

MDCMS 1
 MDOPEN 18
 MDSEC 22
 MDXREF 23
 MDWorkflow 24
 MDRapid 25
 MDTransform 26

MDCMS

From Build Date	Description
April 16, 2019	<p>The 2-level logging functionality for the installation of RFPs is now also enabled for the send of an RFP. The log includes any pre-send and post-send exit points and a description of exactly which source and objects are sent from which libraries for each target level.</p> <p>Each high-level step can be expanded to view the job log entries for that step and all or part of the log can be exported to various file formats and emailed to recipients.</p>
	<p>Similar to MDPUSH, there are new service jobs called MSEND that allow for concurrent sending of an RFP to up to 9 different queues in parallel to greatly speed up the send process.</p> <p>The build of a save file for an RFP to be sent continues to occur within a specific job for that RFP. Once built, the RFP is passed off to a MSEND queue between 1 and 9 based on the number assigned to the remote location. The RFP job can then continue immediately with the build for the next location while the MSEND job processes the transfer.</p>
	<p>MDCMS now provides an ever-growing suite of REST APIs to allow connectivity to MDCMS using the REST standard. The APIs run on a native apache http server instance which can be defined very easily from the MDCMS Setup Menu.</p> <p>The APIs include:</p> <ul style="list-style-type: none"> • WebHook for JIRA so that JIRA can now start automatically when necessary and

From Build Date	Description
	<p>doesn't need to poll JIRA anymore on a frequent basis</p> <ul style="list-style-type: none"> • WebHook for Bitbucket and Github to automatically know when new files in a Git repository need to be cross-referenced or checked out for continuous integration • WebHook for SVN servers to automatically know when new files in a SVN repository need to be cross-referenced or checked out for continuous integration • APIs for creating object requests, projects, tasks and subtasks • APIs for retrieving various information about the environment, RFPs, projects tasks and subtasks • APIs for submitting, approving, installing, accepting and sending RFPs • API for MDSEC user management
<ul style="list-style-type: none"> • 	<p>Custom Wildcards per Level which can be defined for use in commands, IFS/Remote scripts and SQL scripts. The wildcard values can differ for each application level. This is in addition to the custom wildcards that can be defined per Project, Task or Subtask.</p>
	<p>An optional description field is now available for attributes to allow for easier identification of the usage of an attribute.</p>
	<p>Attributes of type *SQLALS can now be defined to manage the deployment of SQL aliases or DDM files. 2 additional fields are available in the attribute for this type, which can vary per level:</p> <ul style="list-style-type: none"> • For Database – the target database the alias should point to. This value is then used wherever the wildcard '##RMTRDB##' OR '++RMTRDB++' is found in the create script • For Library – the target library the alias should point to. This value is then used wherever the wildcard '##RMTLIB##' OR '++RMTLIB++' is found in the create script
<ul style="list-style-type: none"> • 	<p>Attributes of type *SQLUDT can now be defined to manage the deployment of SQL User Defined Types</p>
	<p>The Based-On flag on a level to enable conflict resolution has been extended to specify if for all objects in the level or only the existing objects.</p>

From Build Date	Description
	<p>Until now, if a level is based on another level, then every object checked out in the based-on level prompts for resolution of objects in the dependent level.</p> <p>Now, if the Existing Only flag on the level is set to Y, then only objects that already exist in the dependent level will be prompted for resolution, when a request is made in the based-on level.</p> <p>This is useful when new or custom versions of an application are deltas of the based-on version.</p>
	<p>If a program or service program is requested on an RFP for modify or recompile, and that program is externally called by an SQL Function or Procedure that isn't on the RFP, then MDCMS will warn the user at RFP submit time. The user can then request to recompile the routine from the warning screen. When routines aren't included, there is a risk that the routine will be automatically dropped by the system when the new version of the program is deployed.</p>
	<p>Prior to the submission of an RFP, MDCMS now checks if each source member that is to be promoted from a developer's library is currently locked. This is typically the case when the developer still has it open in a green-screen or LPEX editor.</p> <p>This gives the developer the chance to cleanly close each impacted member before continuing.</p>
	<p>When the warning screen appears for merging objects with existing RFPs for the next level or in the send list, option O=Original Description can be selected. This will perform an auto-merge after installation into the new RFP, but retain the description from the original RFP.</p>
	<p>Any attribute that deploys source to the IFS can now have an IFS Object Authority Template assigned to it, so that the Object and Data authority on the IFS file is set appropriately.</p>
	<p>A new command type of Z can be defined for an attribute and will be invoked whenever an object request of that attribute/level is deleted prior to installation.</p>

