

MDCMS User Guide

Change and Distribution Management for IBM i

Midrange Dynamics

Copyright © 2023 Midrange Dynamics

Table of contents

1. MDCMS	5
1.1 Welcome to the MDCMS User Guide	5
1.2 Object Manager	9
1.2.1 Object Manager	9
1.2.2 Overview	10
1.2.3 The Request Record fields	13
1.2.4 Requesting a change to an Object	16
1.2.5 Process Request Records	23
1.2.6 MDADDREQ - Generate Object Request Records command	40
1.2.7 MDADDCMD - Add MDCMS Command command	49
1.2.8 MDADDORR - Add Replication Rules to Object Request command	56
1.2.9 MDCRTOBJ - Create Object in Dev Library command	60
1.2.10 MDOBJRPT - Run MD Object Request Report command	63
1.2.11 MDADDIWS - Add Integrated Web Service command	65
1.2.12 MDRMVIWS - Remove Integrated Web Service command	66
1.3 RFP Manager	67
1.3.1 RFP Manager	67
1.3.2 RFP Listing	68
1.3.3 RFP Details	72
1.3.4 RFP Commands	75
1.3.5 RFP Scripts	79
1.3.6 Promoting an RFP	81
1.3.7 The RFP Installation Process	87
1.3.8 Approving a Promotion	88
1.3.9 Launching MDRapid	90
1.3.10 MDRapid Console	91
1.3.11 MDSTRRAP - Restart MDRapid Jobs command	96
1.3.12 MDENDRAP - End MDRapid Jobs command	97
1.3.13 Installing a Promotion	98
1.3.14 MDWorkflow Acceptance of Installed Promotion	100
1.3.15 MDSBMRFP - RFP Submission command	101
1.3.16 MDAPRRFP - RFP Approver command	105
1.3.17 MDINSRFP - RFP Installer command	108
1.3.18 MDRBRFP - RFP Rollback command	112
1.3.19 MDDELRFP - RFP Deletion command	113

1.3.20 MDWFARFP - MDWorkflow Acceptance for RFP command	115
1.3.21 MDCMPPFM - MD Member Comparison Report	119
1.4 RFP History	120
1.4.1 RFP History	120
1.4.2 Rolling back a Promotion from within RFP History	121
1.4.3 Target Locations for Installed RFP	122
1.5 Object History / Archive	123
1.5.1 Object History / Archive	123
1.5.2 Rolling back a Promotion from within Object History	125
1.5.3 Installation History Audit Report	126
1.5.4 Audit Report of Object Changes outside of MDCMS	128
1.6 Project Manager	130
1.6.1 Project Manager	130
1.6.2 Project Listing	131
1.6.3 Project Details	133
1.6.4 Project Task/Subtask Listing	142
1.6.5 Project/Task Hours Used	146
1.6.6 Project Report Generator	149
1.6.7 Task Report Generator	151
1.6.8 Time Report Generator	153
1.6.9 Project/Task Exit Points	155
1.6.10 MDUPDPROJ - Create/Update Project command	158
1.6.11 MDUPDPRJG - Update Project Group command	159
1.6.12 MDUPDTASK - Create/Update Task command	160
1.6.13 MDUPDCFLD - Update Project/Task Custom Field command	164
1.6.14 MDUPDATT - Update Project/Task Attachment command	168
1.6.15 MDUPDSTS - Update Status for RFP Projects/Tasks command	169
1.7 MDXREF	170
1.8 Send Promotion to Remote System	171
1.8.1 Send Promotion to Remote System	171
1.8.2 Promotion Objects Display	174
1.8.3 Send Promotion Display	175
1.8.4 Create Send Package	177
1.8.5 Add Object to Promotion	180
1.8.6 Send History	181
1.8.7 Send Status Values	182
1.8.8 MDSNDRFP - Send RFPs command	184
1.8.9 MDADDSOG - Add MDCMS Send Object Group command	189

