

# MDChange Product Family Enhancements in version 8.6

## September 6, 2024

### MDOpen for VS Code

- Source and Objects can now be requested from the developer's workspace directly from the Explorer extension in VS Code. The requests can be made based on Continuous Integration rules for a Git repository definition or for the new Workspace Repository definitions for non-Git folder structures.
- All source and objects that are requested from the Workspace or via Git will be automatically copied to the developer's folder or library on checkout to allow for local referencing and editing prior to deployment.
- Source and Objects that were requested from the workspace or via Git can be synced between the IBM i and the workspace. This allows for efficient editing, compiling and unit testing in the developer library before then syncing back to the workspace or for making further edits in the workspace and syncing back to existing object requests without an immediate commit and push to Git.
- IFS and Remote objects that are requested via Git or the VS Code workspace can be renamed using the Rename option for an Object Request in MDOpen for VS Code
- The interactive RFP Submit process now waits until all warning and error panels are processed before displaying the Submit RFP confirmation panel. This provides for better visibility of the warnings and errors and provides a more intuitive experience.

## August 18, 2024

### MDOpen for VS Code

- Deployment Flow Diagram - view a diagram showing the flow between levels across partitions for an Application. Available as option from Settings->Environment Settings->Applications.

### MDTest

- Ability to provide a comment when passing or failing a manual step
- run tests under user for Job Description of target level to ensure correct authority for tests

## August 9, 2024

## MDOpen for VS Code

- A Git Repository definition now has the parameter URL Value in Webhook. This can be populated with the value from the git webhook in case the clone URL for the repository doesn't match the URL provided from the Git server after the push of a commit.
- A log of the attempted creation of Pull Requests can now be viewed for a Git Repository. Additionally, the option to repeat the creation attempt is available for each entry.

## July 28, 2024

### MDOpen for VS Code

- Option "Move to RFP" for Send RFP Object Requests to easily move 1 or more objects to a different RFP in the Send Listing.
- Ability to filter objects for a Send RFP by name, attribute, request reason or project/task/subtask

## July 17, 2024 (8.6.2)

### MDCMS

- All MD Service jobs are now standardized to run under the profile defined in the System Settings for parameter MD Service User. Special value \*MDOWNER can be used to continue having the jobs run under the profile for the product owner. The java-based service jobs also use this profile rather than the now deprecated Java Service user.

### MDOpen for VS Code

- Any user profile field in the list and detail views can be hovered over to see the name of the user
- Object Requests can be filtered by object type
- Option "Move to RFP" for Object Requests to easily move 1 or more objects to a different RFP.
- Documentation for MDTest views are directly accessible from the views by clicking on the Info icon at the top of the view. This feature will be rolled out over time to all views within MDOpen.
- Various performance improvements

## June 15, 2024

### MDCMS

- When Continuous Integration is triggered by a Git webhook for a higher level (such as QA or production), MDCMS will check if a non-Git RFP already exists for the same Task and merge the Git and non-Git objects

together into that RFP. This is helpful when non-Git objects such as Data Areas or similar were modified as part of the same Task.

## MDOpen for VS Code

- Option to Ignore Certificate Errors for Connection - checkbox added to connection parameters to ignore certificate errors for https connections to the MDCMS apache server, in case of a self-signed certificate or non-matching CN.
- Option Copy to New Object for active object requests. This option provides a very convenient way to generate a new object based on the properties of an existing object. If the existing request is a checkout for modification, the copy from parameters will also automatically point to the checked out source or object.

## May 28, 2024

### MDOpen for VS Code

- Within MDXREF, option Message Descriptions has been enabled for message files. When selected, all messages in the file are displayed and can be filtered. Additionally, one or more message IDs can be requested for modification or deletion.
- Message descriptions, including severity and second-level text, can be edited for an object request of type \*MSGD. If data fields or other advanced parameters are used, green screen is still required for editing those parameters.
- When requesting to add a new message ID, enter at least 3 characters for the message ID and MDOpen will automatically provide the next available message ID.