From Build Date	Description
	<p>Until now, the rename function could be used if the source name or object name was incorrect for the request of a New Object.</p> <p>Now, this function can also be used for the request of Modify, Recompile, Update and Delete requests too, as long as they are for a level allowing checkout. The function can also optionally rename the source member, source IFS file and object in the developer library. The rename only affects the request record and components in the developer's library, but doesn't affect the target environments.</p>
	<p>The compile sequence for *MSGF and *MSGD object requests has been set lower so that they are deployed prior to a possible compilation of display files to pick up message dependencies.</p>
	<p>In order to allow for a larger number of tasks for a project, or number of subtasks for a task, particularly when mapped for other systems such as Jira, they can now be up to 7 digits in length.</p>
	<p>There is now a 240-character summary field for each task or subtask to allow for a brief description of the task. This is in addition to the extended description for a task/subtask. During the migration from an older version of MDCMS, the Summary field will be populated with the first 240 characters from the description. If the description wasn't longer than 240 characters, then it is removed as the extended description is no longer mandatory.</p>
	<p>The reference IDs in Tasks to external products, such as JIRA and ServiceNow, are now stored in a separate table, freeing up the internal reference code for other uses. During the migration from an older version of MDCMS, the internal code value will be moved to the reference table for JIRA tasks and subtasks.</p>
	<p>The label for the internal reference code on tasks and subtasks can now be set in the System Settings. This label is then used in all clients, including MDOpen and MDWorkflow.</p>
	<p>The task types that are allowed to be used in a Project can now be defined by mapping them to the Project Type. This allows for tighter controls of the workflow and origin of tasks for a given project.</p>

From Build Date	Description
	A project type can now be set as the default. Then, when the user requests to create a new project, the default type will be auto-filled into the project type field. This can then be overwritten when necessary.
	For each project type, one of the allowed task types can be set as the default task type. Then, when the user requests to create a new task or subtask for a project of the given project type, the default type will be auto-filled into the task type field. This can then be overwritten when necessary.
	The MDUPDATT command has been added to MDCMS to provide the ability to systematically add, replace or delete an attachment for an existing Project, Task or Subtask.
	<p>New flags have been added to each Task Type to control where it can be created and export to:</p> <ul style="list-style-type: none"> • Allow Manual Task Creation • Import Tasks from Jira • Export Tasks into Jira • Import Tasks from ServiceNow • Export Tasks into ServiceNow
<ul style="list-style-type: none"> • 	Large text fields in most of the MDCMS/MDXREF tables that typically contain a lot of records have been converted to variable length fields to greatly reduce the amount of disk space that the MDCMS product requires. During the migration from an older version of MDCMS, the conversion will cause the upgrade to run a few minutes longer than usual.
	<p>The /MDCMS/REPORT folder has been added to the Logging list in the Setup Menu to provide for cleanup of IFS files that are generated into that folder.</p> <p>By default, files older than 60 days will be deleted. As with all other entries in the log list, the minimum age can be adjusted or purging turned off. If certain files are critical to be kept, they should be copied to another folder.</p>
	<p>New fixed wildcards have been added:</p> <p>##OBJATR## – Object Attribute ##OBJDSC## – Object Description ##SRCATR## – Source Attribute ##SRCDSC## – Source Description</p>

From Build Date	Description
	<p>Jira Interface Enhancements:</p> <ul style="list-style-type: none"> • The interface between MDCMS and Jira now provides the ability to export tasks from MDCMS into Jira. • The contents of any Jira field can now be mapped to custom fields in an MDCMS task and the values can be imported or exported, regardless of where the task originated. • The projects themselves are now mapped between Jira and MDCMS, rather than the mapping by Project Categories, for better granularity. • Issue imports can be omitted, if the assignee for an issue isn't mapped to an MDCMS user.
May 14, 2019	<p>New flag on distribution levels to ignore the distribution to a target level when the RFP originated in a different branch than the migration branch that the level to send from is located in. This provides a way to avoid looping between branches and a trunk.</p>
June 6, 2019	<p>MDWFARFP command to automate the update of the MDWorkflow Test Acceptance status for Project(s) in installed RFPs.</p> <p>Alternatively, the REST API resource /rfp/acceptance can be invoked to perform the update via REST.</p>
June 14, 2019	<p>REST APIs added for:</p> <ul style="list-style-type: none"> • RFP Submit • RFP Approval • RFP Install • RFP Test Acceptance • RFP Send • MDSEC User Management
June 28, 2019	<p>Selected Filter Conditions for the MDCMS Installation History Report and Objects modified outside of MDCMS Report are now included in the footer of the report for auditing purposes.</p>
	<p>Standard Wildcards added:</p> <p>##SYSLIB## – the system name of an SQL schema (library)</p> <p>##SYSNAM## – the system name of an SQL object</p>

From Build Date	Description
	if receiving an object from another branch, and the object is currently checked out at the bottom level of the target branch, the received object will still be requested, but in unlocked status, so that the entire contents of the branch RFP are available, but requiring developer decisions to proceed with the merge into the target branch.
July 7, 2019	<p>The MDJIRA interface has been enhanced to:</p> <ul style="list-style-type: none"> • Map specific Projects between MDCMS and Jira for better granularity rather than any projects for a Project Category • Option to omit the import of an issue, if the issue isn't assigned to a user that is mapped to a MDCMS user
July 31, 2019	<p>New IC (Installation Complete) object request and RFP status to provide a clear indication of when the target application is free to be used again during the deployment process. RFP cleanup continues while in IC until status 05 (RFP Complete) is reached. If the RFP job abnormally ends while still in IC status, the Close option can be used for the RFP in MDCMS or MDOpen to continue the cleanup phase where it left off.</p>
	Auto-Rollback an RFP if the copy of data fails, unless a Data Copy command is defined that explicitly ignores exceptions.
August 2, 2019	Special value *MD can be used for the Project ID in Continuous Integration to extract the Project, Task and Subtask from the Commit message
August 10, 2019	Allow the send of settings from any level to any defined location, rather than only to locations targeted by the level.
	Ability to view the committed IFS source for a system/SQL object using option S
August 17, 2019	Ability to distribute RFPs and Attribute Settings via ObjectConnect (SAVRSTOBJ). If ObjectConnect is installed and configured for communication between the source and target system, MDCMS can distribute RFPs and settings using the new method OBJ. This method provides the ability to transfer the information without requiring some form of FTP or SNA to be configured and enabled.

