multiple Degradation Mechanisms (DMs) or Tasks to an Inspection Event. (TS IDs: 60873, 62936, 63483, 63484)

- To account for Third Party Damage, a new system code table, MI_ DAMAGECHECKLIST_SECTIONS, has been added to Inspection Checklists. In addition, the following fields have been added to the Inspection Family Fields to account for Third Party Damage:
  - Asset Key
  - Checklist System Code Table ID
  - Even Start Date

  (TS ID: 62990)

Metrics and Scorecards - Enhancements - V4.0.0.0

The following enhancements have been made to the Metrics and Scorecards in V4.0.0.0:

- Previously, in order to schedule a KPI, you had to create a Master Scheduled Item in addition to a KPI schedule. In V4.0.0.0, when you schedule a KPI, a schedule item is created automatically for the KPI. The Master Scheduled Item is no longer used. These scheduling changes allow KPI to execute more precisely.

  When you upgrade your database to V4.0.0.0, KPI schedules will be upgraded automatically.

  When the parent KPI scheduled item is run, the subindicators will also be updated automatically along with the parent KPI. Therefore, you cannot have individual schedule for subindicators.

  (TS ID: 131569)

- You can now view the status of scheduled KPI tasks in the **Scheduling** page of the **Operations Manager**. The available statuses are **In Progress**, **Successful**, and **Failed**. (TS ID:103752)

Policy Designer - Enhancements - V4.0.0.0

The following enhancements have been made to Policy Designer in V4.0.0.0:

- This module has been renamed from *Policy Manager* to *Policy Designer*. Throughout the V4.0.0.0 documentation, including these Release Notes, we refer to this module by its new name.

  > ⚮Note: The folders in the Catalog still use the name *Policy Manager*.

  (TS ID: 153660)

- In *any* node, the system fields *Entity Key* and *Content GUID* can now be selected as input values from a node that represents a record. (TS ID: 94933)

- The following new Action nodes are available:
    - Create Entity
    - Create Relationship
    - Delete Entity
    - Delete Relationship
    - Edit Entity

  You can use these nodes in a policy to create or delete records in the Meridium Enterprise APM database.

  (TS IDs: 94955, 98249, 94934, 94933, 69938, 61616)

- The requirements for implementing the Rule node have changed for V4.0.0.0. If you are currently using the Rule node, when you upgrade to V4.0.0.0, your custom rule will be upgraded automatically and no further action is required. If you want to create a new custom rule for use with the Rule node, you should contact Meridium, Inc. for additional instructions and assistance. (TS ID: 83904)

- A separate installation of the Policy Execution Service is no longer required. Instead, the Policy Execution Service software is now installed automatically with the Meridium Enterprise APM Server software.

  > ⚮Note: If you have multiple servers to process policy executions, you can configure the Meridium Enterprise APM Servers in your system architecture according to your company's preference for server load-balancing. See the Policy Designer deployment documentation for details.

  (TS IDs: 71355, 67579)

- Previously, the following fields stored data in a binary format:
  - The Model field in Policy family
  - The Mapping field in Policy Instance family

To improve performance, these fields now store data in a serialized JSON text format. When you upgrade your database to V4.0.0.0, the data in these fields will be converted automatically and stored in new fields with the same field captions.

> ⚶Note: Due to these changes, you cannot import a policy from a previous version into a V4.0.0.0 database. Likewise, if you export a policy from a V4.0.0.0 database, you cannot import it into a database for a previous version.

(TS IDs: 63735, 65748)

- Previously, in order to schedule a policy, you had to create a Master Scheduled Item (in Schedule Manager) in addition to a policy schedule. In V4.0.0.0, when you schedule a policy, a schedule item is created automatically for the policy. The Master Scheduled Item is no longer used. These scheduling changes allow policies to execute more precisely.

In addition, the Schedule field in Policy records now stores information in JSON rather than XML.

When you upgrade your database to V4.0.0.0, policy schedules will be upgraded automatically.

(TS ID: 131666)

Process Data Integration (PDI) - Enhancements - V4.0.0.0

The following enhancements have been made to PDI in V4.0.0.0:

- Previously, to access process data for tags from a process historian, you had to first manually import the tags in order to create corresponding OPC Tag records (previously called *Xi Tag* records; for details, see the release note for TS ID 61178) in the Meridium APM database. Now, all tags from a configured process historian are imported automatically into the Meridium Enterprise APM database as OPC Tag records and synchronized regularly at a frequency that you define.

  When the synchronization occurs, OPC Tag records are added, modified, or deleted based on the corresponding tags in the process historian. See the product documentation for details.

  To support this feature, the following changes have been made:

  - Various settings have been added to the PDI Service configuration file that you can use to schedule and configure the synchronization.

  - The following fields have been added to the OPC Tag family:

    - **Last Sync Time**: Contains the last date that the OPC Tag record was successfully synchronized with the corresponding tag in the source process historian.

    - **Removed From Source Database:** Indicates whether or not a corresponding tag exists in the source process historian. This field is marked as *true* if the OPC Tag record is used in Meridium Enterprise APM, but a corresponding tag cannot be found in the source process historian.

  When you upgrade to V4.0.0.0, the new fields will initially be set to *null* in existing OPC Tag records. When the first synchronization occurs, these fields will be populated automatically with the appropriate values.

  - The following fields in the OPC System family are no longer used and will not appear on the OPC System datasheet:

    - PI Server Name

    - Server Login

    - Server Password

    - Type

  > 🔗 **Note:** Due to these changes, OSI PI tag search (i.e., the **PI System Browser** in V3.0.0.0.0) is no longer supported. Instead, you can locate a specific tag using the search within Meridium. In addition, PI SDK is no longer required on the Meridium Enterprise APM Server.

  (TS IDs: 81685, 80947)

- The Process Data Integration Service has been enhanced so that you no longer have to complete configuration steps specific to triggering policies or updating health indicators based on readings from a process historian. As a result of this enhancement:
  - A supporting instance of the Meridium Enterprise APM Server software is no longer required on the Process Data Integration Server machine.
  - The Policy Trigger Service will no longer be installed on the Process Data Integration Server machine.
  - The Asset Health Indicator Service will no longer be installed on the Process Data Integration Server machine.

  In addition, enhancements have been made to the PDI Service message processing which minimize the likelihood of the service stopping unexpectedly when receiving persistent error messages.

  (TS IDs: 68453, 61478)

- PDI now supports Honeywell's Uniformance® Process History Database (PHD) Version 310.1.0 (TS ID: 62257).

- To maintain consistency with industry terminology, beginning in V4.0.0.0, the Meridium Enterprise APM user interface uses the term *OPC* instead of the term *Xi*. To support this enhancement, the following changes have been made:
  - Captions for various families have been updated as summarized in the following table.

Pre-V4.0.0.0 Caption	V4.0.0.0 Caption
Xi Reading	OPC Reading
Xi System	OPC System
Xi Tag	OPC Tag
Has Xi Reading	Has OPC Reading
Has Xi Tag	Has OPC Tag

  - Captions for various fields have been updated as summarized in the following table.

Family (V4.0.0.0 Caption)	Pre-V4.0.0.0 Field Caption	V4.0.0.0 Field Caption
OPC Reading	Xi Reading ID	OPC Reading ID
OPC System	Xi System ID	OPC System ID
OPC Tag	Xi Tag ID	OPC Tag ID

  - Captions for baseline Catalog queries used by the Process Data Integration module have been updated as summarized in the following table.

Pre-V4.0.0.0 Caption	V4.0.0.0 Caption
Active Xi System	Active OPC System
Active Xi Tags	Active OPC Tags
Imported Xi Tags	Imported OPC Tags
Xi System Device Query	OPC System Device Query
Xi Tag Device Query	OPC Tag Device Query

- In the Policy Designer module, the Xi Tag node has been renamed to *OPC Tag*.

Note that these changes apply only to the captions that appear in the user interface. All underlying family, field, and query IDs are unchanged.

Throughout the V4.0.0.0 documentation, including these Release Notes, we refer to these items by their new names.

(TS ID: 61178)

Production Loss Analysis (PLA) - Enhancements - V4.0.0.0

The following enhancement has been made to PLA in V4.0.0.0:

- This module has been renamed from *Production Loss Accounting* to *Production Loss Analysis*. Throughout the V4.0.0.0 documentation, including these Release Notes, we refer to this module by its new name.

Recommendation Management - Enhancements - V4.0.0.0

The following enhancement has been made to Recommendation Management in V4.0.0.0:

- Previously, Recommendations were managed through Record Manager. Now, both performance and strategic recommendations are managed through the expandable **Recommendation** pane that can be accessed from an Analysis. (TS ID: 62650)

Reliability Centered Maintenance (RCM) and Failure Modes and Effects Analysis (FMEA)- Enhancements - V4.0.0.0

The following enhancements have been made to RCM/FMEA in V4.0.0.0:

- Previously, users with RCM Administrator privileges had full access to define risk matrices. This is now restricted to only super users. RCM Administrators now have just view-only permissions for risk matrices. (TS ID: 62467)

Risk Based Inspection (RBI) - Enhancements - V4.0.0.0

The following enhancements have been made to RBI in V4.0.0.0:

- Previously, RBI Analyses displayed the Consequence Evaluation, Common Consequence, and Toxic Consequence in three separate tabs on the RBI Criticality Consequence Evaluation datasheet. Now, these tabs have been consolidated into the Main Consequence Evaluation tab. To further simplify the population of RBI Analysis datasheets, three fields have been added to RBI Component Child families. These fields remain static and can be copied down throughout the RBI Analysis. The new RBI Component Fields are:
  - Area Humidity
  - Susceptible to CUI
  - Is Entry Possible?

  These fields apply to the following RBI Component child families:
  - Criticality RBI Component - Cylindrical Shell
  - Criticality RBI Component - Exchanger Bundle
  - Criticality RBI Component - Exchanger Header
  - Criticality RBI Component - Exchanger Tube
  - Criticality RBI Component - Piping
  - Criticality RBI Component - Tank Bottom.

  > ⚇Note: The Criticality RBI Component Exchanger Bundle family is *not* susceptible to CUI.

