Oracle Metadata Management (OMM) Solutions

Oracle Metadata Management for Oracle Business Intelligence (OMM4OBI)
Oracle Enterprise Metadata Management (OEMM)

OMM Metadata Management 12.2.1.4.0
based on MIMM OEM 10.1.0 (01/31/2020)

with Meta Integration® Metadata Management (MIMM)

README for Release Changes

1. Overview

The Oracle Metadata Management (OMM) solutions include two products:

- the Oracle Metadata Management for Oracle Business Intelligence (OMM4OBI)
- and the Oracle Enterprise Metadata Management (OEMM)

Oracle Metadata Management for Oracle Business Intelligence is a software package for metadata management of Oracle environments. Oracle Metadata Management for Oracle Business Intelligence includes the following metadata management features:

- Metadata Harvesting from Oracle technologies
- Metadata Configuration and Stitching
- Metadata Browsing, Search and Reporting
- Metadata Collaboration (external URL, tagging, comments and review)
- Data Flow Lineage & Impact Analysis
- Metadata Explorer (simplified metadata user interface for business users)

Oracle Enterprise Metadata Management is a software package for metadata management of multi-vendor environments and support for data governance. Oracle Enterprise Metadata Management includes all features of Oracle Metadata Management for Oracle Business Intelligence with the following extra metadata management features:

- Metadata Harvesting from multi-vendor technologies
- Metadata Version and Configuration Management (change management)
- Data Model Diagram Visualizer and Navigator
- Business Glossary for Data Governance
- Semantic Lineage & Impact Analysis
- Semantic Mapping Editor
- Data Flow Mapping Specifications Editor

The above Oracle Metadata Management Solutions are implemented by Meta Integration® Metadata Management (MIMM) Web Application Server, based on a Meta Integration® Repository (MIR) database server, and the Meta Integration® Model Bridge (MIMB) metadata harvesting components.

2. Copyright Notice

The following Oracle Metadata Management (OMM) products:

- Oracle Metadata Management for Oracle Business Intelligence (OMM4OBI)
- Oracle Enterprise Metadata Management (OEMM)

are licensed under the following Oracle copyright:

These Oracle Metadata Management products are based (re-branded OEM) on the following Meta Integration products:

- Meta Integration® Metadata Management (MIMM)
- Meta Integration® Model Bridge (MIMB)
- Meta Integration® Repository (MIR)

which are licensed under the following Meta Integration copyright:

3. Release Changes

Metadata Management (MIMM)

- NEW METADATA REPORTING DASHBOARDS
  with full BI reporting dashboard capabilities (tile layout, widgets for containers, numbers, statistics such as grids, bar or pie charts, etc.) based upon the new Metadata Query Language (MQL) and Worksheets technologies released in the previous version.
  MQL based Metadata Worksheets combined with other dimensions (e.g. history/time, users/groups, configurations, etc.) enable users to produce powerful dashboards (e.g. recently approved terms, what's new, workflow to do list, etc.).
  As with Collections and Worksheets, users have the ability to save/manage/share Dashboards.
- NEW UI CUSTOMIZATION
  based on the above new dashboard technology, allowing users to customize the UI:
  - for each Repository Object (e.g for Terms, Tables, Columns, etc.) where the Overview Tab is now fully editable as a dashboard, and all other Tabs can be individually hidden to simplify the UI for business users.
    Administrators can manage the Default Overview for different metadata presentation to different user groups.
  - for each Configuration Home Page (now available by clicking the banner logo) which is now based on the full power of new dashboards.
    Administrators can manage the Default Dashboard for the home page of different user groups.
- NEW UI LOOK & FEEL
  dramatically improving the user experience:
  - New Header Banner:
    - Simpler customization harmonized between Metadata Explorer and Manager (conf\resources\MM.properties).
    - Simpler modern top right menus:
      - Tool submenu with access to other tools (e.g. Metadata Manager) and Help.
      - User submenu with direct access to edit the user account profile (e.g. define full name, email, and now with photo avatar), preferences, and log out.
      - Configuration submenu with direct access to the default, recent and other configurations.
  - New Header Menus with Objects, Collections, WorkSheets, Dashboards, and Manage with harmonized SubMenus to Explore, Manage, and direct access to Favorites and Recent.
  - New Explorer Panel (on the left for navigation) which is now available (harmonized) for Objects, Collections, WorkSheets, and Dashboards.
  - New Object Level Attachments such as associating documents to a Term, Table or even Column.
  - New Object Preview Thumbnail Image manually uploaded by users, or automatically imported by some bridges (such as a BI Report Preview Thumbnail Image when supported by BI import bridges like Tableau and Spotfire).
  - New User Avatar (photo).
  - New User Authentication Management UI harmonized between Native, LDAP, OAuth, and SAML.
  - New End User's Active Operation Monitoring (see below for details)
  - New Administrator's All User Active Operation Monitoring (see below for details)
  - Improved Configuration Management (Build) UI (see below for details)
  - Improved Column/Field Order to physical order by default (instead of alphabetical order) for table columns and file fields (Note that the model must be fully re-harvested to get the new physical order).
  - Improved Data Flow Lineage filtering performance now performed locally on the web client, also reducing the server load.
  - Improved Management UI for Users, Groups, etc. with a harmonized simpler UI.
  - Improved overall layout, graphics (icons) and presentation.
- NEW UI INTERNATIONALIZATION
  with the ability to translate all the UI menus of both the Metadata Explorer and Metadata Manager including:
  - The MIMB Metadata Profile based UI (metamodel vocabulary: e.g. schema, table, column, field, dimension, job, etc.)
  - The MIMB Metadata import/export bridge UI (bridge parameter names, enumeration values, and descriptions/tooltip)