From Build Date	Description
September 7, 2019	Db2 Mirror for i handling – MDCMS automatically handles the inclusion or exclusion of temporary libraries for optimal performance in a Db2 Mirror for i environment.
October 13, 2019	<p>Password handling for OS/400 Locations, Remote Server Locations, Email Settings, SVN User/Password authentication and Git User/Password authentication now have the following changes:</p> <ul style="list-style-type: none"> • passwords can now be up to 40 characters in length and are centrally encrypted and stored in table MDSEC/MDDCRED • UTF-8 storage of the passwords to ensure identical symbols regardless of job code page • password only needs to be entered once instead of twice and has the option (F14 in green screen, eye icon in MDOpen) to view the entered text for better certainty. For security purposes, only newly entered passwords can be made visible – any registered passwords can only be reset, but not viewed.
•	Email names and addresses are stored in UTF-8 to ensure correct symbol usage regardless of job code page
	Allow compile commands defined for an attribute to be used only for modifications or only for recompiles to allow for differences in compile parameters based on if modification or recompile.
	when requesting to compare/merge currently checked out source, the target source to compare to is automatically defaulted to the source in the application based on the standard source search configuration.
	The MDCMS Configuration Report now includes the OS/400 Locations
December 4, 2019	The MDCMS REST APIs can now be used at no additional cost by any organization that has a valid MDWorkflow license
	The version of Java to use in MDCMS can now easily be managed directly from the system settings
December 18, 2019	ServiceNow Interface – MDCMS now interfaces with the incident management tool ServiceNow to allow sharing

From Build Date	Description
	of tasks between the 2 products, or as a bridge between Jira and ServiceNow. More information available in the tutorial .
	Command MDADDSRQ added to be able to systematically create and populate RFPs in the Send Listing with objects to be sent to other locations.
January 2, 2020	Authority of temporary libraries created by MDCMS for the receipt, install, backup and rollback of objects now based on Object Authority templates. Each Promotion Level can be applied to a different template.
	Pressing F15 in the Send History screen now creates an MD Report rather than spooled file for better viewing and export to other formats.
January 10, 2020	When using MDFTP to send RFPs to a target system, the target folder can be modified in case the target system is on a different ASP than the local system, or if needing to send to a DMZ server to forward to the target.
	When using SFTP to send artifacts to a server, the Remote Server Location definition in MDOpen now provides for authentication using SSH keys.
February 4, 2020	MDOBJRPT command to be able to automatically generate a report of active or historical object requests based on Application, Level, RFP Number, Project, Task, Subtask, and Programmer filters and to automatically email the report or copy the report to IFS.
	*CD as date parameter value for the Installation History Report to report on activity only for the current day
	Auto-set the margins parameter when using the RUNSQLSTM command to execute SQL scripts within MDCMS so that the margins match the actual width of the source file containing the script. The Wildcards in SQL flag must be true for the command for this to be enabled.
February 17, 2020	MDRCVRMT service to be able to pull RFPs or settings from another system. This is useful when a firewall only permits outbound communication and blocks inbound communication. For example – the test system isn't allowed send RFPs to Production, so on test, method SFF can be used to place the RFP in the IFS and then the MDRCVRMT service on production can use FTP or MDF (MDFTP client for FTP, FTPS or SFTP) to listen for RFPs/settings on the SFF folder on the test system.

From Build Date	Description
March 3, 2020	<p>The maximum size of a description for MDCMS projects, tasks and subtasks has now been increased from 9,999 characters to 180 million characters.</p> <p>Also, if the description is edited in MDWorkflow so that it is in html format, then it will be shown as read-only in green screen or MDOpen to avoid losing the rich formatting.</p> <p>NOTE: If upgrading the core to 8.2.5, MDOpen and MDWorkflow also have to be upgraded to 8.2.5.</p>
March 6, 2020	<p>MDMIGLMI tool to migrate LMI history, object-specific compile commands and archived source into MDCMS for those customers making the switch from Aldon (Rocket) LMI to MDCMS.</p>
March 27, 2020	<p>MDMIGARC tool to migrate ARCAD history and archived source into MDCMS for those customers making the switch from ARCAD to MDCMS.</p>
April 2, 2020	<p>When using a separate a library for source development than for object development, MDCMS now remembers the preference for each for each checkout level and developer.</p>
	<p>When compiling an object into a developer library, the developer's object library and source library are added to the top of library list, when flag to include developer library is set to true.</p>
April 13, 2020	<p>New template type to automatically create Field Procs in a new version of a changed file to match the Field Procs in the prior version, based on a number of naming patterns for the program, file and field. Particularly useful for reapplying encryption procs prior to copying the existing data to the new version of the file. When used in conjunction with MDRapid, no additional application downtime is necessary to apply the Field Procs.</p>
	<p>Object stamping and Object Authority setting moved from the installation phase of an RFP to the build phase in order to reduce the application downtime window and to ensure the objects are properly secured while in the temporary installation libraries. If replicating objects to multiple libraries without using MDRapid, Object Authority still necessary during the installation phase.</p>
	<p>New flag on Object Replication and Source Replication Templates to ignore deletion from specific replication</p>