1.8.10 MDADDSRQ - Generate Object Request Records for Send RFP command	191
1.8.11 MDCRTSCO - Create MDCMS Send RFP for Changed Objects command	197
1.8.12 MDTGTSUM - MD RFP Target Location Summary command	199
1.9 Receive Promotion from Remote System	204
1.9.1 Receive Promotion from Remote System	204
1.9.2 RFP Receive Log	206
1.9.3 MDRCVIFS - Receive RFP/Settings from IFS command	207
1.9.4 MDRCVRMT - Receive RFP/Settings from a Remote Location	208
1.9.5 MDRCVSNA - Receive RFP/Settings from SNA command	209
1.10 Reporting	210
1.10.1 Reporting	210
1.10.2 MDRUNRPT - Run MD Report command	212
1.10.3 MDEXPFILE - Export Data command	215
1.10.4 MDEXPSPLF - Export Spooled File command	217
1.11 MDCMS Miscellaneous Product Tools	220
1.11.1 MDCMS Miscellaneous Product Tools	220
1.11.2 MDCLEAR - Clear all MDCMS Activity	221
1.11.3 MDMIGMD - Merge MDCMS Configuration and Activity Data	222
1.11.4 MDSRC2IFS - Convert Source Members to IFS Files	224

1. MDCMS

1.1 Welcome to the MDCMS User Guide

This is part of the MDCMS Change and Distribution Management User Manual from Midrange Dynamics.

Version of guide: 8.6.13

This guide is comprised of these sections:

- [Object Manager](#)
- [Overview](#)
- [The Request Record fields](#)
- [Requesting a change to an Object](#)
- [Process Request Records](#)
- [MDADDREQ - Generate Object Request Records command](#)
- [MDADDCMD - Add MDCMS Command command](#)
- [MDADDORR - Add Replication Rules to Object Request command](#)
- [MDCRTOBJ - Create Object in Dev Library command](#)
- [MDOBJRPT - Run MD Object Request Report command](#)
- [MDADDIWS - Add Integrated Web Service command](#)
- [MDRMVIWS - Remove Integrated Web Service command](#)
- [RFP Manager](#)
- [RFP Listing](#)
- [RFP Details](#)
- [RFP Commands](#)
- [RFP Scripts](#)
- [Promoting an RFP](#)
- [The RFP Installation Process](#)
- [Approving a Promotion](#)
- [Launching MDRapid](#)
- [MDRapid Console](#)
- [MDSTRRAP - Restart MDRapid Jobs command](#)
- [MDENDRAP - End MDRapid Jobs command](#)
- [Installing a Promotion](#)
- [MDWorkflow Acceptance of Installed Promotion](#)
- [MDSBMRFP - RFP Submission command](#)
- [MDAPRRFP - RFP Approver command](#)
- [MDINSRFP - RFP Installer command](#)
- [MDRBRFP - RFP Rollback command](#)
- [MDDELRFP - RFP Deletion command](#)
- [MDWFARFP - MDWorkflow Acceptance for RFP command](#)
- [MDCMPPFM - MD Member Comparison Report](#)
- [RFP History](#)
- [Rolling back a Promotion from within RFP History](#)
- [Target Locations for Installed RFP](#)
- [Object History / Archive](#)
- [Rolling back a Promotion from within Object History](#)
- [Installation History Audit Report](#)
- [Audit Report of Object Changes outside of MDCMS](#)
- [Project Manager](#)
- [Project Listing](#)
- [Project Details](#)

- Project Task/Subtask Listing
- Project/Task Hours Used
- Project Report Generator
- Task Report Generator
- Time Report Generator
- Project/Task Exit Points
- MDUPDPROJ - Create/Update Project command
- MDUPDPRJG - Update Project Group command
- MDUPDTASK - Create/Update Task command
- MDUPDCFLD - Update Project/Task Custom Field command
- MDUPDATT - Update Project/Task Attachment command
- MDUPDSTS - Update Status for RFP Projects/Tasks command
- MDXREF
- Send Promotion to Remote System
- Promotion Objects Display
- Send Promotion Display
- Create Send Package
- Add Object to Promotion
- Send History
- Send Status Values
- MDSNDRFP - Send RFPs command
- MDADDSOG - Add MDCMS Send Object Group command
- MDADDSRQ - Generate Object Request Records for Send RFP command
- MDCRTSCO - Create MDCMS Send RFP for Changed Objects command
- MDTGTSUM - MD RFP Target Location Summary command
- Receive Promotion from Remote System
- RFP Receive Log
- MDRCVIFS - Receive RFP/Settings from IFS command
- MDRCVRMT - Receive RFP/Settings from a Remote Location
- MDRCVSNA - Receive RFP/Settings from SNA command
- Reporting
- MDRUNRPT - Run MD Report command
- MDEXPFILE - Export Data command
- MDEXPSPLF - Export Spooled File command
- MDCMS Miscellaneous Product Tools
- MDCLEAR - Clear all MDCMS Activity
- MDMIGMD - Merge MDCMS Configuration and Activity Data
- MDSRC2IFS - Convert Source Members to IFS Files

You can download a PDF version of this guide [here](#).