  The internationalization supports automatic detection of the user's web browser local language, including support for multiple languages on connected web clients. However, Internationalization excludes support for multi language content at once (e.g. support for user defined business names and descriptions in both English and French on the same object within a server)
- NEW ACTIVITY MONITORING / OPERATION MANAGEMENT
  with real time monitoring of any activity such as concurrent model imports (metadata harvesting), a configuration build, and other operations such as a repository backup/restore.

From the UI perspective, a new activity processing icon (spinning gear) appears on the top right of the banner with a counter of concurrent operations. When all operations are completed (no longer active), the gear icon stops spinning. If there was any error in any of the operations, the operation counter is replaced by a red error icon.
At any time, a user can click on the activity monitoring icon to list the operations, and jump to the desired log, before closing/discarding the activity icon upon completion. Note that only the activities/operations running on behalf of the current user are displayed. In addition, Administrators also have a new Manage/Operations panel to list any active operations running on behalf of any user.

- NEW NEW REPOSITORY MANAGER
(Manage > Repository) has been fully redesigned to replace the legacy Metadata Manager UI.
Over the past few versions, any new features were developed (and therefore only available) in the modern Metadata Explorer UI. At the same time, all editing capabilities of the legacy Metadata Manager were progressively migrated (while redesigned) into the modern Metadata Explorer UI. The last editing feature was the Semantic Mapper now available in the Metadata Explorer of this new version. All remaining other features (the model version management itself) of the legacy Metadata Manager UI have now been migrated, redesigned and improved as Manage > Repository. Links from the Metadata Explorer to Show in Metadata Manager have been replaced by show in Repository Manager. Therefore:
    - The legacy Metadata Manager UI is no longer linked anywhere from the Metadata Explorer UI. New MIMM users should never be exposed to the legacy Metadata Manager UI. The legacy Metadata Manager UI remains bundled in this version as MM/Manager in the URL However, it is deprecated and will be fully removed in the next version.
    - The so called Metadata Explorer UI is now the sole UI as just MM in the URL (instead of MM/Explorer)
- IMPROVED VERSION AND CONFIGURATION MANAGEMENT
with incremental stitching dramatically accelerating the re-building of configurations based upon the incremental harvesting of multi-models from DI/ETL servers, BI servers (like Tableau), Data Lakes (HFDFS, Amazon S3, etc.), and now large Data Warehouses (Hive, Teradata. Oracle, etc.)
    - New Configuration Build UI preventing concurrent configuration builds, and provide better configuration status updates.
    - New Configuration Model Connection Stitching UI to support the new multi-model databases, including:
        - The 2 levels (Database Model, and Schema) of traditional databases server like Oracle, HIVE.
        - The 3 levels (Database Model, Database Catalog, and Schema) of Microsoft SQL Servers.
    - Improved Configuration Connection UI harmonization between Metadata Explorer and the Manager Manager.
    - Improved Change Management Detection by no longer relying on the physical native id of the object (e.g. table) and instead rely on the name space (e.g. schema/table/column), therefore preventing invalid change detection when the database was re-created (backup/restore), or when pointing from development to production server.
- ARCHITECTURE, DEPLOYMENT & INTEGRATION
    - Improved User Authentication Management (in particular OAuth and SAML) to support the latest version in these standards, and their implementations in popular servers like Azure ADFS.
    - Improved Repository Database Space needed with incremental harvesting of the database servers that are now supported as multi-models at the schema level, as every harvested new version will reuse the stable schema sub-models.