From Build Date	Description
	locations when a a Delete Template is executed for the attribute at a higher level.
	Description field for Object Replication and Source Replication Templates for easier understanding of use of the templates.
April 15, 2020	Handle the export of spooled files when they contain DBCS data
April 24, 2020	<p>New Job Control settings to easily create and maintain Subsystems, Job Descriptions and Job Queues for use in MDCMS or elsewhere.</p> <p>This is accessible from the MDCMS Setup Menu option 12.</p> <p>Previously, option 12 was for Email settings – those settings continue to be accessible from Services (option 13)->MDMAIL->F10 to be consistent with the administration of all other Services. Email settings also continue to be available from MDSEC option 12.</p>
	automatically reset the next value for an Identity Column on a table when using CPYF to migrate records into the table using the *DATA or *DTAGRP attribute
	only get a *SHRRD lock instead of an exclusive lock on a source member to be copied from to limit possibility of delaying the bundling or sending of an RFP.
May 5, 2020	Quick access to the MDCMS Job Description listing/maintenance tools using F10 from the Job Settings or with command MDWRKJOB.
	MDCMS Rest API resource gitlab/webhook to use as a webhook in GitLab to automate updates of cross-references and CI/CD when a commit occurs to GitLab
	MDUPDTASK parameter NSTS (new Task/Subtask) enhanced with new value *REF to base the task or subtask to create or update on the Internal Reference code for the Project's task/subtask. Useful when the calling process isn't aware of the MD task/subtask number.
June 2, 2020	Pre-Object Request validation exit point. Command type B can be defined for attributes or specific objects and will run when a developer tries to request (checkout) an Object for custom validation to verify that the checkout

From Build Date	Description
	can proceed and/or provide further information to the developer.
	<p>RFP Archive/Cleanup exit point. Command type Q can be defined for attributes, specific objects or RFPs and will run during the final archive/cleanup phase of an RFP installation. If for an RFP, it is intended to run commands such as notifications, etc. that can occur when the application is no longer considered locked for deployment, whereas the existing command type 3=Post Installation, runs within the downtime window, causing to take longer, and can trigger a rollback.</p> <p>If command type Q is defined for an attribute or specific object, it is run when the source or object is about to be archived so that additional archiving processing or comparisons can be run.</p>
	MDCMPPFM command – this command compares 2 source members and generates a report in PDF or TXT which can then be placed automatically in an IFS folder. This command can be used for any source comparisons but is particularly intended for use with command type Q to automatically create a report of source code changes deployed by an RFP.
	Ignore Errors flag added to Replication Templates – if a replication library/folder has ignore errors set to Y and an RFP fails to replicate the source/object to that location, then a warning will be thrown, but the RFP will continue.
June 7, 2020	Object Attribute and Object Description added as optional columns to the MDCMS Installation History Audit Report and the Objects modified outside of MDCMS Audit Report
June 10, 2020	The *REQONLY special value for the source file name on an attribute definition can now be used for any attribute that can contain source. This is to provide a way for any such request to travel to production when the source and object shouldn't be deployed on production so that when the RFP returns to update the copy of production on a development partition, the indirect source can be retrieved and compiled to place the source and object in the production repository and clean up any delta environments. A good use case for this is *MODULE objects. These typically aren't needed on production but are important on development.

From Build Date	Description
	<p>When checking out an existing object without specifying the attribute, MDCMS will now not only check which object types exist for that name, but also if any *SOURCE installations have previously occurred for that name. If so, then *SOURCE will be added to the bottom of the object type list that the user is prompted for to select which type to use for attribute selection.</p>
	<p>The RFP command generator (F9 from the Commands settings) now suggests post-installation notification commands as type Q commands instead of type 3 commands and it's recommended that any already defined notification commands of type 3 be changed to Q. This is because type 3 commands run within the application downtime window, but type Q commands run after the application is flagged as being available for use again.</p>
	<p>Since Midrange Dynamics always recommends compiling logical files, including SQL indexes and views, in order to ensure correct schema usage, the distribution rules default to B=Both for such entities when the distribution level rule is that source shouldn't be sent. And, when configuration settings are pushed or send/received and Include Source is set to No, the source file will still be retained for logicals, but with the library set to *TEMP and the compile command will be retained. This should significantly reduce exception handling during the configuration of an application on production systems.</p>
June 19, 2020	<p>Ability to rename an existing project with option 7 from the green screen Project Manager. All locations of the project element, including user preferences, are renamed with the exception of API log files for historical purposes.</p>
	<p>Ability to rename an existing application code with option 7 from the green screen Application settings. All locations of the application element, including user preferences, are renamed with the exception of API log files for historical purposes.</p>
June 23, 2020	<p>Ability to rename an exiting MDCMS attribute with option 7 from the green screen Attribute settings. All locations of the attribute element, including user preferences, are renamed with the exception of API log files for historical purposes.</p>