1.2 Object Manager

1.2.1 Object Manager

1.2.2 Overview

The MDCMS menu option 2 is a multi-function display that controls the processes required for making and installing modifications of objects.

```

CMC100                                COMPANY NAME                                10/18/11
Filters/Defaults                        Object Manager                            7:40:40
Programmer : PGM1                      RFP Number :                          Y/N
Appl Group  :                          Promo Lvl  : 0                      *gen*
Project ..  :                          Status ....: _ _ _ _ _          *gen*
Task/Subtask:                          Assign RFP:
Opt Object   Attribute  Appl Lvl Project   RFP Sts   CS From Lib
_  ACCTPGM1  CBL        ACCT 10  VAT      +      37 01C R  Y  MMORGAN
_  _____
_  _____
_  _____
_  _____
_  _____
More...

F2=Full Name      F4=Browse      F5=Refresh      F6=Messages      F7=Promote RFP
F8=Submitted Jobs F9=RFP Control F10=Assign RFP F11=Output      F24=More Keys

```

The Object Manager is used for:

- Source/Object request and retrieval.
- Reserving Object names for new objects.
- Grouping objects for installs.
- Identifying modification requests
- Requesting the installation of objects into application environments

Filters / Defaults

Programmer

When an object is requested for modification or a new object name is reserved, it is assigned to a user profile. An entry in this field will limit the listing to objects assigned to the user profile.

Appl Group

An entry in this field will filter by the Application Group that has been entered. An entry here is also the default value for new requests so that the programmer does not need to enter it for each object.

Project

A Project defines the reason, responsible parties, and timeline for work to be done. During the Project process, a request is made to assign one or more Projects to the object. This enables MDCMS to filter and track objects by project. An entry in this field will filter the display to only include objects assigned to the selected Project. An entry here is also the default value for new requests so that the programmer does not need to enter it for each object.

Task/Subtask

The Task, or Subtask, associated with the Project value. Tasks and Subtasks enable the user to further define and subset the work being done for the Project. An Object Request may be assigned to one or more Projects, Tasks or Subtasks. This enables MDCMS to filter and track objects by Project, Task and Subtask. Entries in these fields will filter the display to only include objects assigned to the selected Project, Task and Subtask. An entry here will also be used as the default value for any new requests so that the programmer does not need to enter it for each object.

RFP Number

An RFP is a Request for Promotion. When an object or a group of objects are ready to be installed into an application environment, an RFP is required to track and to group an installation. The RFP is Application Group and Promotion Level specific. The system requires a brief explanation of the promotion request. This explanation is stored in the system and a number is assigned. This number is used to group objects to be installed. An entry in this field will filter the display to only include objects assigned to the selected RFP number.

Promo Lvl

An entry in this field will filter the display by the Promotion Level that has been entered. An entry here is also the default value for new requests. If left blank, the lowest level for the application that allows checkouts will be used by default.

Request Status

The first of 3 status filter fields. As each object is processed through the MDCMS system, a status is applied to the object record to track the modification and installation progress. If this field is left blank, the system will include object records with any active status. An entry in this field will filter the display to only include objects that match the Status selected.

Status values:

- RP** - The request for the promotion level is pending MDWorkflow acceptance in the prior level.
- UL** - The request is currently unlocked so that others can work with the same object.
- 00** - Object has been requested for modification and a RFP has not been assigned.
- 01** - An RFP number has been assigned to the requested object.
- 02** - Approval Pending - an RFP approval is required before the installation process can continue.
- CP** - File waiting for MDRapid to be launched to copy the data to the new format for the file
- CR** - MDRapid is currently copying the Data
- 03** - Installation Pending - The object is ready for installation and requires an RFP installation release.
- 04** - RFP has been submitted to batch for an installation.

Creation/Copy Status

A value, when applicable, is displayed to the right of the Request Status to indicate the Creation or Copy Status of the object. The value is updated with a creation status when option 8 is used to compile the object into the Developer's library or during the compile and installation of the object as part of an RFP. The value is updated with a copy status when MDRapid is used to copy a file's data from the current format to a new format prior to installation.

Status values:

- C** - The object was successfully created or copied
- E** - An error occurred during the creation or installation of the object
- L** - RFP blocked due to lock on the Object or Source member
- 00-99** - the maximum % of data that has been copied during the MDRapid process

Additionally, value N can be used in the filter to only list objects for which no creation or copy has been attempted.