## May 13, 2024

### MDCMS/MDOpen

- Continuous Integrations - Each CI definition can now target a different Branch for a Git Pull Request. For example, the install of an RFP from a non-specific branch CI can generate a Pull Request for a merge into a QA branch. Then the install of an RFP for the QA branch can generate a Pull Request for a merge into the main branch.
- Continuous Integrations - Parameter "Level is Target of a Merge" has been added. When true, the target application level doesn't have to be a checkout level. This allows for the push of changes to a QA or production level.
- Ability to locally send only non-Git requests to another level - if your application includes objects that aren't managed in Git, you can now easily send them to the next level while automatically ignoring all requests that originated in Git. To do so, set Local Distribution Reason to value "Non-Git Requests" for the Distribution Level.

## May 7, 2024

### MDCMS

- The compile log is automatically generated for a program or module when the compile phase of an RFP fails for the object, so that the information is available to the developer without having to try to create under the same conditions in the developer library.

### MDOpen

- The compile log is now capable of positioning to an erroring row even when copybook expansion occurs prior to the execution of the SQL pre-compiler. Additionally, in VS Code (from 8.7 also RDi), the view displays the exact copybook the row is in and will open the copybook to display the row. If the copybook is also checked out to the developer, it will automatically be opened for edit.

### MDTest

- MDTest\_Start\_Timer and MDTest\_End\_Timer procedures to place on each side of a process such as a set of one or more program calls or procedure call so that performance measurements and logging can reported for that process while allowing the developer to easily and natively invoke those calls.
- View the batch job information from the MDTest Jobs view.
- Click on the active job status for an active MDTest Job to view the job log
- Ability to specify a delay before the batch job begins processing to allow for a service job and debugging to be put in place.

## April 28, 2024

### MDCMS

- New command type RFP Ready to Install. Command type IR is invoked when auto-install is false and: approval is complete and MDRapid is not needed for RFP or MDRapid is needed and the install sync point has been reached

### MDOpen for VS Code

- Ability to package all new patches into a Send RFP. When the Check for Updates option is selected and one or patches are available, the user can now provide a Project, Task and RFP description and all of the patches will be placed automatically in a new Send RFP for distribution of the patches to other partitions. The pre-requisite is that the MD configuration settings application is defined on the local and target partitions and that the \*IFS attribute pointing at /MDCMS/PATCHES is defined.

## April 6, 2024

### MDCMS

- When prompting to change the status for a Project or Task, MDCMS will by default only show those codes that are eligible. In MDCMS and VS Code, the user may toggle the listing to view all codes and the reason why the other codes are ineligible.
- Continuous Integration - the auto-create of objects into the developer library and the auto-submit of the RFP can now both be true. When this is the case, the auto-submit will only occur if all objects could be successfully created.
- Continuous Integration - granular messaging in the Git Webhook Deliveries listing when there is an issue
- Git Repository cloning will now also automatically clone any sub-modules for the repo

## April 1, 2024

### MDCMS

- Option to Auto-Delete temporary developer libraries/folders. Parameter "Automatic Deletion Libraries/Folders" has been added to the Developer Library Naming templates. When set to true (Y), developer libraries and folders will be deleted by the MDCLEAN process once there aren't any open object requests to migrate from the location and the last checkout was at least 1 day prior.
- Attribute Mapping for Git Repositories. Option added for Git Repositories to map MD Attributes based on generic patterns for the repository path and file name. \*NONE can also be used for the MD Attribute value to omit certain paths and/or files from Continuous Integration.

## March 26, 2024

### MDCMS

- Objects for Linked Attributes of type \*DATA, \*DTAGRP or \*DUMMY will automatically be checked out when applicable when a Git Push triggers a Continuous Integration definition.

### MDOpen for VS Code

- Significant enhancements for Sending RFPs via VS Code, including the ability to remotely approve and install RFPs on remote targets.