From Build Date	Description
	Always sync rename of projects to other synced locations and optionally sync rename of application codes to other synced locations.
July 12, 2020	MDCMS now includes a complete interface for locking, requesting and deploying Synon/2E objects
	<p>The default attribute generation wizard (F9 from the attribute settings) now has the following enhancements:</p> <ul style="list-style-type: none"> • check and auto-select attributes based on objects in the system catalog, in case the target library isn't yet in MDXREF • option to update existing attributes • option to filter the attribute listing • attributes added to manage Synon/2E objects • ability to specify IFS subfolders within the IFS source parent folder, depending on the attribute.
•	The MDPUSH and MDPULL jobs to asynchronously share data with other MDCMS locations are now substantially faster
August 2, 2020	<p>Significant Object Replication Template Enhancements:</p> <ul style="list-style-type: none"> • Separate Add and Update rules per library • Include/Omit Pre-Install/Post-Install commands or scripts per library • Use of generic naming patterns for dynamic selection of libraries for add or update • Use of *ALL to dynamically check all user libraries for object to update • Ability to override the Replication Template add and update rules for a specific Object Request using option O in the Object Manager • The SQL Replication type has been replaced with the OS400 Replication type, so that both SQL and non-SQL library definitions can be managed in a single template.
•	Ability to package multiple objects or source members of the same name in the same RFP, when for different target libraries. This is typically used when an object has several versions based on the language. This is now


From Build Date	Description
	<p>available for the following typical language-dependent types:</p> <ul style="list-style-type: none"> • Display Files • Printer Files • UIM Menus • *MNUDDS Menus • Message Files • Message Descriptions • Panel Groups <p>Data Groups already allowed for this</p>
	<p>MDADDSRQ command to systematically add object requests to a Send RFP now has special value *OBJLANG for the object name (OBJN parameter).</p> <p>When used, MDCMS will loop through all existing requests in the RFP of the given object type and object attribute and see if that object has versions for other languages. When true, the objects of the other languages will also be added to the RFP.</p> <p>This can be done automatically prior to sending an RFP by using the command type 5 (pre-send).</p>
	<p>Backup Library Retention in days. A new property in the System Settings can be set to retain temporary backup libraries a certain number of days after the installation of an RFP is complete. This can be helpful in case database changes occurred to avoid immediately losing the old format of the data records.</p> <p>If the retention is set to 0, the backup libraries will be deleted immediately. Otherwise, the MDCLEAN service will delete them once they've reached the required minimum age.</p> <p>This replaces the User-Specific parameter Delay Delete Prior Objects that was available at submission time to ensure a consistent handling for all RFPs on the partition.</p>
	<p>If using the Get Prior Source or Get Prior Object option in Installation History, automatically go into PDM for the source or object after the archived version is retrieved.</p>
	<p>Prior to the Send of an RFP to a local level, verify that the attributes are correctly defined for the target local level.</p>

From Build Date	Description
August 9, 2020	From within the Object Listing for an RFP in the 5250 RFP Manager/History, option X=XREF has been added to be able to navigate directly to MDXREF for the selected object to obtain further information about it.
August 17, 2020	Object and Source Replication Template libraries can now be filtered by one or more Projects, Tasks or Subtasks so that a library is only populated with an object or source if it is assigned to one of the filtered project elements.
	Improve MDCMS attribute suggestion for an object request by checking the source attribute for a member in any library when the member isn't in the target library
August 21, 2020	When an Object Request is created, any Object Specific commands are applied to the request. Until now, the Object Command had to be defined for a checkout level for it to be picked up and applied. Now, the command will also get applied if it's defined for a higher level in the chain of levels on the development partition.
September 16, 2020	Show the compile subsequence for an object request in the option 5=view screen from the object manager, when the subsequence > 0
October 15, 2020	MDLOG service to perform all RFP installation and send logging in a separate job rather than inline within the RFP process. This makes the RFP run about twice as fast for a mid-sized RFP (50-60 objects) and can be over 6 times faster for RFPs containing more than a thousand objects.
	Within the RFP deployment log screen within MDCMS, F5 can be pressed to refresh the log list, F17 to go to the top of the list and F18 to go to the bottom of the list
	<p>Create a send package from any amount of installation history for a level.</p> <p>Pressing F6 from the MDCMS RFP Send List now provides a dialog to create a send RFP based on installation history filtered by:</p> <ul style="list-style-type: none"> • Install Date Range • RFP Number Range • Project (*generic*) • Task • Subtask • Object Requester (*generic*) • Object Library (*generic*)