Conflict Status

A value, when applicable, is displayed to the right of the Creation/Copy Status to indicate status of Conflict Resolution when multiple versions of an application are managed.

Status values:

- O** - Conflict Resolution open - other versions have not been resolved
- L** - Conflict ignored for this level, but will be open again when RFP continues to next level

I - Conflict ignored for all levels for this request

R - Conflict has been resolved for all other versions for request

Additionally, value N can be used in the filter to only list objects for which Conflict Resolution is not necessary.

Cmd

Y - Filter the object requests to show only those requests that contain commands defined for the specific object.

N - Filter the object requests to show only those requests that don't contain commands defined for the specific object.

Script

Y - Filter the object requests to show only those requests that contain scripts defined for the specific object.

N - Filter the object requests to show only those requests that don't contain scripts defined for the specific object.

Attribute

An attribute is the identifier for the handling of each type of object. The attribute is defined in Option 3 of the System Settings and specifies source/object locations, compile handling, etc. An entry in this field will filter the display to only include objects assigned to the selected attribute. An entry here is also the default value for new requests. The wildcard character * can be used as a generic prefix or suffix for the value.

Object

An entry in this field will limit the display to requests for matching object names. The wildcard character * can be used as a generic prefix or suffix for the value.

Assign RFP

The RFP number to use when assigning request records to a promotion grouping.

Using option 'A' in front of individual unassigned object requests, will then immediately apply the Assign RFP value to those requests (if for same Application and Level as RFP number).

Using F10 will assign the RFP number to all unassigned requests in the filtered list for the same Application and Level.

1.2.3 The Request Record fields

Object

For object requests the object value is as follows:

Option / Field	Description
Object Type	Object Value
OS/400 Objects	system object name
*DATA	system name of physical file containing the data
*DTAGRP	record key values
*DUMMY	free text
*IFS	IFS file or directory name
*MSGD	message description ID
*SOURCE	source member name
*SQLxxx	SQL long name

When selecting to perform a library migration, the object value is the name of the library or IFS directory path.

If the name is longer than 10 characters, press F2 to view/modify the complete value.

Attribute

The Attribute is the MDCMS Source or Object code that is used during the Retrieval and Installation processes to define the behaviour of the object. If left blank, MDCMS will use the attribute last used for the object name specified. If left blank and multiple object types exist for the same object name, MDCMS will prompt for the selection of the type before applying an attribute.

Appl

The Application Group is used to retrieve Promotion Level and Environment information required for source retrieval and installing object and source.

Lvl

The Promotion Level is used to define the library that compiled objects are to be installed into and the library of the application's source files. If the promotion level is not entered, or if the object is new, the level will be automatically set to the lowest level that allows checkout for the application environment.

Project

The Project(s) that the object request is assigned to. If the object is assigned to more than one Project, or is assigned to a Projects Task or Subtask, a plus sign(+) will be displayed to denote additional information is available. Enter an option '5' or '6' to see all Projects, Tasks, or Subtasks for an Object.

RFP

The Request for Promotion number is required for installing an object to an application environment. An RFP is Application Group and Promotion Level specific. MDCMS edits the assignment process and will not allow assignments across Application Groups and Levels. When the RFP is submitted for installation, all objects that are assigned to it will be installed.

Sts

The line Status shows the current status of the request record. It is a display only field.

Status values:

RP - The request for the promotion level is pending MDWorkflow acceptance in the prior level.

UL - The request is currently unlocked so that others can work with the same object.

00 - Object has been requested for modification and a RFP has not been assigned.

01 - An RFP number has been assigned to the requested object.

02 - Approval Pending - an RFP approval is required before the installation process can continue.

CP - File waiting for MDRapid to be launched to copy the data to the new format for the file

CR - MDRapid is currently copying the Data

03 - Installation Pending - The object is ready for installation and requires an RFP installation release.

04 - RFP has been submitted to batch for an installation.

The 3rd and 4th positions of the Status shows the Creation, Copy or Lock Status. The possible values are:

C - The object was successfully created or copied

E - An error occurred during the creation, copy or installation of the object

L - RFP blocked due to lock on the Object or Source member

00-99 - the % of data that has been copied during the MDRapid process

C

Y - Commands are attached to this specific object request and will run at install time.

S

Y - Scripts are attached to this specific object request and will run at install time.

From Lib

The library name that corresponds to the From Library associated with the Application level indicated on the Object Request line or the library name of a Library Migration request. This will normally be a named library except when a request is for the recompile, delete or update of an object which will be indicated by the corresponding values of *RECOMPILE, *DELETE and *UPDATE.