    - All Third Party & Open Source Software has been upgraded to the latest versions for better security vulnerability protection.
- UPGRADE REQUIREMENTS:
    - No specific migration preparation steps are needed as this version upgrade is compatible with the previous one, however:
        - As with previous upgrades make sure you follow proper upgrade steps including applying the current version's latest cumulative patch, making sure the database maintenance is up to date, and a full database backup has been performed.
        - You must perform a clean install of the new software (i.e. this us is not a cumulative patch on top of previous version)
- POST UPGRADE:
    - UI Customization:
    Any existing customization of the UI Banner (conf\resources\MM.properties) or Metadata Explorer (conf\resources\MetadataExplorer.xml) needs to be manually copied to the newer simpler harmonized version of that file (from conf\Template\resources)
    - Database Models:
    After the upgrade, any newly created database model will be harvested as a multi-model by default. However, existing database models will go on been harvested as single (large) models. In order to benefit from the new faster and more space efficient multi-model databases, the existing database models can be upgraded using a dedicated operation (Migrate to mult-model databases) which is available at the database model or directory level (in the Repository Manager). This conversion operation converts the single database model into a multi-model database (one model per schema) while taking care of the migration of the database documentation (business names, descriptions, etc.), connection stitching, and any involvement on data flow or semantic mappings. Note that this conversion operation has the following known limitations:
        - When a single-model database content has multiple versions the migration process migrates the latest version only. You can find other versions in the original single-model content moved under the migration folder. These versions will retain relationships to mappings and configurations that use them.
        - Web browser bookmarks of objects in the migrated single-model contents are obsolete as they reference these objects using obsolete identifiers.
        - Migrated contents retain names (paths) of the original contents but not their identifier. For example, it can invalidate references to single-model objects in Worksheet filters
        - Only Diagrams with objects in the same schema are migrated.
        - Configuration Architecture diagrams layout of migrated objects could be lost
        - Migrated Data Mapping will not have previously broken target expressions

Metadata Harvesting (MIMB)

- DATA STORES (Flat files, RDBMS, Cloud Databases, Big Data / Hadoop):
  - RELATIONAL DATABASE support for multi-model incremental harvesting.
  - DATA CATALOGING OF THE DATA LAKE on local file servers (POSIX file systems), over the cloud (e.g. Amazon S3), on big data clusters (e.g. Hadoop distributions), on messages databases (e.g. Kafka), or on NoSQL databases (e.g. MongoDB):
    - with high level data lake directory inventory import bridges such as:
      - Confluent Kafka Schema Registry import more
      - Microsoft Azure Data Lake Storage Gen2 import more
- DATA INTEGRATION (DI/ETL/ELT/Scripts):
  - New bridges:
    - Amazon Web Services (AWS) Glue ETL (via Apache Spark) import more
    - Databricks Unified Data Services (via Apache Spark) import more
    - Denodo Virtual DataPort import more
    - Informatica Data Engineering Integration (DEI) / Big Data Management (BDM) Developer import more
    - Microsoft Azure Data Factory import more
    - Snowflake Database SQL DML (DI/ETL) Script (SnowSQL) import more
- BUSINESS INTELLIGENCE (BI/OLAP):
  - New bridges:
    - (Google) Looker import more
    - Microsoft Power BI (PBIX or PBIT) File (PowerQuery M language based) import more
- GENERAL:
  - All Third Party & Open Source Software have been upgraded to their latest versions for better security vulnerability protection.