From Build Date	Description
	<ul style="list-style-type: none"> <li data-bbox="655 320 1198 353">MDCMS Attribute (*generic*) <p data-bbox="557 392 1369 461">Additionally, MDCMS can automatically create one RFP for DB objects and 1-n RFPs for non-DB objects.</p> <p data-bbox="557 501 1362 607">This new feature makes it very simple and secure to collect all necessary changes for a branch release or a release to be distributed to other systems.</p>
	Performance optimizations for compiling SQL entities and for handling logical files, including indexes and views
October 30, 2020	If an RFP fails and rolls back during the INSTALL phase and a user re-submits the RFP, the RFP Log including job log entries will be automatically exported to the Report list for the user defined for the job description for the target level in order to avoid losing log information about the prior, failed attempt to install.
November 9, 2020	The target library and source file for a source member is now stamped into the object description during the compile phase of an RFP for better traceability of the source when looking at the object properties. This eliminates the possibility of a temporary library in the source location properties for the object and speeds up the RFP compile process by removing the steps of copying the source into the target library and then reverting it again.
	Improve performance for the deployment of tables through more efficient checking of temporal table/history table attributes
November 19, 2020	Ability to provide a description for the Object Authority templates
November 27, 2020	<p data-bbox="557 1576 1362 1809">When performing an Include Related Objects or when the pre-submit validator checks for missing dependencies, MDCMS will now only include a dependent file over a reference file if the dependent file uses a field that has changed in the reference file to limit the amount needed to recompile to the truly impacted files.</p> <p data-bbox="557 1850 1358 1955">Additionally, physical files using reference fields will be included in the missing dependencies list in addition to display files and printer files.</p>

From Build Date	Description
December 13, 2020	In the Send RFP listing, a location filter has been added. When a value is entered in the location filter, only open RFPs in the Send list that have the location as a target will be listed and the status, receive and install values are shown specifically for that location in order to easily filter and view the state of all open RFPs for a location.
	Show the RFP user in the Send RFP history listing instead of the send/ignore user, but include an RFP when filtering by user and the user is either the RFP user or the send/ignore user.
	F9 button added to Services listing to filter list of services to only those with active jobs
	While performing the MDINSSAVF command to install or update to a newer build of MDCMS, the green screen, MDOpen, RFP and services jobs will be locked from using MDCMS to avoid possibly corrupting an ongoing update to the product.

MDOPEN

From Build Date	Description
April 16, 2019	<p>The description of a checked out object has been added to the Object Request Listing, including the child listings within Projects, Tasks and RFPs.</p> <p>The alignment of the columns has also been optimized, so if you currently have custom column ordering, it's recommended (but not required) to click the  icon to reset the order to take advantage of the optimization.</p>
	<p>Resource Icons are now shown within rows to indicate that if the column is clicked on with left-click, MDOpen will navigate to a dialog to manage that column.</p> <p>For example, in the Object Requests list, the RFP, Level, Attribute, Cmds and Scripts columns each show an icon. When the user then clicks, for</p>

From Build Date	Description
	example, on the Attribute cell for a row, MDOpen will show the details of the attribute.
	<p>Git Enhancements:</p> <ul style="list-style-type: none"> • Continuous Integration can now be used from Bitbucket and GitHub servers, in conjunction with the MD REST API WebHook for those servers. With the WebHook enabled and the configuration defined in MDOpen, commits that are pushed to those servers for certain or all folders can be automatically cross-referenced or can be automatically checked out into MDCMS. • Ability to request the contents of a Git Tag from within the Git perspective • Ability to request the differences between 2 Git Tags from within the Git perspective • Git Repository User Mapping – map the user that pushes the commit to user ids registered in MDSEC so that the appropriate developer owns the automatically created checkouts.
•	When in the Data Transformation view for a checked out table, the button SQL Statement can be clicked to view and copy the string for troubleshooting or informational purposes.
	The ability to manage commands and scripts to be applied to specific objects when checked out has been added to MDOpen.
	The function to rename the source or object on an object request record, including the actual source or object in the developer's library, has been added to MDOpen.
	<p>The attributes can now be filtered by these additional parameters:</p> <ul style="list-style-type: none"> • Attribute Description • Source Type (RPGLE, LBL, etc...). Use content-assist to select from defined types. • Compile Sequence • Has Commands true/false • Has Delete Templates true/false • Has Linked Attributes true/false

From Build Date	Description
•	<p>Now that a Task can contain multiple reference IDs, the Reference filter can be used to match any of the IDs, or can be used in combination with the Ref Type filter to match a specific type of reference.</p> <p>If the Reference filter is blank, but the Ref Type filter isn't, then any Task containing a reference ID of the given type will be listed.</p>
	<p>In the Object, Project, Task, RFP and MDXREF views, when multiple rows are highlighted and then right-click is used to select an option from the list, only options that are permitted for multiple rows at once will be enabled.</p>
	<p>If MDRest4i is licensed for the creation and runtime for RPG-Based REST APIs, the RGPLE program stubs can be generated directly from MDOpen using options Generate REST Service or Generate REST Client for an Object Request. It then generates the source code based on the selected methods and parameters directly into the developer library indicated by the object request record.</p>
May 5, 2019	<p>If the contents of the IFS file selected to copy to the developer library is different than the IFS file in production, a warning will be displayed and the developer can compare the files to each other.</p>
June 28, 2019	<p>A new primary view name Object History has been added to list installed objects which can be filtered in a myriad of ways. This view is similar to the Object History listing in MDCMS.</p>
	<p>Improved layout of RFP and Object rows in views when active requests can coexist with installed requests</p>
	<p>Excess vertical space removed in the filter section of views to provide more real estate for rows when the filters are expanded</p>
October 13, 2019	<p>Ability to connect to Git repositories using SSH</p>
	<p>Projects, Tasks and Subtasks can now be filtered to those elements that contain a specific object</p>
	<p>Ability to request archived source directly from the Object History or RFP Installation History views. Right-click on a row containing archived source and select option Request Archived Source. This will retrieve the prior version of the source from the archive and place it</p>