Value *REQONLY indicates that a request record exists for a *SOURCE type, but source will not physically be migrated on this system.

Function Keys:

F2=Full Name - Edit or display the full name of an Object, when the name is too long to fit on this screen.

F3=Exit

F4=Browse - Display list of valid values for a field. For fields such as Project, Task, Subtask or RFP, the fields may also be maintained from the F4 screen.

F5=Refresh

F6=Messages - Display message queue of user.

F7=Promote RFP - Prompts the user to submit a RFP for installation.

F8=Submitted Jobs - Work with jobs submitted by user

F9=RFP Control - Used to select and maintain an RFP Assignment number for the **F10** process or the 'A' option.

F10=Assign RFP - Automatically assigns an RFP number to all displayed request records that have a status of '00' and match the application environment and level for the RFP. The RFP number used is retrieved from the RFP Assignment field in the header of the display.

F11=Output - Display the MD Output panel and other spool files

F12=Previous

F15=Print List - Prints a list of every active Project record that matches the current set of filter values.

F17=Top - Position the cursor to the top of the request list.

F18=Bottom - Position the cursor to the bottom of the request list.

F19=Time Entry - Bring up the Project/Task Hours Used listing to view and enter time worked.

F20=Assign Proj - Automatically assigns a selected open Project/Task/Subtask to all displayed requested records not yet assigned to a Project. The Project Selection display is provided in order to select the Project/Task/Subtask or cancel the Assign process before the process is performed.

F21=Sys Command - displays the IBMi command entry screen so that IBMi commands may be run without the need to exit MDCMS.

F22=Create All - MDCMS attempts to create all eligible objects into the developer library, based on, and in the order of, the rows listed. When F22 is pressed, a confirmation screen is shown that displays the total number of object requests that are eligible for creation into the developer library. Press Enter to proceed with the attempt or F12 to cancel. Upon completion, the total number of successful attempts and total number of failed attempts are shown.

F24=More keys - Displays the additional Function Keys that do not appear on initial panel.

1.2.4 Requesting a change to an Object

M - Modify Object

The 'M' option is a request to modify an existing object. If the request is successful, MDCMS will copy the requested source to a development library and create a Request record in Lock Mode.

The Object Selection Process

position cursor to a blank line in the object manager

Enter the name of the object or press F4 to select object from list. A portion of the object name may be entered before pressing F4 to position the cursor to that name in the list.

It is permitted to select multiple objects from the list. If more than 1 object is selected, each additional selection will be placed on its own new row within the Object Manager listing and the option, application and RFP for the initial row will be replicated to the additional rows for rapid check-out of multiple objects.

Enter the name of the MDCMS attribute or press F4 to select the attribute from list. If left blank, the default value entered at the top of the screen will be used. If this value is also blank, MDCMS will use the attribute that was used for the object the last time that the object was installed. The attribute specifies the location of the source and object as well as how the source is compiled and which authorities are assigned to the object.

Enter the name of the application in which the object exists or press F4 to select the application from list. If left blank, the default value entered at the top of the screen will be used.

Enter the Level number for the application or press F4 to select the level from a list. If left blank, the default value entered at the top of the screen will be used. If this is also blank, then the lowest level for the application will be used.

Enter the Project ID or press F4 to select the Project, Task or Subtask from the Project Listing panel. If left blank, the default value entered at the top of the screen for Project, Task and Subtask will be used. It is not required that a Project is selected at request time. More than 1 Project may be selected for the same object request.

Enter the RFP number or press F4 to select the RFP from list. If left blank, the default value entered at the top of the screen will be used. It is not required that a RFP is selected at request time.

Press Enter.

MDCMS checks to see if another user already has the object requested. If so, the newly entered request is declined and a screen is displayed which shows all relevant information pertaining to the existing request. From the screen, the user has the option to press F10 in order to request the object in Unlock Mode.

MDCMS will select the default library/folder to copy the existing source or object from based on the following priority:

- The primary library/folder for the target level
- The chain of levels above the target level based on the next level parameter on level definition.
- The chain of based on levels for the target level, if the target level is based on another level for managing parallel versions of an application.
- The search template definition for the attribute.