  (TS ID: 61535)

- To streamline the RBI analysis process and to avoid redundancy, the Future Risk and What-If Analyses have been consolidated to a single analysis now called a What-If Analysis. Previously, the What-If Analysis detailed the hypothetical conditions that may occur during a given process and lead to a risk. The Future Risk Analysis deployed hypothetical situations to determine the Future Risk associated with an RBI Component's failure, where the future risk was determined based on a specified date. The functionality of the new What-If Analysis incorporates the features of the What-If and Future analyses and is improved for easier use and greater accuracy.(TS ID: 62797)

- Previously, analyses performed on RBI Components were only displayed in the tree view. Now, analyses have been organized into a table, ordered by the Calculated Date that used to create an RBI Analysis Summary Graph. This graph displays the active Analysis per-

formed. The subsequent table shows all analyses (Active, What-If, Archived and Created Analyses) that are associated with the RBI Component. (TS ID: 62805)

- Previously, RBI Analyses were displayed to the user only in datasheet format. Now, RBI Analyses are displayed on the RBI Analysis Summary page that includes an RBI Risk Matrix and a corresponding chart containing data used to populate the RBI Risk Matrix. Previously, the only way to access the RBI Risk Matrix was to view the Criticality Analysis datasheet. This datasheet is no longer available and has been consolidated into the RBI **Analysis Summary** page. The RBI Risk Matrix shows a color-coded Criticality index highlighting the current Inspection Priority associated with the selected analysis. Until the analysis is calculated, the values on the Risk Matrix are disabled and do not contain a highlighted cell. (TS IDs: 62809, 153970)

- Previously, you could not create a link between Criticality Other Degradation Mechanism Evaluations records and RBI Inspections because there was no Inspection Confidence associated with the Criticality Other Degradation Mechanism Evaluation. Now, you can both view and link Inspections performed against those Degradation Mechanisms even if they have no bearing on the resulting analysis. To facilitate this action, relationship definitions between the Criticality Other Damage Mechanism Evaluation entity family and the baseline inspection families have been added to the Has Inspections relationship in the baseline Meridium Enterprise APM database. (TS ID: 63058)

- Previously, a collection of RBI Components grouped together for the purpose of conducting an RBI Analysis was called an RBI System. Now, RBI Systems are referred to as Corrosion Loops. This change also applies to all future naming conventions for Corrosion Loop family captions, field captions and IDs.

  Family captions and field captions previously titled RBI Systems are now referred to as RBI Corrosion Loops.

  IDs that referred to Corrosion Loops previously began with the prefix RBISYS. All existing records will keep current IDs; however, any new IDs will begin with the prefix RBICL. (TS ID: 64578)

- RBI Policies have been updated to include one new field, Non-Intrusive Requirement Met for the Criticality Calculator Internal Degradation Mechanism Evaluation family. In addition, the following new policy inputs were added:
  - Appendix G
  - Appendix H
  - PRD_Strategies

  These inputs will use Strategy Configuration Mapping to allow for easy customization of RBI Policies. (TS ID: 64720)

- Previously, the root child What-If Analysis records only had one state: Reserved for What-If. Now, What-If Analyses can have the any of the following states:
  - Archived
  - Created
  - Implemented
  - Pending Approval
  - Approved
  - Re-Evaluating
  - Rejected
  - Risk Complete
  - Accepted by ACM

As a result of this change, all preexisting What-If and Future Analyses migrated from previous versions will have either an Archived or a Created state. Previously, Future Risk Analyses had IDs that began with an F to alert the user to the type of analysis named by that ID. Now, all Future Risk analyses migrated from previous versions will have IDs that begin with a W instead of an F.

(TS ID: 74919)

Rounds - Enhancements - V4.0.0.0

The following enhancements have been made to Rounds in V4.0.0.0:

- This module has been renamed from *Operator Rounds* to *Rounds.* Throughout the V4.0.0.0 documentation, including these Release Notes, we refer to this module by its new name.

  > 🐾 **Note:** The folders in the Catalog still use the name *Operator Rounds.*

  (TS ID: 138260)

- The Has Recommendation relationship, which is used to link Rounds Recommendations to Equipment and Functional Locations, is now part of the baseline Rounds data model with the following relationship definition:

  - Predecessor: Equipment or Functional Location family

  - Predecessor Cardinality: Zero or One

  - Successor: Operator Rounds Recommendation

  - Successor Cardinality: Zero or Many

  (TS ID: 61081)

- When you search for an item in the Route pane, the workspace displays a list of search results which includes the assets, Measurement Locations, and Checkpoint Conditions that match the search criteria, along with hyperlinks to each node in the Route. (TS ID: 65534)

- When you create a Reading in Rounds Data Collection, you can also provide information on the action taken in the Reading record. (TS ID: 68465)

- The performance of Rounds is improved while synchronizing data between Meridium Enterprise APM Mobile Application and the Meridium Enterprise APM database. (TS ID: 90565)

- Previously, when you removed a Measurement Location from a Route, the Measurement Location was *deleted* from the Meridium Enterprise APM database. In V4.0.0.0, the Measurement Location is *removed* from the Route, but remains in the database. If you want to delete the Measurement Location, you must delete it using Record Manager. (TS ID: 92273)

- When you access a Route for data collection, you can view the following details in the **Route Map** pane:

- ○ The completion progress of the Route.
- ○ The Reading values for each Measurement Location.
- ○ Whether the reading is normal or is in alert. If the reading is normal, then the ✅ icon appears for the corresponding Measurement Location. If the reading is in alert, then the 🔴 icon appears. (TS ID: 98618)

- When you access a Route in the Rounds Designer module, you can use the new Node Pin Board feature to change the sequence of multiple nodes in the Route or remove multiple nodes from the Route at one time. (TS ID: 110162)

- When you access a Route in the Rounds Designer module, in addition to using the drag-and-drop method in the left pane, you can also change the position of a node by specifying the new sequence in the **Order** box in the upper-right corner of the workspace. (TS ID: 116437)

- You can now view the number of readings taken as a percentage of the number of readings that were due on the Routes that have been marked done on each day. This is plotted on the Route Completion graph that appears on the **Rounds Designer Overview** and the **Rounds Data Collection Overview** pages. (TS ID: 123861)

- The Rounds Data Collection module is now integrated with the Asset Health module. When you select the Measurement Trend graph of a Reading, the **Health Source** page for that asset appears, displaying the **Trend Chart** (only for numeric Measurement Locations) and the **Reading History** sections for the Measurement Location. (TS ID: 123862)

- Previously, you were allowed to add Measurement Locations based on only one Measurement Location Template or Template group to a Route at one time. You can now add multiple Measurement Locations to a Route by selecting one or more Measurement Location Templates and Template Groups and applying them to multiple assets. (TS ID: 126368)

- Previously, you could access a Reference Document while collecting data on a mobile device only if the document was stored in the Meridium APM database. In V4.0.0.0, you can also access Reference Documents that are defined as a URL in the Rounds Data Collection module. (TS IDs: 137734, 132218)

- Previously, all Routes related to the second level in the asset hierarchy (typically, for one site) were accessible by all users assigned to that site. In V4.0.0.0, you can assign individual Routes to any number of specified users. This provides full control over which users have access to which Routes at levels below the site level. (TS ID: 152112)

- Previously, when you created a Reading record in the Meridium APM Client, the reading time was set to 12:00 a.m. by default. In V4.0.0.0, the reading time is set to the user's current time by default. (TS ID: 152458)

- Previously, if a Route was downloaded to a mobile device, the Measurement Locations that became due after you commenced collecting data were *not* added to the Route. In the Meridium Enterprise APM V4.0.0.0 Mobile Application, since the mobile device is connected to the Meridium Enterprise APM Server, Measurement Locations that become due will be added to the *In Progress* Routes each time you access the Route to collect data.

SIS Management - Enhancements - V4.0.0.0

The following enhancements have been made to SIS Management in V4.0.0.0:

- The SIS Management module now uses the latest version (2Q2014) of Exida's Safety Equipment Reliability Handbook (SERH). (TS ID: 71960)

- You can now set a logic solver as default among all the logic solvers linked to a Safety Integrity Level (SIL) Analysis. When you create an Instrumented Function in the same SIL Analysis, the ID of the default logic solver is populated in the SIS ID field of the Instrumented Function record. (TS ID: 82722)

- To add or remove elements from a Protective Instrument Loop, you no longer need to use the drag-and-drop method. You can add or remove elements by accessing the predecessor node in the Protective Instrument Loop diagram. For example, if you want to add a Protective Instrument Loop Sensor, you must access the Protective Instrument Loop Sensor Group. The diagram is automatically updated when you add or remove elements. (TS ID: 88057)

- Previously, the Protective Instrument Loop calculations were performed only after you provided information for all the elements of the loop. In V4.0.0.0, the calculations are performed even after you provide information for individual elements of the loop. The calculations are updated dynamically when you add, modify, or remove elements from the loop. (TS ID: 88057)

- Previously, you could modify an SIL Analysis irrespective of the state of the analysis. In V4.0.0.0, you can modify an SIL Analysis only if it is in the *Planning* state. You can, however, modify a Protective Instrument Loop and its elements, irrespective of the state of the analysis that is linked to the Protective Instrument Loop. (TS ID: 94312)

- Previously, you could modify a Protective Instrument Loop irrespective of the state of the loop. In **V4.0.0.0**, you can modify a Protective Instrument Loop and its elements only if the loop is in the *Design* state. (TS ID: 94314)

- While creating a Proof Test Template or a Proof Test Template Details ID, you can now modify the values in the Proof Test Template ID and Proof Test Template Details ID fields, replacing the default ones. (TS ID: 99799)

- The Meridium Enterprise APM system creates an asset group of all the assets that are linked to a Protective Instrument Loop and its elements. You can view these asset groups on the **Asset Group** page. However, when you unlink an Asset from the Protective

Instrument Loop or its elements, the corresponding asset group is not updated. In that case, you must remove the asset by accessing the asset group. (TS ID: 105467)

- The data architecture for an Instrumented Function has been modified as follows:
    - A new family, SIL Assessment, has been created. It has the following subfamilies:
        - PHA Internal Assessment

        - Risk Matrix Internal Assessment

        - External Assessment
    - In addition to the three subfamilies listed above, you can also create a record in the LOPA family. The Instrumented Function is linked to all the SIL Assessments created for that function.

    - You must associate one (and only one) SIL Assessment record with the Instrumented Function. The details that you provide in the associated SIL Assessment record are then populated in the corresponding Instrumented Function record.

    (TS ID: 106544)

- A new field, Comments, has been added to the Proof Test Template datasheet. This field is hidden in the Proof Test Template. It appears:
    - In the Proof Test Template report when you generate the report

    - In the Proof Test record when you link the Template to the Proof Test

    - In the print out of the Template

    (TS ID: 129399)

Thickness Monitoring (TM) - Enhancements - V4.0.0.0

The following enhancements have been made to TM in V4.0.0.0:

- The **Thickness Monitoring Overview** workspace has been introduced, which provides a dashboard for viewing relevant data for all assets with Corrosion Analyses.