From Build Date	Description
	in the library/folder designated by the developer and create the Object Request record to deploy the source.
November 22, 2019	Data area MDREPCCSID has been eliminated for storing the CCSID to use in MDOpen jobs. Instead, the CCSID for the specific user as defined in MDSEC is used. If that CCSID is blank, the default CCSID for the system in the System Settings is used.
	New Optimize for Dark Theme flag added to the MDOpen preferences. Set to true if using the Dark Theme in Eclipse/RDi and leave as false when not using the Dark Theme.
December 18, 2019	If the internal reference field is used for tasks, a URL pattern can be set for it in the System Settings in MDOpen. When a Task or Subtask has an internal reference value, the developer can click on the value in MDOpen to navigate directly to the referenced task in the customer's incident management tool.
	Open and Submit an RFP by right-clicking on the RFP in the listing and selecting option Open RFP and Submit
February 4, 2020	When requesting to edit the script for SQL entities within RDi, the associated editor for the file type in the preferences will be used instead of forcing LPEX.
April 2, 2020	<p>The MDRapid console view in MDOpen has now been enhanced with:</p> <ul style="list-style-type: none"> • Filter by active or inactive jobs • Multi-Select jobs to end, hold or restart • View the job log for an ended MDRapid job that encountered an error • Additional columns of information
April 13, 2020	When clicking the excel icon in the MDXREFObjectsView, all rows, including inline cross-reference rows, are included in the excel document.
May 5, 2020	<p>When the detail for a Project, Task, Subtask, RFP or Object Request is updated, only the specific row in the view is updated rather than the whole view so that control is returned to the developer substantially faster and so that the list view stays in the same position.</p> <p>Both the core and the plugin must be updated to take advantage of this enhancement.</p>

From Build Date	Description
June 19, 2020	<p>Navigate directly to the prior RFP's Acceptance Test dialog in MDOpen by right-clicking on an RFP in the RFP listing or RFP Send listing that is currently in RFP Pending Workflow status and selecting option Acceptance Test Status.</p> <p>This eliminates the need to find the prior RFP in the Installation History to carry out this step.</p>
August 2, 2020	<p>Ability to set a Debug Service Point Entry for a program or service program directly from MDOpen within the MDXREF Objects view, when MDOpen is used from within Rational Developer for i.</p>
September 25, 2020	<p>When in the MDXREF IFS view, the full path string of any element can be copied to the clipboard by right-clicking on the row and selecting the option Copy path to clipboard</p>
November 19, 2020	<p>Create Send Packages within MDOpen with all functionality from green screen by selecting the Add option within the RFP Send Listing.</p>
	<p>Right-click on any editable field in any add dialog in MDOpen to save the current value for that field as the default value. Then, when the same dialog is opened in the future, the field will be populated with the default value. The list of default values can be managed, exported and imported from the MDOpen preferences.</p>
	<p>Once an RFP is installed and if it has been placed in the send listing, a Send button is then enabled directly in the RFP editor for quick navigation to send it to target systems.</p>
	<p>Compile Sub-sequence now available in the MDOpen Object History detail</p>
	<p>Compile Sub-sequence and MDTransform flag now visible from the MDOpen Object Request listing</p>
November 26, 2020	<p>When comparing the active object request for an IFS file in MDOpen, pre-populate the compare-to fields with the first found location of the IFS file in the migration path for the request's attribute.</p>

MDSEC

From Build Date	Description
April 16, 2019	<p>If a User Role is defined to be authorized to code 28 (Request to Add, Modify or Delete Objects in MDCMS) and the assignment of a user to that role cause the Licensed MDCMS developer count to be exceeded, a warning message will be displayed to help avert work stoppages due to this situation.</p> <p>If a User Role is defined to be authorized to code 29 (Request to Add, Modify or Delete Objects in MDOpen) and the assignment of a user to that role cause the Licensed MDOpen developer count to be exceeded, a warning message will be displayed to help avert work stoppages due to this situation.</p>
	<p>The command API MDUPDUSR can now be used to add or update users with all user parameters as well as add or remove role membership for the user for up to 20 roles at once (or all roles).</p> <p>MDUPDUSR can also be used to remove users from MDSEC.</p>
April 30, 2020	<p>MDSEC Authority code 37 to determine at the application level which users are authorized to edit their own Object Requests</p>
	<p>MDSEC Authority code 38 to determine at the application level which users are authorized to delete their own Object Requests</p>
	<p>MDSEC Authority code 16 to determine which users are authorized to export report, spooled or file output via email</p>
	<p>MDSEC Authority code 17 to determine which users are authorized to export report, spooled or file output to IFS</p>
August 9, 2020	<p>Flag added to MDSEC user profiles to allow checking of authority for the job's current user, when the original job user isn't authorized to an MDSEC function. This provides a mechanism to allow MDSEC to permit authorization to a function after a role-swap.</p>