CMC180	T Dev	29.07.14
SCRN1	Source Member Copy Options	22:15:14

App1	Lvl	Type	Attribute	Object
TEST	10	*PGM	CLP	ACOBJ1

Copy From

Location	. . .	*LOCAL	
Source File	. .	QCLSRC	
Library	. . .	TSTSRC10	
Member Name	. .	ACSRC1	

Name, *NONE

Copy To

Dev Source File	QCLSRC	
Library	. . .	MMORGAN
Member Name	. .	ACSRC1

Dev Object Library MMORGAN

Enter=Confirm F4=Browse F5=Refresh F12=Cancel

This screen is then displayed where the user chooses where to copy the source from and where to copy the source to. Modifications are then made to the copy of the source, rather than the original source to protect the installed version of the source.

If the source already exists in the programmer's library, the programmer will be prompted as to whether or not the existing source should be overwritten.

If the library or source file does not yet exist in the programmer's library, the programmer will be prompted to create them.

The name of the source can differ from the name of the object and the source library may be different than the object library.

Source Comparison

If Source Comparison Checking is defined for the application level in the OS/400 Location settings (MDCMS Settings Menu Option 8), then the version of the source that is to be copied into the programmer's library will be compared with the version of the source that is residing in the comparison level on the local or a remote system.

If the versions are different, a warning screen will be displayed to the programmer. F8 can be pressed to view the differences in the 2 versions of the source code. If the programmer has authority to request source from a different location (MDSEC Code 33 for the application), the programmer then has the option of copying the remote version of the source rather than the local source.

If the versions are different and the programmer that made the prior change to the source is different than the current programmer, the current programmer can only check out the source if they have authority to change programmer for object request (MDSEC Code 32).

Emergency Checkout Warning

If the Object was most recently checked out for deployment to an Emergency level, and the new request is for a standard level, a warning screen will be displayed to the programmer informing them of the level, user and Project involved in order to help resolve the merging of the changes made for the emergency deployment.

Location Warning

When requesting source or objects, MDCMS can be configured to automatically notify the user if the source or object is found in specific locations. This can be helpful to make the user aware of potential conflicting versions of the object, such as in vendor libraries. To automatically search and notify, apply search templates with the libraries to be checked to the attributes to be monitored.

N - New Object

This option is used to reserve an object name. The steps followed are identical to those for the modification of an object. The new object name may not already exist in the destination library for the attribute. If for new source, the user is then prompted for an existing source to copy from (as a template). The copy is optional.

If an existing source member is copied to a new member, or if the copy from value of *GEN is used to generate a new source member in the programmer library, the programmer is then prompted to provide the source attribute and description of the new member.

If the member to copy from doesn't exist in the default source library, F16 can be pressed to have MDCMS search for the source in the level chain and based on levels.

D - Delete Object

This option is used to delete an object and the source for the object. The steps followed are identical to those for the modification of an object. When the promotion occurs that causes the deletion, the source or object is archived prior to deletion (if archiving is turned on for the level.) Any cross-reference information about the object is also removed at promotion time.

To delete an IFS file or directory, enter the attribute for the IFS entity before pressing F4 to select it from a list. If a directory is selected, and that directory contains files or sub-directories, MDCMS will automatically create deletion reservations for those entities too.

R - Recompile Existing Object

This option is used to recompile an object into a target level. The recompile option can be used for objects that include a source library/folder on the target level's attribute or for ILE programs/service programs to refresh the bindings for modified modules or service programs.

If recompiling from source, the source used to compile from will be determined based on the search priority below. If recompiling ILE from a list of bindings, the program containing the bindings will be determined by the search priority below:

- The primary library/folder for the target level
- The chain of levels above the target level based on the next level parameter on level definition.
- The chain of based on levels for the target level, if the target level is based on another level for managing parallel versions of an application.
- The search template definition for the attribute.

An object can be requested for recompile even when a locked request already exists for the target level. The steps followed are otherwise identical to those for the modification of an object.

If multiple objects of different names share the same source, the initial object can be checked out as Modify and the other objects can be checked out as Recompile and then placed on the same RFP. The modify request should be set to be sorted first among the group of objects sharing the same source in the RFP.

U - Update Existing Object

This option is used to update an existing object without modifying any source or migrating the Object from a lower level. An Update command must be defined for the object or attribute. Examples of an Update command would be the UPDPGM command for updating existing ILE programs, CHGPF for updating an existing DDS table, or RUNSQLSTM for an ALTER script for an existing

SQL table. The Update option may be requested even when work is in progress for the source or object. The steps followed are otherwise identical to those for the modification of an object.