  Previously, to view a TM Analysis, you needed to access the **TM Analysis** page. Now, the analysis summary is immediately visible on the **Analysis Overview** workspace, which appears when you select an asset in the **Thickness Monitoring Overview** workspace. (TS ID: 61351)

- Previously, in the Thickness Monitoring Location (TML) datasheet, Allowable Stress was defined using the **Allowable Stress** dialog box. Now, a new logical field has been added in the TML datasheet. When the **Override Allowable Stress** check box is selected, it enables the **Allowable Stress** text box, and allows you to enter a user-defined Allowable Stress value. (TS ID: 61532)

- Previously, in the TML datasheet, the Nominal Thickness field was found in the **Piping** tab. Now, the Nominal Thickness field is in the **Design General** tab. (TS ID: 63723)

- Previously, devices, regardless of module or function, were added and managed via Meridium Enterprise APM Framework's **Select a Device and Properties** dialog box. To streamline device management, all devices related to TM are now managed directly through the module. To qualify the change, devices in TM are referred to in the product and documentation as *dataloggers*.

  The TM module supports five dataloggers:

  - GE DMS Go
  - GE DMS Go+
  - GE DMS2
  - Olympus 37DL PLUS Ultrasonic Thickness Gage
  - Olympus 38DL PLUS Ultrasonic Thickness Gage

  The following devices were supported in earlier versions of Meridium Enterprise APM, and while they may work in V4.0.0.0, they are not being tested with this version:

  - GE DMS

  (TS ID: 83548)

Resolved Issues - V4.0.0.0

The following modules have resolved issues for V4.0.0.0:

- APM Connect
- Asset Health Manager
- Asset Strategy Management
- Policy Designer
- Process Data Integration
- Reliability Centered Maintenance and Failure Modes Effects Analysis
- Risk Based Inspection
- Rounds

APM Connect - Resolved Issues - V4.0.0.0

The following issues existed in APM Connect in one or more previous releases and has been resolved in APM Connect EAM V1.5.0 for Meridium Enterprise APM V4.0.0.0:

Work History Adapter

- Previously, when attempting to run the Work History extraction job using the System Status parameter or the User Status parameter, no records were loaded into Meridium APM. This issue has been resolved. (TS ID: 128489)

- Previously, when attempting run the Work History extraction Job using the advanced filter parameters, the results would not be filtered accordingly, and all associated records would be loaded into Meridium APM. The advance filter parameters include the following:
    - Equipment Type: EQUIPMENT_TYPE
    - Equipment Category: EQUIPMENT_CATEGORY
    - Equipment Class: EQUIPMENT_CLASS
    - Functional Location Type: FLOC_TYPE
    - Functional Location Class: FLOC_CLASS
    - Functional Location Category: FLOC_CATEGORY

  This issue has been resolved (TS ID: 13488)

- Previously, when attempting to extract Work History records using the Work Order System Status filter parameter, no records were loaded in to Meridium APM. This issue has been resolved. (TS ID: 134493)

- Previously, when attempting to extract Work History records using the Notification System Status filter parameter, records were loaded in to Meridium APM regardless of the criteria entered into the filter parameter. This issue has been resolved. (TS ID: 134493)

- Previously, when attempting to extract Work History records using the Work Order User Status or the Notification User Status filter parameter, records were loaded in to Meridium APM regardless of the criteria entered into the filter parameter. This issue has been resolved. (TS ID: 134493)

- Previously, valid Task records were discontinued during harmonization from Strategy Plans. This issue has been resolved. (TS ID: 143231).

Work Management Adapter

- Previously, when attempting to harmonize Task(s) with SAP, the Default SAP System?: had to be selected in Meridium APM in order to facilitate the harmonization. The issue has been resolved. Now, the check box does not need to be checked for the Task(s) to be harmonized. (TS ID: 143230)

Asset Health Manager (AHM) - Resolved Issues - V4.0.0.0

The following issues existed in AHM in one or more previous releases and have been resolved in V4.0.0.0:

- Previously, when a health indicator was acknowledged using a *one-time* acknowledgment, the acknowledgment was not saved in the Meridium APM database. This issue has been resolved. Now, the acknowledgment is saved until a new reading is added to the health indicator, as expected.

> **Note:** At this time, changes to health indicator limit values do not reset acknowledgments.

(TS ID: 106027)

- Previously, if you did not have View privileges on the Health Indicator Mapping family, health indicator statuses were not updated as expected. This issue occurred in the following scenarios:

  - When you created or updated a record in a family which is a source for a health indicator.

  - When you added readings to a source record (e.g., a Measurement Location record) which is associated with a health indicator.

When you encountered this issue, a message was recorded in the Meridium event log, but an error message did *not* appear in the Meridium APM Framework. However, if you selected the affected health indicator in Asset Health Manager, the following message may have appeared: "Current Health Indicator Out of Sync with Latest Data."

This issue has been resolved. Now, health indicator statuses will be updated as expected regardless of your privileges on the Health Indicator Mapping family.

(TS ID: 72118)

Asset Strategy Management (ASM) - Resolved Issues - V4.0.0.0

The following issues existed in ASM in one or more previous releases and has been resolved in V4.0.0.0:

- Previously, when you applied a template to an Asset Strategy, the Action Basis and Risk Basis fields were not copied to the current Asset Strategy. This issue has been resolved. (TS ID: 86278)

Policy Designer - Resolved Issues - V4.0.0.0

The following issue existed in Policy Designer in one or more previous releases and has been resolved in V4.0.0.0:

- Previously, if the logical results of all nodes that immediately precede an And node were *no*, the And node was not executed. This issue has been resolved. Now, in this scenario, the And node will be executed and return a logical result of *no*. This allows any *No* logic paths starting at the And node to be executed as expected. (TS ID: 60145)

- Previously, a validation error occurred when the result of a calculation node was an infinite value. This issue has been resolved. Now, the result of the calculation will simply be shown as *Infinity.* (TS ID: 61179)

Process Data Integration (PDI) - Resolved Issues - V4.0.0.0

The following issue existed in PDI in one or more previous releases and has been resolved in V4.0.0.0:

- Previously, if the PDI Service was not installed on the same machine as the OPC Server, data was not received from the OPC Server into Meridium, even if all required configuration steps were completed. This issue has been resolved. (TS ID: 65684)

Reliability Centered Maintenance (RCM) and Failure Modes and Effects Analysis (FMEA) - Resolved Issues - V4.0.0.0

The following issues existed in RCM/FMEA in one or more previous releases and have been resolved in V4.0.0.0:

- Previously, when working with PF Intervals in a failure mode, the system would allow you to enter negative values. This issue has been resolved. (TS ID: 71594)

- Previously, the system would allow you to choose Site Reference records even if there were no Site Reference records in the database. This issue has been resolved. The drop-down menu is now disabled when there are no Site Reference records in the database. (TS ID: 71554)

- Previously, when working with Mitigated and Unmitigated Financial Risk, the system would allow you to enter negative values. This issue has been resolved. (TS ID: 62302)

Risk Based Inspection - Resolved Issues - V4.0.0.0

The following issues existed in RBI in one or more previous releases and have been resolved in V4.0.0.0:

- Previously, Security Users belonged to a module-specific security group. Now, with the addition of Mechanical Integrity roles, users can belong to multiple MI Modules at the same time. (TS ID: 62174)

- Previously, users were unable to add or modify existing policies because the policy inputs could not be customized. This issue has been resolved. Now users have been provided with the RBI Strategy Mapping Family that allows them to select polices that will be used based on a set of parameters. (TS ID: 65296)

- Previously, when viewing an RBI Criticality Analysis, a Pipeline Analysis, or a PRD Analysis, the state options were visible even if they were disabled. This issue has been resolved. (TS ID: 1050699)

Rounds - Resolved Issues - V4.0.0.0

The following issues existed in Rounds in one or more previous releases and have been resolved in Meridium Enterprise APM V4.0.0.0:

- Previously, in Meridium mobileAPM V3.6, Measurement Locations linked to a Checkpoint Condition were displayed only if the conditional Measurement Location was linked to the same asset as the predecessor Measurement Location. This issue has been resolved. In Meridium Enterprise APM V4.0.0.0, *all* Measurement Locations linked to Checkpoint Conditions are displayed, irrespective of the asset to which they are linked. (TS ID: 103780)

- Previously, in Meridium mobileAPM V3.6, readings taken for Measurement Locations linked to a Checkpoint Condition were not accounted for in the Route History. This issue has been resolved. All readings taken using the Meridium Enterprise APM V4.0.0.0 Mobile Application are accounted for in the Route History. (TS ID: 137325)

Obsolete Features - V4.0.0.0

The following modules have features that are obsolete and not included in V4.0.0.0:

- Asset Health Manager
- Foundation
- Hazards Analysis
- Metrics and Scorecard
- Policy Designer
- Process Data Integration
- Production Loss Analysis
- Reliability Analytics
- Root Cause Analysis
- Rounds
- SIS Management
- Thickness Monitoring

Asset Health Manager (AHM) - Obsolete Features - V4.0.0.0

The following AHM items are no longer used in Meridium Enterprise APM:

- The following Catalog items are no longer used in Meridium Enterprise APM and have been marked as deprecated:
    - In the folder **\\Public\Modules\AHI**:
        - Recommendations
    - In the folder **\\Public\Modules\AHI\Dashboards**:
        - AHM Start Page
    - In the folder **\\Public\Modules\AHI\Queries**:
        - Policy Integration
    - In the folder **\\Public\Modules\AHI\Queries\Dashboard Queries**:
        - AHM Assets in Alert
        - AHM Parameters Query

    New queries that provide the equivalent information, and whose results are displayed on the **Health Overview** page, have been delivered in V4.0.0.0.

    (TS ID: 109618)

- In previous versions, you could use Hierarchy Item Definition records to create a custom hierarchy for use within Asset Health Manager. Custom hierarchies for Asset Health Manager are no longer supported and the Hierarchy Item Definition family is no longer used.

    Instead, in order to view health indicators in V4.0.0.0, Health Indicator records must be linked to a record in a family that is included in the application-wide Asset Hierarchy configuration or linked to an Asset Group.

    (TS ID: 147336)

Foundation - Obsolete Features - V4.0.0.0

The following Meridium Enterprise APM Foundation items are no longer used in Meridium Enterprise APM:

Datasheet Builder

- Previously, a User could define custom datasheets in the Meridium APM Framework. Beginning in V4.0.0.0, only Administrative users can define custom datasheets using Configuration Manager. (TS ID: 131565)

Configuration Manager

- Beginning in V4.0.0.0, Manual spreading via the Field Chooser in Family Management is no longer available. In V3.6, the **Field Chooser** feature let you add to a subfamily a field that had been defined for one of its families but had not yet been spread to the subfamily. In V4.0.0.0, you can select the **Spread to Sub Families** check box, to spread a field from parent family to a subfamily. However, on selecting this check box, it will cascade the parent family fields to all the subfamilies. (TS ID: 160180)

- Previously, URL Manager was a separate application from Meridium APM. In V4.0.0.0, the URL Manager is no longer available. However, associating families with URLs can still be done by using the Associated Pages in Family Management. (TS ID: 160187)

- Previously, you could set rules for Fields by using the Rules Wizard. Instead, starting in V4.0.0.0, you can create Field Behaviors in Family Management. In V4.0.0.0, if you want to create rules against a family field, you can do so using Visual Studio if you have the Developer license. (TS ID: 148207)

  Similarly, creating rules for State Management is no longer available in Meridium Enterprise APM, but will also require the Developer license to be able to create the rules using Visual Studio.