MDXREF

From Build Date	Description
April 16, 2019	<p>Currently, if *IFS is included in the list of libraries to cross-reference for a level, the entire IFS file system is cross-referenced for viewing in MDOpen.</p> <p>Now, *IFSMD can be used instead, if only relevant folders should be cross-referenced.</p> <p>The folders considered by *IFSMD are:</p> <ul style="list-style-type: none"> • Target Folders for *IFS attributes and attributes with *IFS source in MDCMS • Replication Folders for *IFS attributes and attributes with *IFS source in MDCMS • *IFS search template folders • The /MDCMS folder • Folders defined in MDOpen to contain open source files to be cross-referenced
February 4, 2020	The MDXREF build can now be refreshed for all application levels with a single job. Either by pressing F10 in the Application/Level screen or by specifying *ALL on the XREFBLDLIB command.
April 15, 2020	When searching for the use of a file's field within source members, scan the members for all modules bound into a program registered as using the file.
November 27, 2020	MDXREF now includes references between physical files when a physical file references field definitions in another file.

MDWorkflow

From Build Date	Description
April 16, 2019	<p>If a Project, Task or Subtask contains 1 or more attachments, the paperclip icon will be show in the listing for the entity.</p> <p>Also able to filter the list views to only show entities containing attachments.</p>
	Now that a Task can contain multiple reference IDs, the Reference filter can be used to match any of the IDs, or can be used in combination with the Ref Type filter to match a specific type of reference.

From Build Date	Description
	If the Reference filter is blank, but the Ref Type filter isn't, then any Task containing a reference ID of the given type will be listed.

MDRapid

From Build Date	Description
February 4, 2020	When an SQL error occurs during the MDRapid data copy or sync process, it is logged and the table is flagged with a warning state, but the MDRapid process continues. Depending on the error, further syncing will often auto-clean the error. If not, the authorized user can specify to allow the installation in spite of the error and can copy all records in error to a separate file for manual review/cleanup.
March 22, 2020	MDSTRRAP and MDENDRAP commands to systematically start and stop some or all MDRapid Jobs for an RFP
	new filter fields and F13=Repeat Opt key in the green screen console for MDRapid
April 2, 2020	The MDRapid console view in MDOpen has now been enhanced with: <ul style="list-style-type: none"> • Filter by active or inactive jobs • Multi-Select jobs to end, hold or restart • View the job log for an ended MDRapid job that encountered an error • Additional columns of information
June 10, 2020	The job queue to apply to a MDRapid template can now be browsed/created/managed by pressing F4 on the job queue name.
September 25, 2020	The MDRapid copy/sync jobs will have the library list of the job description for the target promotion level in case the copy will involve custom user defined functions.
October 15, 2020	MDRapid now starts a separate job to build logical files per target replication library to speed up the MDRapid prep process when many logicals and/or libraries are involved. Additionally, a new flag has been added to the MDRapid template to allow standalone logical changes

From Build Date	Description
	to be handled by MDRapid to limit deployment downtime when physical files they are based on aren't included in the RFP.
October 30, 2020	The maximum number of concurrent MDRapid copy jobs can now be defined for MDRapid templates to limit the impact to system resources during the replication of data to the new version of tables. Additionally, the sync and monitor jobs require a lot less resources than they did before to impact the system less.

MDTransform

From Build Date	Description
July 7, 2019	Template-Level Conditions can be defined and easily applied across the entire collection of tables based on a variety of search criteria.
	Template-Level Transformations can be defined and easily applied across the entire collection of table columns based on a variety of search criteria.
	Wildcards can be defined so that a value can be centrally managed
	Ability to run the Data Copy only for any table belonging to a specific Template-Level condition. For example, if a condition is defined to copy all tables related to purchase orders for a specific order number, then only those tables will be executed for a simple way to generate a specific use case for testing.
June 2, 2020	Ability to have up to 9 parallel jobs to copy data between environments to massively speed up the Data Copy process and a Status Console that shows the progress of each parallel job
	Multiple conditions can be defined for the same table and either used separately based on the use case (condition number) or combined into the WHERE clause
	query the current contents of data areas and tables from within the Data Copy Template object views
	improvements to the data copy log report

From Build Date	Description
June 5, 2020	handle copying records with the data copy template when the table is a temporal table or when it contains columns using the generated always clause
June 7, 2020	A report of the list of objects for a library in a Data Copy Template can now be created by pressing F15 from the Object List display.
August 21, 2020	Join Files can now be used in the Data Copy templates to limit records to be copied based on records in the join file
September 16, 2020	Automatically disable MDTransform when a file has too many columns to be handled by an SQL insert/select statement