- *** NOTE - for ILE/Service Programs, it is recommended to instead use the recompile option for ease of use.
- *** Generally, for tables, it is recommended to use the modify option instead of the update option for better rollback capabilities. However, if an update is used in conjunction with MDRapid, the update will occur in a copy of the file and then that will be moved to the live library at installation time to limit application downtime and provide full rollback capabilities. By default, updates don't utilize MDRapid, but this can be enabled by editing the object request and specifying *YES for parameter Use MDRapid.

L - Library Migration

Often, a temporary library will be sent from a vendor (or some other source) with the intent that the objects in this library are to be migrated into your application. The 'L' option can be used to easily request the objects for migration.

To do this, enter the name of the library at the object prompt. Also enter the Application code. Leave the attribute field blank. Press Enter. A list of all objects in the library is then displayed.

```

CMC125                                COMPANY NAME                                10/18/11
SCRN1                                Library Objects Request                        15:44:34
Library.: LIV12121
Appl/Lvl: TEST 10  RFP: _____ Project: SAP001_____ Task/Subtask: _____
Filters (* = generic*)
Object*: _____ Type: _____ *Sys Attr*: _____ *Desc*: _____
                                           Created from: _____ to: _____

Type options, press Enter.
M=Migrate D=Object Description S=Source Members 5=View Request Details

Opt Object      Type      CMS Attr  Created      Description
M  COHDR11     *FILE     LF        10/01/11     XYZ CO HDR file by costs
      COHDR12     *FILE     LF        10/01/11     XYZ CO HDR file by cocst
      COHDR13     *FILE     LF        10/01/11     XYZ CO HDR file by copsts
M  C0001D      *FILE     DSPF      10/01/11     XYZ Customer Order Maint
M  C0002D      *FILE     DSPF      10/01/11     XYZ Customer Order Browse
M  C0002R      *PGM      RPG       10/01/11     XYZ Customer Order Browse
      C0006D      *FILE     DSPF      10/01/11     XYZ Customer Order Print
M  C0007P      *FILE     PRTF      10/01/11     XYZ Customer Order Print

More...
F4=Browse  F8=Today  F9=Dft Attribute  F13=Repeat Opt  F14=Repeat Attribute

```

This display lists all objects that exist in the library.

RFP

The RFP number to assign to the selected objects in the library. Press F4 to create a new RFP and/or select an RFP from the list of open RFPs.

Project/Task/Subtask

The Project ID to assign to the selected objects in the library. Press F4 to create a new Project and/or select a Project from the list of open Projects. If the assignment needs to be for a task or subtask within the Project, those values can be entered as well.

Filters

The list of objects may be filtered by Object, Type, System Attribute, Description or range of Creation Dates.

The object name filter value can use the suffix * to filter the objects based on the value preceeding the *. The system attribute and description filters allow the * wildcard before and after the generic value.

The filters are not case sensitive.

Opt

M=Migrate - Migrate the object from the selected library into the lowest application level on the system. A request will then be created for that object. The request can then be handled like all other requests in the Object Manager.

D=Object Description - Display the object description using the IBM Display Object Description command(DSPOBJD) using a Detail parameter value of *FULL. The information on the Display Object Description panel can aid in analysing objects prior to migration.

S=Source Members - View the list of source members in a source file. This option is only valid for source files. The members may then be individually requested.

5=View Request Details - View the details of an already requested object.

Attribute

MDCMS makes a best guess as to what the attribute should be. Enter a different value or press F4 to select from list, if necessary.

Function Keys:

F4=Browse - Display list of valid values for a field.

F8=Today - Creates a filtered view of all objects that were created with today's date.

F9=Dft Attribute - Set default Attribute to be used for new objects with same system attribute.

F13=Repeat Opt - Repeat an option until end of list. For example, if 'M' was entered on the 4th line of the list and F13 was then pressed, lines 5 through the end would also have 'M' entered.

F14=Repeat Attribute - Repeat an attribute. Place cursor on line for attribute to be repeated and press F14. For every object with a matching object type, this attribute will be inserted.

L - IFS Directory Migration

Option L can also be used to migrate files or entire directories that exist in IFS.