## March 18, 2024

### MDCMS

- password length for the SMTP user defined for the MDMAIL service increased from 40 characters to 128 characters

## MDOpen for VS Code

- Links to Send Listing and Send History from Projects and Tasks
- Ability to add an RFP to the Send Listing containing requests from Object History

## March 12, 2024 (8.6.1)

### MDCMS

- Object, Attribute and RFP scripts are no longer fixed to the /MDCMS/SCRIPTS root path. They may be defined to exist in any path.
- Wildcards may be used in the Object, Attribute and RFP Script path definition so that it can be automatically different per environment.
- The Object or Attribute Script name may be set to \*OBJECT. This means that the requested object itself is the script, making it easy to deploy and run a script on the same RFP.
- When an object lock occurs during RFP deployment, each job that is or was blocking the continuation of the RFP is logged to table MDCMS/MDDOLCK. Additionally, when using MDOpen for VS Code, a Lock icon will appear on the RFP in the listing and can be clicked to view the lock information. The information is also available after the lock is resolved and the RFP is installed by using option Locked Objects during Deploy in MDOpen for VS Code.
- The compile ordering for display and printer files have been changed to occur after SQL views in case the files reference fields in the views.
- The target Application for a Continuous Integration definition can be set to special value of \*APPL, in order to dynamically select the application based on the application code stored for the task that will be used for the Object Request assignment. If the level number is 0 on the CI definition, then the level will also be retrieved from the task. If the task level is 0, then the lowest level for the application that allows checkout will be used.
- the RFP submitter in the log is set to \*AUTO when auto-submitted after being received onto a target partition
- When MDCMS creates a new, empty IFS file, it will create it in UTF-8 format for seamless portability
- The MDFTP service is now written in RPG rather than java for significantly better performance and faster enhancements in the future.
- The DDM connection defined for an IBM i location can be secured by setting parameter Secure Connection to \*TLS (recommended) or \*SSL

## MDOpen for VS Code

- The compile log for programs can be accessed from within the Create Object listing as well as from the Active Objects listing. When a code row number is clicked on from within the Compile Log, the editor for the source is opened and the cursor is positioned to the row.
- Submission and Approval Info shown in RFP Install confirmation view.
- FTP server log accessible from the FTP Servers listing

## February 15, 2024

### MDTransform

When using MDTransform for the Data Copy templates, retain values for all columns when there is a mix of overidable and non-overidable generated always columns, and copying between 2 libraries on the same partition. When copy from a library on a remote partition, automatically generate new values for the non-overidable generated always columns, as Db2 for i doesn't support retaining remote values.

### MDOpen for VS Code

- When the user clicks on a Project or Task status from the listing, the Change Status panel now shows every valid status to transition to first followed by all other status codes. The specific reason why a status code may not be selected is displayed to make it very easy to understand why.
- filter Installed RFPs by RFP user
- several ergonomic enhancements for User Groups and User Group Types
- when selecting the request reason when creating new object requests, automatically unselect any other reason for the same object

## February 3, 2024

### MDCMS

In the audit log for an RFP, the Submitter, Approver, Installer or Sender will be set to \*AUTO instead of a user when the action is automatic. If the action was triggered by a status transition, then value \*STSTRG will be used.

### MDOpen for VS Code

- When requesting to add a new RFP from the Active RFP listing, filter values from the listing will pre-populate the fields for the new RFP.
- When filtering the Active RFP listing by project or task, but not by object, status or a different user, empty RFPs for the same user will be included in the listing.

## January 29, 2024

### MDCMS

Project/Task Status Boundaries for the Send of an RFP now takes into account the impacted projects/tasks on the same object in other, open RFPs in the send listing, in order to avoid unintentional distribution of untested changes.

### MDOpen for VS Code

- User Preferences for list column order, hidden columns and row sorting are retained from session to session across devices

## January 21, 2024

### MDCMS

- Performance and stability enhancements for the MDCMS Rest APIs
- ability to interact with Bitbucket Data Center and updates for Jira Data Center

## January 16, 2024

### MDOpen for VS Code

- Define User Mapping for Git Repositories
- various performance and stability enhancements

## January 4, 2024

### MDCMS

Project/Task Status Transition triggers for the Submit of RFPs now have a new parameter – Cancel Submit when Merge Warnings exist.