- Importing and exporting records and links previously used Search. In V4.0.0.0, it uses a Catalog query. (TS ID: 85356)

- In V3.6, you could define colors for fields that would determine how they behave when users interact with them in datasheets. In V4.0.0.0, background colors are no longer supported for fields. You can still accomplish this by adding a field-level rule, if desired. (TS ID: 160265)

- The **Deploy** button on the SQL Server Report Server of Global Preferences is no longer

available. Instead, in V4.0.0.0, reports are deployed automatically when the user accesses the report. (TS ID: 160458)

- The following features in **Manage Translations** are no longer available:
  - ○ Previously, you could see the timestamp on the downloaded Microsoft Excel file. In V4.0.0.0, the timestamp on the downloaded Microsoft Excel file is no longer available. The file created time is not required as the timestamp because you can identify the creation time from the Window's file times. Also, the Manage Translation file is not a log file.

  - ○ Previously , you had the option for selecting the untranslated metadata type and exporting it. Now, by default, all the untranslated metadata types will be exported.

  (TS ID: 62767)

Home Pages

- Beginning in V4.0.0.0, Meridium Enterprise APM no longer has home pages. All home pages have been upgraded to dashboards. Additionally, all of the old module dashboards have been replaced with Overview pages. (TS ID: 118162)

Operations Manager

- Beginning in V4.0.0.0, there are no longer Strategy Rules, but they have become Strategy Macros. When you upgrade to V4.0.0.0, the Strategy Rules will be upgraded to the format used in the Strategy Macros section of Operations Manager. (TS ID: 121019)

- Beginning in V4.0.0.0, there is no longer a separate Schedule Manager application. Instead, you can configure schedules for each process within the Meridium Enterprise APM application. For example, to set a schedule on a KPI, you can select the **Schedule, Alerts, and Privileges** section of the KPI design page.

  You can check the status of a scheduled job in the **Scheduling** section of Operations Manager within Meridium Enterprise APM. When you upgrade to V4.0.0.0, the schedules previously available through Schedule Manager will be upgraded to the format used in the **Scheduling** section of Operations Manager. (TS ID: 111693)

- Previously, configuring email settings in Meridium APM utilized a designated configuration file. Starting in V4.0.0.0, email configuration has been simplified. Now, users only need to specify their email server, or they can use a local folder. (TS ID: 108713)

- Whereas Datasource Manager and Schedule Manager were previously separate applications from Meridium APM, they are now both included in the Operations Manager section of Meridium Enterprise APM. (TS ID: 66588, 92307)

Query

- Beginning in V4.0.0.0, the Group By functionality in Query is no longer available. Instead, starting in V4.0.0.0, there is an enhanced filtering capability in the Results Grid. (TS ID: 130443)

- Previously, you could print query results directly from Meridium APM. Starting in V4.0.0.0, you must export the query results to a spreadsheet for printing. (TS ID: 124846)

Reports

- Previously, you could create a report if you had an SSRS plug-in for Meridium Enterprise APM. In V4.0.0.0, you can only view reports from within Meridium Enterprise APM. You can now create reports externally and then upload them to a Catalog folder from which they can be viewed in Meridium Enterprise APM. (TS ID: 89190)

Search

- Beginning in V4.0.0.0, the Advanced Search feature and the ability to save searches is no longer available. Advanced Search functionality has been moved into the Simple Criteria feature in Query. Advanced Searches will be upgraded as queries. (TS ID: 61396)

- Beginning in V4.0.0.0, you can no longer view search results in bulk data form, and you cannot load multiple records in Record Manager through the search function. Instead, you can open related records in Bulk Data Form by using the Manage All Related Records function in Record Manager. (TS ID: 65125)

Security Manager

- Beginning in V4.0.0.0, you can no longer promote Human Resource records to Security Users. In V4.0.0.0, any Human Resource records that you want to become Security Users must be created manually. (TS ID: 143387)

Hazards Analysis - Obsolete Features - V4.0.0.0

The following Hazard Analysis item is no longer used in Meridium Enterprise APM:

- You can no longer copy a Hazards Analysis. Instead, you can copy the following individual components of a Hazards Analysis:
  - Systems/Nodes
  - Deviations
  - What Ifs
  - Causes
  - Consequences
  - Safeguards

Metrics and Scorecard - Obsolete Features - V4.0.0.0

The following Metrics and Scorecard items are no longer used in Meridium Enterprise APM:

- In the previous version, you could print the Drillthrough result. Printing the Drillthrough result is no longer supported. This is because the drillthrough action could result in large number of rows and therefore, printing the complete result set is not possible.

- In the previous version, the Scorecard was displayed in tabular format and there was an option to edit the Scorecard columns by adding and removing the fields. In V4.0.0.0, the KPI's appear in tile format on the Scorecard page and, therefore, editing the columns is not allowed. (TS ID: 160145)

- In the previous version, you can have a date range filter in Scorecard. In V4.0.0.0, you can no longer have a date range filter in Scorecard. Based on customer feedback, this feature was determined to be superfluous and unnecessary. (TS ID: 160144)

- You can no longer float the Metric View as in V 4.0.0.0. Both the Metric View designer and the view page are displayed on the same page. (TS ID: 160146)

- You can no longer have 3-D charts in Metric Views. Instead, you can use the slice option of the Metric View. Member slicing is the replacement for 3-D feature in chart. (TS ID: 160147)

Policy Designer - Obsolete Features - V4.0.0.0

The following Policy Designer items are no longer used in Meridium Enterprise APM:

- The following Catalog items are no longer used in Meridium Enterprise APM and have been marked as deprecated:
    - In the folder **\\Public\Meridium\Modules\Policy Manager\Dashboards**:
        - Policy Manager Start Page.
    - In the folder **\\Public\Meridium\Modules\Policy Manager\Queries**:
        - Policies Query
    - In the folder **\\Public\Modules\ Policy Manager\Queries\Dashboard Queries**:
        - My Policy Recommendations
        - My Recent Policies
        - Policy Recommendations - 30 days past due
        - Policy Executions
        - Policy Results

    New queries that provide the equivalent information, and whose results are displayed on the **Policy Overview** page, have been delivered in V4.0.0.0.

    (TS IDs: 142698, 109618)

- Due to the changes made to policy schedules, the Last Scheduled Execution and Next Scheduled Execution fields in the Policy family are no longer used. (TS ID: 131666)

Process Data Integration (PDI) - Obsolete Features - V4.0.0.0

The following PDI items are no longer used in Meridium Enterprise APM:

- The following Catalog items in the folder **\\Public\Modules\Process Data Integration\Queries** are no longer used in Meridium Enterprise APM and have been marked as deprecated:

    - Active Xi Systems

    - Active Xi Tags

    - Related Xi Tags

    - Xi System Device Query

    - Xi Tag Device Query

    All tags from a configured process historian are now imported automatically into the Meridium Enterprise APM database. In addition, you can now manage all information related to OPC System and OPC Tag records from the **Connections** page in Operations Manager.

    (TS ID: 142701)

- OSI PI tag search (i.e., the **PI System Browser** in V3.6) is no longer supported. Instead, because all tags from a configured process historian are now imported automatically into the Meridium Enterprise APM database, you can locate a specific tag using the search within Meridium Enterprise APM. (TS IDs: 80947, 81685)

Production Loss Analysis (PLA) - Obsolete Features - V4.0.0.0

The following PLA items are no longer used in Meridium Enterprise APM:

- SQL Server Analysis Server (SSAS) cubes for Production Data and Equipment Costs will no longer be delivered as baseline PLA content. Any previously deployed Production Data and Equipment Costs Data Cubes, which worked with PLA in V3.6 and earlier releases, will continue to work with PLA in V4.0.0.0 after upgrading the product. The Production Data Cube that was provided in V3.6 and earlier releases will now be available for implementation as a Meridium Services offering.

- Metric Views are no longer delivered as part of baseline PLA content. If you wish to view previously deployed Metric Views or configure new Metric Views, you will need to deploy the Metrics and Scorecards module.

- You can no longer copy a Production Value or a Short Range Plan value in Production Data workspace. Per customer feedback, this feature was determined to be superfluous and unnecessary.

- You can no longer configure Associated Pages for any of the families in PLA. PLA is integrated with RCA and Reliability Analytics such that you do not need to link them via the Associated Pages.

- You can no longer modify the Start Time and the End Time from the Plan Details workspace. You can, however, regenerate the Production Plan to modify these details.

- You can no longer disable the OEE codes. Per customer feedback, this feature was determined to be superfluous and unnecessary.

Reliability Analytics - Obsolete Features - V4.0.0.0

The following Reliability Analytics item is no longer used in Meridium Enterprise APM:

- You can no longer access the Cost of Unreliability Analysis in Reliability Analytics. The Unreliability costs, which are the sum of production losses and maintenance costs, are now shown in the Track Results By recommendation Implementation Year chart on the RA Overview page.

Root Cause Analysis (RCA) - Obsolete Features - V4.0.0.0

The following RCA items are no longer used in Meridium Enterprise APM:

- You can no longer perform a cut-and-paste operation to add nodes in a Logic Tree diagram in RCA. You can, however, copy a node and paste it to the desired location.

- You can no longer restrict a user from creating Templates in RCA. In V4.0.0.0, the security feature has been enhanced to allow any user to create Templates.

Rounds - Obsolete Features - V4.0.0.0

The following Rounds items are no longer used in Meridium Enterprise APM:

- You cannot create a Reading from the Associated Pages section in Record Manager. Instead, you can create Readings using the Add New Record feature in Record Manager or in the Readings workspace when you access a Measurement Location in the Rounds Designer module.

- In Route Management, when you search for a node, the search results are not highlighted in the Route pane. Instead, the enhanced Search feature provides a list of assets, Measurement Locations, and Conditions that meet the search criteria, with hyperlinks to go to each item in the Route.

SIS Management - Obsolete Features - V4.0.0.0

The following SIS Management items are no longer used in Meridium Enterprise APM:

- You can no longer copy the following records in SIS Management:
  - SIL Analysis
  - Instrumented Function
  - Logic Solver
  - Proof Test Template
  - Custom Device

  This feature has been enhanced to let you copy the individual components of each of the records. For instance, although you cannot copy an Instrumented Function, you can copy a Protective Instrument Loop and its elements.

- You can no longer drag-and-drop nodes on the Protective Instrument Loop Diagram. Instead, this feature has been enhanced to let you add, modify, or remove elements from the loop by accessing the corresponding records or the predecessor records.