When true, the submit will not proceed if Pre-Submit warnings exist for:

- merging with existing requests into the next level after the target level
- merging with existing requests in the Send listing
- requests are in the process of being installed on another RFP for the same level



Additionally, the installation error exit point (command type 4) is invoked to notify appropriate users of failure to submit.

## MDOpen for VS Code

The following functions have been added to MDOpen for VS Code:

- Import of Objects from a Library
- Import of Source from a Library
- Management of Webhooks for Git Repositories

## December 16, 2023

### MDOpen for VS Code

When copying a Task Type, the options are now provided to copy the custom fields, status transitions and project type enablement from the original task type to the new task type.

## December 14, 2023

### MDCMS

#### Attribute Command Enhancements

- \*ALL can be used for the attribute value so that the command will be run for all attributes of a given promotion level for either any object type or for a specific object type

\* generic attribute values to be able to include the attribute command for all attributes matching the generic value. As with \*ALL, this can be for any object type or for a specific object type.

- new flag to specify if a command should be run when a more specific command for the same command type is defined. An object-specific command is the most specific, then an attribute-specific command, then a generic attribute command and finally a \*ALL attribute command. This allows having some commands at different levels of specificity be configured to always run or to be overridden.
- For every command type, the commands across all levels of specificity are now sorted by sequence, so an attribute command may be run before an object-specific command if the sequence number is lower

#### Reusable Object Command Enhancements

- generic object name values to be able to include the object command for all objects matching the generic value.

- new flag to specify if a command should be applied when a more specific command for the same command type is defined. An object-specific command is the most specific, then a generic object command. This allows having some commands at different levels of specificity be configured to always run or to be overridden.

### **Installation Error exit point for Attribute and Object commands**

The Installation Error command type 4 can now be used at the object level. This command type will be invoked once per object that had been installed and then automatically rolled back during the RFP install rollback phase. The command is performed immediately after the prior version of the object is moved back into the application library.

### **Logging of RFP Pre-Submit warnings**

When warnings exist for an RFP to be submitted and the RFP is submitted anyways, all warnings and the objects involved with the warning are logged along with the date, time and user that ignored the warnings. If the warnings related to merging of objects with existing RFPs at the next level or in the send list, the decision of how to handle the merge is also logged.

The log table is MDCMS.MDDRFPW and is available from the MD Logs in MDOpen or Logging in the MDCMS Setup Menu.

### **RFP Pre-Submit Warning for Missing Dependencies for Service Programs Enhancements**

- Modules are ignored
- Programs and Service Programs will only be listed if the signature differs

**NOTE** - MDXREF should be completely rebuilt after upgrading to 8.6 in order to be aware of the signatures. If not rebuilt, all program and service program dependencies will continue to be listed.

### **Distribution of Programs with Adopted Authority**

When a program object to be sent to a remote partition has USRPRF(\*OWNER) for adopted authority, the parameter will be temporarily changed to \*USER before sending and then automatically reverted to \*OWNER when received on the target partition.

Additionally, if performing a local send to another branch on the same partition and the restore of \*OWNER objects isn't allowed, then the automatic change/restore will also occur.

## **MDOpen/MDWorkflow**

### **Project and Task Links**

Links can now be registered for Projects and Tasks and can be maintained and viewed from MDOpen or MDWorkflow. The types of Links available are:

- File attachments

- File Links
- URLs
- Other Projects/Tasks

## MDTest

### Automated Unit Testing

MDTest now available as an add-on to MDChange. Some highlights:

- Rich feature set for fast and powerful configuration of unit testing
- May be automated as part of RFP process with quality gates to ensure test boundaries are met
- includes code coverage and performance testing

Additional MDTest License required. Full details available from here: [MDTest Product Documentation](#)

## MDWorkflow

### Position to Creation Date in Task Listing

The creation date for Tasks is now included in the Task views and positioning can be used to start the list at a given creation date.