Thickness Monitoring (TM) - Obsolete Features - V4.0.0.0

The following TM items are no longer used in Meridium Enterprise APM:

- Thickness Monitoring no longer supports the integration of dataloggers with Excel. This functionality will be provided by APM Connect in a future release. (TS ID: 83548, 146376)

Deferred Features - V4.0.0.0

The following modules have features are not available in Meridium V4.0.0.0, but are planned for a future release.

- [AMS Analytics](#)
- [APM Connect](#)
- [Asset Strategy Implementation](#)
- [Asset Strategy Management](#)
- [Asset Strategy Optimization](#)
- [Asset Health Manager](#)
- [Calibration Management](#)
- [Foundation](#)
- [GE System 1](#)
- [Hazards Analysis](#)
- [Inspection Management](#)
- [Metrics and Scorecards](#)
- [Process Data Integration](#)
- [Production Loss Analysis](#)
- [Reliability Centered Maintenance and Failure Modes and Effects Analysis](#)
- [Reliability Analytics](#)
- [Risk Based Inspection](#)
- [Root Cause Analysis](#)
- [Rounds](#)
- [SIS Management](#)
- [Thickness Monitoring](#)

AMS Analytics - Deferred Features - V4.0.0.0

The following feature is not available in V4.0.0.0, but is planned for a future release:

- AMS Analytics and a connection to Emerson AMS.

APM Connect - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- Maximo Integration Adapters (TS ID: 62026, 62076, 63063, 62082, 62090, 62094, 62097, 62100)

- Oracle Integration Adapters (TS ID: 62005, 62009, 62013, 62017, 62020)

- Asset Strategy Optimization Adapter (TS ID: 139937)

- Asset Strategy Management Adapter (TS ID: 152854)

- Asset Strategy Implementation for SAP Adapter (TS ID: 160212)

- Asset Criticality Analysis for SAP Adapter (TS ID: 160213)

- Mechanical Integrity Adapters
  - Thickness Monitoring (TS ID: 146376)
  - Risk Based Inspection (TS ID: 160216)
  - Inspection Management (TS ID: 146376)

Asset Strategy Implementation (ASI) - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- The option to exclude child items when copying and pasting Work Managment Items. (TS ID: 147790)

- The ability to use Rounds.

- Visibility of Actions linked to Health Indicator Sources. (TS ID: 143567)

- Production Resource Tool (PRT). (TS ID: 153718)

Asset Strategy Management (ASM) - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- Applying a template directly to an asset. (TS ID: 160676)

- Consolidating Actions. (TS IDs: 147209, 147234, 83674)

- Importing asset strategies and strategy templates. (TS IDs: 160688, 63042, 157251, 63638)

- Migrating strategies between databases.

- Mass state management of Actions in Unit and System Strategies. (TS ID 119126, 83686)

Asset Strategy Optimization (ASO) - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- The ASO module. This will be released in 4.1.0.0. (TS ID: 65780)

- The ASO data loader. This will be released in 4.1.0.0. (TS ID: 65780)

- Uploading Asset Strategy simulations. This will be released in 4.1.0.0. (TS ID: 65780)

Asset Health Manager (AHM)- Deferred Features - V.4.0.0.0

The following features are not available in V.4.0.0.0, but are planned for a future release.

- The display of health indicator statuses in Asset Hierarchy. (TS ID: 86796)

- Asset Hierarchy sorting and filtering based on health indicator status, filtering based on health indicator family field values, and filtering based on assets with or without health indicators (TS IDs: 91046, 86625, 86430)

- Trend chart for character health indicators. (TS ID: 103875)

Calibration Management - Deferred Features - V4.0.0.0

The following feature is not available in V4.0.0.0, but is planned for a future release.

- Automated Calibration (TS IDs: 61319, 61334)

Foundation - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

Asset Criticality Analysis (ACA)

- Promoting analyses to and from ACA. (TS ID: 160858)

- Exporting and importing in the ACA module. (TS ID: 66952)

Configuration Manager

- Authentication required to insert or update records function. (TS ID: 160461)

- Global number and date format. (TS ID: 160148)

- In **Manage Translations**, the option to send a copy of your custom translations to Meridium, Inc. (TS ID: 160467)

- Save as New function for creating new family fields. (TS ID: 86446)

Datasheet Builder

- Customization of datasheet field background colors. (TS ID: 102115)

- Customization of global number and date format. (TS ID: 102115)

Graphs

- Exporting to a PDF and printing graphs. (TS ID: 81015)

- Logarithmic scale. (TS ID: 76612)

Mobile Application

- Exporting to a PDF is not supported for all mobile devices. (TS ID: 161277)

- Printing from all mobile devices. (TS ID: 80031)

- Reference Documents cannot be uploaded in a browser. (TS ID: 161289)

Operations Manager

- The Protection Level slider feature of the Risk Matrix. (TS ID: 80787)

GE System 1 - Deferred Features - V4.0.0.0

The following feature is not available in Meridium V4.0.0.0, but is planned for a future release:

- GE System 1 Analytics and connection to GE System 1, including the GE Tag node used in Policy Designer.

Hazards Analysis - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- Attaching a Reference Document to a Recommendation. (TS ID: 69738)

- Revision History in Hazards Analysis. (TS ID: 104884)

Inspection Management - Deferred Features - V4.0.0.0

The following feature is not available in V4.0.0.0, but is planned for a future release:

- Using Asset Grouping. (TS ID: 80179)

Metrics and Scorecards - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- Attaching Reference Documents to a KPI and Scorecard. (TS ID: 142641)

- Using Transpose in Metric Views. (TS ID: 128477)

- Exporting the Drillthrough Results. (TS ID: 160139)

- Exporting a KPI, Scorecard or Metric View in .PNG or .PDF on devices. (TS ID: 154101)

- Assigning Scores to a KPI. (TS ID:153429)

- GM (Generation Management) cube is deferred from V4.0.0.0. Any previously deployed GM (Generation Management) cube, which worked in V3.6 and earlier releases, will continue to work in V4.0.0.0 after upgrading the product. You will be able to use the existing GM cube and the support will continue. (TS ID: 160466)

Process Data Integration (PDI) - Deferred Features - V4.0.0.0

The following feature is not available in V4.0.0.0, but is planned for a future release.

- Viewing trends for multiple OPC Tags simultaneously (i.e., the Process Data Viewer feature in V3). (TS ID: 62299)

Production Loss Analysis (PLA) - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- Integration of PLA with Process Data Integration to create Production Data and Production Event records automatically. Production Event records, however, can be created from OPC Tag records using a policy.

  (TS ID: 61866)

- Deleting a Production Event that is not associated with a Production Plan.

  (TS ID: 161224)

- Support for multiple time zones. In V4.0.0.0, all the Production Plan details are stored in the time zone of the user who created the Production Plan. The calculations in a Production Plan will be incorrect:
    - If another user, who belongs to a different Time Zone, modifies the Production Plan.
    - If the Time Zone for the same user, who created the Production Plan, is changed.

  (TS ID: 160600)

Reliability Centered Maintenance (RCM) and Failure Modes and Effects Analysis (FMEA) - Deferred Features

The following features are not available in V4.0.0.0, but are planned for a future release:

- Copying and pasting tree node elements. (TS ID: 64754)

- Generating reports. (TS ID: 147352)

- Promoting RCM and FMEA analyses directly to templates. (TS ID: 160858)

- (RCM-only) Linking virtual assets to real assets. (TS ID: 152081)

Reliability Analytics - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- Action optimization in System Reliability Analysis.

- Capability to view Multiple Plot Views in a Probability Distribution Analysis, Reliability Distribution Analysis, Production Analysis, or Reliability Growth Analysis.

  (TS IDs: 63937, 63644, 63646, 63645, 63648, 63682, 63683, 63936, 61870)

- Disassociating a Distribution Analysis from a Spare Application. You can, however, delete a Distribution Analysis that was imported in to a Spare Analysis and add the required Failure Distribution information manually.

  (TS ID: 156731)

Risk Based Inspection (RBI) - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- Importing RBI data from an Excel template. (TS ID: 61326)

- Adding the Max Corrosion Rate field to the list of Corrosion Rates. (TS ID: 61527)

- Creating a bulk review of analyses. (TS ID: 62844)

- Managing the bulk calculation of analyses for multiple assets. (TS ID: 63246)

- Creating a bulk What-If analysis. (TS ID: 73475)

Root Cause Analysis (RCA) - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- Publishing an analysis in RCA.

  (TS IDs: 61730, 103887, 68585, 63432)

- Importing a Logic Gate or child nodes of a Hypothesis into a Logic Tree Diagram.

  (TS ID: 160121)

- Emailing capability to communicate findings and track changes in RCA.

  (TS ID: 62960)

- Sending e-mail notifications for alerts configured in RCA for Recommendations, Preserve Records, and Hypothesis Verifications.

  (TS ID: 160604)

Rounds - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- Selecting multiple nodes from the Route pane in Route Management.

- Unlinking a Measurement Location from a Measurement Location Template.

- Compliance tracking of readings.

- Accessing a list of recent Routes.

- Support for Windows CE Handheld devices.

- Support for RFID and barcode scanners.

- Storing the location data of a Reading via GPS.

- Offline access to the five most recent Recommendations in Rounds.

- Capturing multiple images while creating a Recommendation in Rounds.

- Ad hoc inspection of a single asset.

SIS Management - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- Attaching a Reference Document to a Recommendation (TS ID: 69738)

- SIS Asset Health (TS ID: 78659)

- Revision History in SIS Management (TS IDs: 102226)

- SIS Trip Reporting (TS ID: 105855)

- Copying an Instrumented Function (TS ID: 137180)

Thickness Monitoring (TM) - Deferred Features - V4.0.0.0

The following features are not available in V4.0.0.0, but are planned for a future release:

- Color Coding Preferences. (TS ID: 70840)

- Corroded Area Measurements. (TS ID: 101752)

V4.0.1.0 Release Notes

The following release notes are available for Meridium Enterprise APM V4.0.1.0:

- [Changes to Hardware and Software Requirements](#)
- [Enhancements](#)
- [Resolved Issues](#)
- [Deferred Features](#)

V4.0.1.0 Changes to Hardware and Software Requirements

The following change to hardware and software requirements was determined for V4.0.1.0:

- Apple iOS 7 is no longer a supported Meridium Enterprise APM Client Operating System.

Enhancements - V4.0.1.0

The following modules have enhancements for V4.0.1.0:

- Asset Strategy Management
- Calibration Management
- Inspection Management
- Risk Based Inspection

Asset Strategy Management (ASM) - Enhancements - V4.0.1.0

The following enhancement has been made to Asset Strategy Management in V4.0.1.0:

- The **Implement Actions** pane now has a **Revision Number** column. The value in this column uniquely identifies the revision version for any given action. (TS IS: 162664)

Calibration Management - Enhancements - V4.0.1.0

The following enhancement has been made to Calibration Management in V4.0.1.0:

- The Calibration Template, Discrete and Calibration, Discrete records have been changed as follows:
    - The Activate Switch fields in each record are now required.
    - The values for the Activate Switch fields in the Calibration, Discrete record are populated with the corresponding values in the associated Calibration Template. You can, however, modify these values if needed.

    (TS ID: 157445)

Inspection Management - Enhancements - V4.0.1.0

The following enhancement has been made to Inspection Management in V4.0.1.0:

- Previously, even when the **Override Interval** preference was selected, the Meridium APM System may have replaced the user-defined value with a system-defined value. Now, the **Override Interval** preference must be cleared for a system-defined value to be used. (TS ID: 145980)

Risk Based Inspection (RBI) - Enhancements - V4.0.1.0

The following enhancement has been made to Risk Based Inspection (RBI) in V4.0.1.0:

- Previously, you had to select a check box beside the Analysis graph to view a What-If Analysis. Now, the What-If Analysis is visible by default. (TS ID: 166106)

Resolved Issues - V4.0.1.0

The following modules have resolved issues for V4.0.1.0:

- Asset Criticality Analysis
- Asset Health Manager
- Asset Strategy Implementation
- Asset Strategy Management
- Calibration Management
- Foundation
- Hazards Analysis
- Inspection Management
- Installation, Upgrade, and System Administration
- Policy Designer
- Production Loss Analysis
- Recommendations
- Reliability Analytics
- Reliability Centered Maintenance and Failure Modes and Effects Analysis
- Risk Based Inspection
- Root Cause Analysis
- Rounds
- SIS Management
- Teams
- Thickness Monitoring

Asset Criticality Analysis - Resolved Issues - V4.0.1.0

The following issues existed in Asset Criticality Analysis (ACA) in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, when you added an asset record (Functional Location or Equipment) to a system, and then removed the asset from the system, you could not add the removed asset to the system again. This issue has been resolved. (TS ID: 157104)

- Previously, the Asset Criticality Analysis **Unmitigated Risk** graph and data grid displayed a blank entry, and the System ID was also not displayed in the graph. This issue has been resolved.

  Note that this issue did not occur when you added a Functional Location. (TS ID: 161030)

- Previously, if the user did not have privileges to change the value of the Risk rank, a message indicating that the user does not have privileges to change Risk Rank did not appear as expected. This issue has been resolved. The message now appears as expected in this scenario. (TS ID: 159855)

- Previously, on the **ACA Administrator** page, the **Save** button was misplaced. This issue has been resolved. (TS ID: 159665)

- Previously, the link for Asset Criticality Analysis on the **Asset Hierarchy Overview** page showed that there were zero ACA analyses, even if there actually were analyses. This issue has been resolved. (TS ID: 160678)

- Previously, when you removed an asset from an ACA, it was removed from the related Asset Group, but not from the related ACA System. In addition, if you changed the name of an ACA System, you were no longer able to add assets to that ACA System. These issues have been resolved. (TS ID: 160558)

Asset Health Manager (AHM) - Resolved Issues - V4.0.1.0

The following issues existed in Asset Health Manager in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, if a health indicator reading source record (e.g., a Reading record related to a Measurement Location record) had a reading value of zero, the values were not displayed properly in Asset Health Manager. This issue has been resolved. (TS ID: 160721)

- Previously, the "select all" check box in the grid header on the **Health Indicator Source Management** page could be used only to clear selections in the grid. This issue has been resolved. Now, the check box can also be used to select all of the rows in the grid. (TS ID: 159727, 159722)

- Previously, if the session timed out for the user whose login credentials were used in the Asset Health Indicator Service configuration file for the connection to the Meridium Enterprise APM Database, Health Indicators records were not created automatically as expected. This issue has been resolved. (TS ID: 161628)

- Previously, when you created a group of Measurement Location records using the **Add New Measurement Location** window (accessed via the **ML Template** menu option on the **Route** pane in Rounds Designer), related Health Indicator records were not created as expected for all of the new Measurement Location records. This issue has been resolved. (TS ID: 161647)

Asset Strategy Implementation (ASI) - Resolved Issues - V4.0.1.0

The following issues existed in Asset Strategy Implementation in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, the Single Cycle and Strategy Plan ASI Packages were not displayed on the corresponding tiles on the **ASI Module Overview** page. This issue has been resolved. (TS ID: 160085)

- Previously, when accessing ASI, the information in the Top 5 Critical Assets data did not display. This issue has been resolved. (TS ID: 159813)

Asset Strategy Management (ASM) - Resolved Issues - V4.0.1.0

The following issues existed in ASM in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, in ASM, when Actions were added, the **ROI** column did not reflect an updated ROI. This issue has been resolved.(TS ID: 160425)

- Previously, in ASM, Actions did not have interval units. This issue has been resolved. (TS ID: 160422)

- Previously, when restoring an Active Strategy, the state of the asset strategy did not move to "Modified." This issue has been resolved. (TS ID: 160161, 163267)

- Previously, when you restored a previous revision in ASM, the revision did not restore all of the risk assessment information. This issue has been resolved. (TS ID: 157404)

Calibration Management - Resolved Issues - V4.0.1.0

The following issue existed in Calibration Management in one or more previous releases and has been resolved in V4.0.1.0:

- Previously, the calibration results were incorrect if there was no value in the Activate Switch fields. This issue has been resolved by making the following changes in the Calibration Template, Discrete and Calibration, Discrete records:

  - The Activate Switch fields in each record are now required.
  - The values for the Activate Switch fields in the Calibration, Discrete record are populated with the corresponding values in the associated Calibration Template. You can, however, modify these values if needed.

  (TS ID: 157445)

Foundation - Resolved Issues - V4.0.1.0

The following issues existed in Foundation in one or more previous releases and have been resolved in V4.0.1.0:

Asset Hierarchy

- Previously, when you created a new Asset Group but left the screen without saving, the new Asset Group remained selected in the left pane, but the datasheet in the workspace displayed the subsequent Asset Group from the left pane. This issue has been resolved. (TS ID: 159493)

Configuration Manager

- Previously, when attempting to upload a source file to import data into Meridium Enterprise APM, in the **Select Work Process** drop-down, Load ASO Data appeared as an option although the Asset Strategy Optimization Data Loader is not supported. This issue has been resolved. Load ASO Data no longer appears in the **Select Work Process** drop-down. (TS ID: 163760)

- Previously, when you uploaded translations containing place holders in a translated string, an error occurred that would halt the Manage Translation feature of Configuration Manager. This issue has been resolved. The translated strings will be uploaded as expected, and the strings that were not uploaded will appear in the **Upload Custom Translations** window. (TS ID: 160464)

Dashboards

- Previously, when you made changes to a dashboard using **Edit Mode**, in order to save your changes you had to select the browser refresh button before leaving the page where you were making the changes. This issue has been resolved. You no longer have to refresh the browser to properly apply your changes to a dashboard. (TS ID: 162373)

Data Sources

- Previously, when you configured the host name for a data source using a mobile device, it would also pass protocols. This issue has been resolved. Protocols are no longer passed along with data source host names. (TS ID: 160671)

- Previously, enabling the DataBase Alias field in an Oracle data source could cause the field to become enabled in a separate SQL data source. This issue has been resolved. (TS

ID: 96928)

- Previously, when a user attempted to log in to a data source to which he or she should not have had access, the user would be directed to the main Meridium Enterprise APM login page. This issue has been resolved. Now, when a user attempts to log in to a data source to which he or she should not have access, a message appears, indicating that the user should contact an administrator. (TS ID: 156838)

- Previously, when a user selected the Meridium data source from a list on the Meridium Enterprise APM login page, the actual name of the data source was displayed, rather than "Meridium." This issue has been resolved. (TS ID: 168257)

Drop-Down Menus

- Previously, when you viewed a drop-drown menu in a tab, the drop-down menu overflow may have disappeared on certain screen sizes. This issue has been resolved. (TS ID: 160715)

Graphs

- Previously, when you attempted to specify a graph parameter with a URL, it was not successful. This issue has been resolved. (TS ID: 160639)

- Previously, when you created a graph using datasets, selected **Dimension Mapping**, and then selected the **Map Series** button, the **Dimensions for Series** window that appeared was not able to be closed and no scroll bar appeared for you to see all of the fields. This issue has been resolved. (TS ID: 157007)

Licenses

- Previously, when you attempted to load an Equipment datasheet, an error occurred if you had only the Core license for Meridium Enterprise APM activated. This issue has been resolved. (TS ID: 160650)

Mobile

- Previously, when using the Meridium mobile application on an Android device, if you rotated the device from landscape to portrait view, the application did not fill the screen, and a portion was taken up with white space. This issue has been resolved. (TS ID:

161646)

Queries

- Previously, when exporting query results to a file, columns with imbedded hyperlinks were exported containing hyperlink information instead of the values from the column. This issue has been resolved. Now, column values are exported as expected. (TS ID: 161626)

- Previously, members of the MI Power User Role group were unable to create, modify, and delete action queries. This issue has been resolved. (TS ID: 123338)

- Previously, users who were not Super Users were able to execute action queries. This issue has been resolved. (TS ID: 162409)

- Previously, when building a query, opening the Expression Builder for an existing column to create an expression field caused an error. This issue has been resolved. (TS ID: 161037)

Record Manager

- Previously, in Record Manager, when you selected a Record from search, selected the Related Record, selected **Link Existing**, and then selected **Cancel**, a blank screen appeared. This issue has been resolved. Now, the datasheet of the root record appears when you select Cancel. (TS ID: 159646)

- Previously, in Record Manager, an error occurred if you clicked a Record ID multiple times. This issue has been resolved. (TS ID: 109504)

Search

- Previously, the Global Search feature in Meridium Enterprise APM returned an error if you entered any of the following values:
  - The word "calibration".
  - A partial term (e.g. "centri").
  - A Functional Location ID.
  - A module name.
  - Any text containing special characters (e.g. "*").

  These issues have been resolved.

(TS ID: 159785)

Single Sign-On

- Previously, an issue with Lightweight Directory Access Protocol (LDAP) synchronization caused Single Sign-On (SSO) to malfunction. This issue has been resolved. (TS ID: 160579)

Hazards Analysis - Resolved Issues - V4.0.1.0

The following issues existed in Hazards Analysis in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, in the localized version of Meridium Enterprise APM, you could modify a Hazards Analysis even if the state of the analysis was not *Planning*. This issue has been resolved. You can now modify a Hazards Analysis only if the state of the analysis is *Planning*. (TS ID: 160485)

- Previously, when you accessed a System/Node in a What If Analysis, and then accessed the **Analysis Summary** workspace, an error message appeared. This issue has been resolved. (TS ID: 160619)

Inspection Management - Resolved Issues - V4.0.1.0

The following issues existed in Inspection Management in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, when loading an Inspection datasheet from an asset or a functional location, if you navigated away from the selected tab, the datasheet did not properly load. This issue has been resolved. (TS ID: 160754)

- Previously, after creating a new Resource Role record in Inspection Management through Record Manager, you could not save the newly created record. This issue has been resolved. (TS ID: 162335)

Installation, Upgrade, and System Administration - Resolved Issues - V4.0.1.0

The following issue existed in Installation, Upgrade, and System Administration in one or more previous releases and has been resolved in V4.0.1.0:

- Previously, when using the Meridium Enterprise APM Database Upgrade Manager application, selecting the Help button did not access the appropriate help topic. This issue has been resolved. (TS ID: 88368)

Policy Designer - Resolved Issues - V4.0.1.0

The following issue existed in Policy Designer in one or more previous releases and has been resolved in V4.0.1.0:

- Previously, Policy Recommendation records appeared multiple times in the **My Policy Recommendations** and the **Overdue Policy Recommendations** lists on the **Policy Designer Overview** page. This issue has been resolved. (TS ID: 160219)

Production Loss Analysis - Resolved Issues - V4.0.1.0

The following issues existed in Production Loss Analysis in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, in the Production Event datasheet, the text in the Linked Work History field did not appear as a hyperlink to open the respective work history record. This issue has been resolved. (TS ID: 157406)

- Previously, in the Production Event datasheet, the Causing Asset hyperlink appeared as a Meridium hyperlink. This issue has been resolved. The hyperlink now appears in the standard format. (TS ID: 153260)

- Previously, you were not able to create a profile with products that were listed under the Representative Fluids family. This issue has been resolved. (TS ID: 159989)

- Previously, when you accessed the **PLA Overview** page, without security privileges to access PLA, an error message appeared before an Access Denied error appeared. This issue has been resolved. If you access the **PLA Overview** page without the required security privileges, an Access Denied error appears as expected. (TS ID: 163356)

- Previously, in the **Production Summary** graph for a Production Plan with multiple products, the loss values for products in the grid did not match the values in the graph. This issue has been resolved. (TS ID: 166936)

Recommendations - Resolved Issues - V4.0.1.0

The following issues existed in Recommendations in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, when viewing the **Mitigated Risk** tab in RBI Recommendations, an error appeared. This issue has been resolved. (TS ID: 160717)

- Previously, the **Interval** column was always blank for RBI Recommendations in the **Recommendation** pane. This issue has been resolved. (TS ID: 160572)

Reliability Analytics - Resolved Issues - V4.0.1.0

The following issues existed in Reliability Analytics in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, when you attempted to modify a datapoint using the **Point Tooltip** window, the **Distribution Data** window did not appear. This issue has been resolved. (TS ID: 160392)

- Previously, in the editor for Reliability Distribution data (i.e., the **Reliability Distribution Data** window), you were not able to add data to the last row until you added data to all the rows before the last row. This issue has been resolved. (TS ID: 159985)

- Previously, when you created a query-based Reliability Growth Analysis with failure and dates, a property error appeared. This issue has been resolved. (TS ID: 156944)

- Previously, when using an IE browser, in the **Scenario** workspace of a System Reliability Analysis, in the **Diagram** section, the tools in the **Pallet** did not appear appropriately. This issue has been resolved. (TS ID: 154864)

- Previously, in the **Production Data** plot for a Production Analysis, when you modify a **Demonstrated** or **Nameplate** line, the **Beta** and **Eta** values are not populated in the **Add/Modify <Line Type>** window. This issue has been resolved. (TS ID: 160507)

- Previously, when you accessed the editor for Reliability Distribution data (i.e., the **Reliability Distribution Data** window), you could not add a datapoint to the Reliability Distribution Analysis. This issue has been resolved. (TS ID: 157115)

- Previously, for a Reliability Growth Analysis based on Cumulative Operating Time, no value was populated in the **COT** column in the editor for Reliability Growth data (i.e., the **Reliability Growth Data** window). This issue has been resolved. (TS ID: 156788)

- Previously, for a Reliability Growth Analysis based on a query, in the editor for Reliability Growth data (i.e., the **Reliability Growth Data** window), you were not able to add a new failure data row. This issue has been resolved. (TS ID: 159877)

Reliability Centered Maintenance (RCM)/ Failure Modes and Effects Analysis (FMEA) - Resolved Issues - V4.0.1.0

The following issues existed in RCM/FMEA in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, templates in RCM/FMEA would not allow the addition of more than one Failure Effect. This issue has been resolved. (TS ID: 159696)

- Previously, the tree did not load in an RCM analysis when moving between tabs in the analysis. This has been resolved. (TS ID: 159578)

- Previously, when superseding two recommendations that were both already superseded or consolidated, the supersede and consolidate operations were incorrectly available. This has been resolved. (TS ID: 156778, 156779)

- Previously, after updating a Recommendation that was promoted to ASM, the annual cost field on the linked Action was not updated to reflect the changes. This has been resolved. (TS ID: 153165)

- Previously, in the RCM module, when you entered a negative value (e.g., -100) in the Production Loss field under the **Financial** tab in the **Failure Effect** section of an RCM analysis, the negative value was accepted. This issue has been resolved. Now, if you enter a negative value, you will receive a message that it is not a valid entry. (TS ID: 156321)

Risk Based Inspection (RBI) - Resolved Issues - V4.0.1.0

The following issues existed in Risk Based Inspection in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, Pipeline Management data mapping groups referenced preexisting data mapping queries; therefore, the queries were not properly delivered due to content protection issues. This issue has been resolved. Now, the Strategy Mapping Configuration records correctly map to Pipeline Management Degradation Mechanisms. (TS ID: 157223)

- Previously, although the ability to create or to generate recommendations on either the asset or on the unit is set by preferences established on the **RBI Global Preferences** page, these preferences were not properly utilized and some icons were incorrectly disabled. This issue has been resolved. Now, the ability to create or generate recommendations properly respects the selections on the **RBI Global Preferences** page. (TS ID: 160020)

- Previously, even if the **Allow Override of Calculated Unmitigated Risk Values** preference was selected on the RBI Global Preferences page, this preference was not properly utilized and was not allowing the user to override the Calculated Unmitigated Risk Value. This issue has been resolved. Now, the ability to override the Calculated Unmitigated Risk Value properly respects the selections made on the **RBI Global Preferences** page. (TS ID: 160021)

- Previously, on the **RBI Global Preferences** page, the **Allow Override of Calculated Unmitigated Risk Value** field contains an incorrect description. This description references the Allow Custom Risk Matrix option, which is now obsolete. This issue has been resolved. Now, this option is no longer referenced on the **RBI Global Preferences** page. (TS ID: 160361)

- Previously, when the set of family fields included in the ID Template for a Corrosion Loop was modified to use the RBI System Description field instead of the baseline RBI System ID field, the Corrosion Loop could not be created. This issue has been resolved. Now, modifying the ID template does not affect the creation of a Corrosion Loop. (TS ID: 160379)

- Previously, RBI Recommendation datasheets with the Created state assignment were not populating correctly because the baseline state configuration for the RBI Recommendation family changed to use a different Template ID for the Created state. This issue

has been resolved. Now, the baseline state configuration for RBI Recommendations uses the correct ID. (TS ID: 160550)

- Previously, despite the user's command to consolidate RBI Recommendations generated for an entire asset, the RBI Recommendations were not correctly consolidated and they appeared in the Proposed state on the **Recommendations** pane. This issue has been resolved. Now, the RBI Recommendations are properly consolidated and they appear in the Consolidated state on the **Recommendations** pane. (TS ID: 160569)

- Previously, after linking an existing RBI Component to a Corrosion Loop containing other RBI Components, the chart on the **Corrosion Loop Summary** page only displayed the newly linked RBI Component and did not show the RBI Components already linked to the Corrosion Loop. This issue has been resolved. Now, all RBI Components linked to a Corrosion Loop are visible on the **Corrosion Loop Overview** page. (TS ID: 166106)

- Previously, when two or more Recommendations were manually consolidated on either the component or the asset, the newly Consolidated Recommendation was not correctly linked to the asset. This issue has been resolved. (TS ID: 162049)

Root Cause Analysis - Resolved Issues - V4.0.1.0

The following issues existed in Root Cause Analysis in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, when you attempted to save a Failure Event without entering a value in the Label field, a null reference error appeared. This issue has been resolved. (TS ID: 160392)

- Previously, the name of the Principal Analyst did not appear on the first page of the Comprehensive Analysis Report. This issue has been resolved. (TS ID: 162560)

- Previously, in Internet Explorer, you were not able to add Hypothesis after fourth level. This issue has been resolved. (TS ID: 165002)

Rounds - Resolved Issues - V4.0.1.0

The following issues existed in Rounds in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, when a Measurement Location was created or updated from an MLT using the wizard or by selecting a template in Measurement Location datasheet, the schedule would be copied to the checkpoint task. The Next date and Non-compliance date would not be set. This issue has been resolved. (TS: 160214)

- Previously, Measurement Locations created using the Template Wizard would not populate the Equipment Technical Number. This issue has been resolved. (TS ID: 160670)

- Previously, in Rounds Data Collection, when you add a Reading to a Numeric Conditional ML, close and re-open the Data Collection page, the Route did not retain the Conditional ML and the Conditional ML did not appear. This issue has been resolved. (TS: 165415)

SIS Management - Resolved Issues - V4.0.1.0

The following issues existed in SIS Management in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, when you tried to create a Proof Test Detail record, an error message appeared. This happened only if you created the Proof Test by first accessing the Proof Test Task. This issue has been resolved. (TS ID: 160862)

- Previously, after you applied a Protective Instrument Loop Template to a Protective Instrument Loop, the details of the Sensor were not applied to the loop. This issue has been resolved. Now, if you apply a Protective Instrument Loop Template to a Protective Instrument Loop, the details of the template and all its elements (including the Sensors) are applied to the loop. (TS ID: 160919)

- Previously, if you saved a Protective Instrument Loop as a template, then the template did not contain the Final Elements that were linked to the loop. Because of this, the template was incomplete, and you could not view the calculations for the template. This issue has been resolved. If you now save a Protective Instrument Loop as a template, then the template contains the details of the loop and all its elements, including the Final Elements. (TS ID: 160920)

- Previously, in the **Loop Diagram & Calculation** section of a Protective Instrument Loop, the **Contribution** graph did not plot the percentage of PFD contribution by the elements of the loop. This issue has been resolved. The graph now plots the percentage of PFD (in addition to MTTFS) contributed by the Sensors, the Logic Solver, and the Final Elements in the loop. (TS ID: 160921)

Teams - Resolved Issues - V4.0.1.0

The following issue existed in Teams in one or more previous releases and has been resolved in V4.0.1.0:

- Previously, when you modified the Job Title on a Team Member datasheet and tried to save the changes, you received an error message. This issue has been resolved. (TS ID: 160799)

Thickness Monitoring (TM) - Resolved Issues - V4.0.1.0

The following issues existed in Thickness Monitoring in one or more previous releases and have been resolved in V4.0.1.0:

- Previously, when using the **Measurement Data Entry** workspace, if you switched application tabs (i.e., the tabs within Meridium Enterprise APM) before saving measurements, the workspace would refresh and the measurements would be lost. This issue has been resolved. (TS ID: 159699)

- Previously, when you attempted to navigate to the **Measurement Data Entry** workspace for the first time, a "Failed to load entity" error appeared. This issue has been resolved. (TS ID: 153181)

- Previously, when you created new Corrosion Analysis Settings, regardless of the values, if the calculations based on the new settings completed quickly (approximately 1 to 3 seconds), the **Calculating...** box would not disappear. This issue has been resolved for all platforms except the Meridium Enterprise APM mobile application on supported Surface tablets. (TS ID: 153363)

- Previously, when calculating a Corrosion Analysis for a single asset, the confirmation message that the calculation had completed could appear on the wrong Meridium Enterprise APM client (i.e., the confirmation message could appear for another user). This issue has been resolved. (TS ID: 160848)

Deferred Features - V4.0.1.0

The following modules have features are not available in Meridium V4.0.1.0, but are planned for a future release.

- [AMS Analytics](#)
- [APM Connect](#)
- [Asset Strategy Implementation](#)
- [Asset Strategy Management](#)
- [Asset Strategy Optimization](#)
- [Asset Health Manager](#)
- [Calibration Management](#)
- [Foundation](#)
- [GE System 1](#)
- [Hazards Analysis](#)
- [Inspection Management](#)
- [Metrics and Scorecards](#)
- [Process Data Integration](#)
- [Production Loss Analysis](#)
- [Reliability Centered Maintenance and Failure Modes and Effects Analysis](#)
- [Reliability Analytics](#)
- [Risk Based Inspection](#)
- [Root Cause Analysis](#)
- [Rounds](#)
- [SIS Management](#)
- [Thickness Monitoring](#)

AMS Analytics - Deferred Features - V4.0.1.0

The following feature is not available in V4.0.1.0, but is planned for a future release:

- AMS Analytics and a connection to Emerson AMS.

APM Connect - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- Maximo Integration Adapters (TS ID: 62026, 62076, 63063, 62082, 62090, 62094, 62097, 62100)

- Oracle Integration Adapters (TS ID: 62005, 62009, 62013, 62017, 62020)

- Asset Strategy Optimization Adapter (TS ID: 139937)

- Asset Strategy Management Adapter (TS ID: 152854)

- Asset Strategy Implementation for SAP Adapter (TS ID: 160212)

- Asset Criticality Analysis for SAP Adapter (TS ID: 160213)

- Mechanical Integrity Adapters
  - Thickness Monitoring (TS ID: 146376)
  - Risk Based Inspection (TS ID: 160216)
  - Inspection Management (TS ID: 146376)

Asset Strategy Implementation (ASI) - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- The option to exclude child items when copying and pasting Work Managment Items. (TS ID: 147790)

- The ability to use Rounds.

- Visibility of Actions linked to Health Indicator Sources. (TS ID: 143567)

- Production Resource Tool (PRT). (TS ID: 153718)

Asset Strategy Management (ASM) - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- Applying a template directly to an asset. (TS ID: 160676)

- Consolidating Actions. (TS IDs: 147209, 147234, 83674)

- Importing asset strategies and strategy templates. (TS IDs: 160688, 63042, 157251, 63638)

- Migrating strategies between databases.

- Mass state management of Actions in Unit and System Strategies. (TS ID 119126, 83686)

Asset Strategy Optimization (ASO) - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- The ASO module. This will be released in 4.1.0.0. (TS ID: 65780)

- The ASO data loader. This will be released in 4.1.0.0. (TS ID: 65780)

- Uploading Asset Strategy simulations. This will be released in 4.1.0.0. (TS ID: 65780)

Asset Health Manager (AHM) - Deferred Features - V.4.0.1.0

The following features are not available in V.4.0.1.0, but are planned for a future release.

- The display of health indicator statuses in Asset Hierarchy. (TS ID: 86796)

- Asset Hierarchy sorting and filtering based on health indicator status, filtering based on health indicator family field values, and filtering based on assets with or without health indicators (TS IDs: 91046, 86625, 86430)

- Trend chart for character health indicators. (TS ID: 103875)

Calibration Management - Deferred Features - V4.0.1.0

The following feature is not available in V4.0.1.0, but is planned for a future release.

- Automated Calibration (TS IDs: 61319, 61334)

Foundation - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

Asset Criticality Analysis (ACA)

- Promoting analyses to and from ACA. (TS ID: 160858)

- Exporting and importing in the ACA module. (TS ID: 66952)

Configuration Manager

- Authentication required to insert or update records function. (TS ID: 160461)

- Global number and date format. (TS ID: 160148)

- In **Manage Translations**, the option to send a copy of your custom translations to Meridium, Inc. (TS ID: 160467)

- Save as New function for creating new family fields. (TS ID: 86446)

Datasheet Builder

- Customization of datasheet field background colors. (TS ID: 102115)

- Customization of global number and date format. (TS ID: 102115)

Graphs

- Exporting to a PDF and printing graphs. (TS ID: 81015)

- Logarithmic scale. (TS ID: 76612)

Mobile Application

- Exporting to a PDF is not supported for all mobile devices. (TS ID: 161277)

- Printing from all mobile devices. (TS ID: 80031)

- Reference Documents cannot be uploaded in a browser. (TS ID: 161289)

Operations Manager

- The Protection Level slider feature of the Risk Matrix. (TS ID: 80787)

GE System 1 - Deferred Features - V4.0.1.0

The following feature is not available in Meridium V4.0.1.0 but is planned for a future release:

- GE System 1 Analytics and connection to GE System 1, including the GE Tag node used in Policy Designer.

Hazards Analysis - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- Attaching a Reference Document to a Recommendation. (TS ID: 69738)

- Revision History in Hazards Analysis. (TS ID: 104884)

Inspection Management - Deferred Features - V4.0.1.0

The following feature is not available in V4.0.1.0, but is planned for a future release:

- Using Asset Grouping. (TS ID: 80179)

Metrics and Scorecards - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- Attaching Reference Documents to a KPI and Scorecard. (TS ID: 142641)

- Using Transpose in Metric Views. (TS ID: 128477)

- Exporting the Drillthrough Results. (TS ID: 160139)

- Exporting a KPI, Scorecard or Metric View in .PNG or .PDF on devices. (TS ID: 154101)

- Assigning Scores to a KPI. (TS ID:153429)

- GM (Generation Management) cube is deferred from V4.0.0.0. Any previously deployed GM (Generation Management) cube, which worked in V3.6 and earlier releases, will continue to work in V4.0.0.0 after upgrading the product. You will be able to use the existing GM cube and the support will continue. (TS ID: 160466)

Process Data Integration (PDI) - Deferred Features - V4.0.1.0

The following feature is not available in V4.0.1.0, but is planned for a future release.

- Viewing trends for multiple OPC Tags simultaneously (i.e., the Process Data Viewer feature in V3). (TS ID: 62299)

Production Loss Analysis (PLA) - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- Integration of PLA with Process Data Integration to create Production Data and Production Event records automatically. Production Event records, however, can be created from OPC Tag records using a policy.

  (TS ID: 61866)

- Deleting a Production Event that is not associated with a Production Plan.

  (TS ID: 161224)

- Support for multiple time zones. In V4.0.1.0, all the Production Plan details are stored in the time zone of the user who created the Production Plan. The calculations in a Production Plan will be incorrect:
    - If another user, who belongs to a different Time Zone, modifies the Production Plan.
    - If the Time Zone for the same user, who created the Production Plan, is changed.

  (TS ID: 160600)

Reliability Centered Maintenance (RCM) and Failure Modes and Effects Analysis (FMEA) - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- Copying and pasting tree node elements. (TS ID: 64754)

- Generating reports. (TS ID: 147352)

- Promoting RCM and FMEA analyses directly to templates. (TS ID: 160858)

- (RCM-only) Linking virtual assets to real assets. (TS ID: 152081)

Reliability Analytics - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- Action optimization in System Reliability Analysis.

- Capability to view Multiple Plot Views in a Probability Distribution Analysis, Reliability Distribution Analysis, Production Analysis, or Reliability Growth Analysis.

  (TS IDs: 63937, 63644, 63646, 63645, 63648, 63682, 63683, 63936, 61870)

- Disassociating a Distribution Analysis from a Spare Application. You can, however, delete a Distribution Analysis that was imported in to a Spare Analysis and add the required Failure Distribution information manually.

  (TS ID: 156731)

Risk Based Inspection (RBI) - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- Importing RBI data from an Excel template. (TS ID: 61326)

- Adding the Max Corrosion Rate field to the list of Corrosion Rates. (TS ID: 61527)

- Creating a bulk review of analyses. (TS ID: 62844)

- Managing the bulk calculation of analyses for multiple assets. (TS ID: 63246)

- Creating a bulk What-If analysis. (TS ID: 73475)

Root Cause Analysis (RCA) - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- Publishing an analysis in RCA.

  (TS IDs: 61730, 103887, 68585, 63432)

- Importing a Logic Gate or child nodes of a Hypothesis into a Logic Tree Diagram.

  (TS ID: 160121)

- Emailing capability to communicate findings and track changes in RCA.

  (TS ID: 62960)

- Sending e-mail notifications for alerts configured in RCA for Recommendations, Preserve Records, and Hypothesis Verifications.

  (TS ID: 160604)

Rounds - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- Selecting multiple nodes from the Route pane in Route Management.

- Unlinking a Measurement Location from a Measurement Location Template.

- Compliance tracking of readings.

- Accessing a list of recent Routes.

- Support for Windows CE Handheld devices.

- Support for RFID and barcode scanners.

- Storing the location data of a Reading via GPS.

- Offline access to the five most recent Recommendations in Rounds.

- Capturing multiple images while creating a Recommendation in Rounds.

- Ad hoc inspection of a single asset.

SIS Management - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- Attaching a Reference Document to a Recommendation (TS ID: 69738)

- SIS Asset Health (TS ID: 78659)

- Revision History in SIS Management (TS IDs: 102226)

- SIS Trip Reporting (TS ID: 105855)

- Copying an Instrumented Function (TS ID: 137180)

Thickness Monitoring (TM) - Deferred Features - V4.0.1.0

The following features are not available in V4.0.1.0, but are planned for a future release:

- Color Coding Preferences. (TS ID: 70840)

- Corroded Area Measurements. (TS ID: 101752)