To specify a Directory Migration rather than a Library Migration, place a "/" at the beginning of Object field before pressing Enter.

```
CMC126                                COMPANY NAME                10/18/11
SCRN1                                IFS Object Migration Request 12:55:23

Directory: /transfer

Type options, press Enter.
M=Migrate S=Set Root Directory 5=View

Object Filter: _____

Opt      Object                      Date Modified      Attribute      Req'd By
- DIR downloads                     2011-08-25 14.33.24
- DIR patch070315                   2011-08-25 14.33.25
- DIR patch070326                   2011-08-25 14.33.26
- DIR patch070420                   2011-08-25 14.33.27
- DIR patch070427                   2011-08-25 14.33.28
- DIR patch070620                   2011-08-25 14.33.29
- DIR saved070211                   2011-08-25 14.33.30
- DIR savem070407                   2011-08-25 14.33.31
More...

F2=Full Name  F3=Exit  F4=Browse  F12=Up  F13=Repeat Opt  F14=Repeat Attr
```

This display lists all sub-directories and files that exist in a specified directory.

Object Filter

The list of objects may be filtered by object name. All values are interpreted as generic strings. For example, enter TCH in the object filter to see all objects with tch somewhere in the name. The filter is not case sensitive.

OPT

M - Migrate the object from the specified directory into the lowest application level on the system. A request will then be created for that object. The request can then be handled like all other requests in the Object Manager. If the object is a directory, and the directory contains files or sub-directories, you will be prompted with the choice to automatically migrate all files and/or directories as well. You can also limit the migration to include only directories/files that have been modified since a specific date/time.

S - Set the Root Directory for the Migration. Afterwards, you can use option 5 to drill down into the directory and its sub-directories and select to migrate specific files or directories, while retaining the path starting with the root directory. For example: an Attribute is defined that specifies that an IFS object is to be installed into directory /tomcat. You could then use option S to set the root directory for the migration as directory webapps, which resides in directory /delivery. Afterwards, option 5 is used to select a file in directory /delivery/webapps. When the file is migrated, it will be moved from directory /delivery/webapps to directory /tomcat/webapps. This way, you only need to create an attribute for the uppermost directory of commonly changed objects in IFS.

5 - If the object is a file, then the contents of the file will be displayed. If the object is a directory, then this display will change to show all objects residing in the directory.

Attribute

MDCMS makes a best guess as to what the attribute should be. Enter a different value or press F4 to select from a list of IFS attributes, if necessary. If a Root Directory has been set, then the Attribute for the Root Directory will be used.

Function Keys:

F2=Full Name - Display the full name of an IFS Object or Directory. Place the cursor on the field before pressing F2.

F12=Up - Go up 1 directory in the path. If the currently displayed path is /, then MDCMS returns to the Object Manager.

F13=Repeat Opt - Repeat an option until end of list. For example, if 'M' was entered on the 4th line of the list and F13 was then pressed, lines 5 through the end would also have 'M' entered.

F14=Repeat Attr - Repeat an attribute. Place cursor on line for attribute to be repeated and press F14. For every object with a matching object type, this attribute will be inserted.

Y - Synon/2E Migration

If MDCMS is configured to migrate objects from Synon/2E models, Option Y will appear that can be used to select the Model objects for migration.

See the PDF document MDCMS_SYNON-2E_Interface_Manual for further information and instructions.

Request Linked Objects for Attribute

If the object just requested was for an attribute that contains Linked Checkout definitions, then MDCMS will automatically present a list of linked objects to be considered for checkout.

```

CMC123                                COMPANY NAME                20.04.13
SCRN1                                Request Linked Objects for Attribute  21:41:56

Object: RC0300                      Appl: MD      Project: V7
Type: *PGM                          Attr: RMCBL   Lvl: 10    RFP Nr.:

Type options, press Enter.
D=Delete  M=Modify  N=New  R=Recompile  U=Update  5=View Request

Opt Object                                Type  Attribute  Description
-  C.OBJ.LST_____ *DTAGRP RFUN
-  RC0300_____ *DTAGRP RSCREEN
-  RC0300IO_____ *SOURCE RLBL      Screen Definition Copybook

F2=Full Name  F3=Exit  F13=Repeat Opt

Bottom

```

Opt

D=Delete - Create a Request to delete the Object

M=Modify - Create a Request to modify an existing object

N=New - Create a Request to create a new object

R=Recompile - Create a Request to recompile an existing object

U=Update - Create a Request to update an existing object

5=View Request - View the details of an already requested object.

Object

MDCMS automatically generates the name of the linked object, based on the name of the parent object in combination with the Naming Pattern definition for the linked attribute. The object names can be modified before pressing Enter to request them.

Function Keys:

F2=Full Name - Place cursor on an Object field and press F2 to view/edit the complete value

F13=Repeat Opt - Repeat an option until end of list. Place cursor on line for option to be repeated (including a blank option) and press F13. Every line after the line containing the cursor will receive the same option.

1.2.5 Process Request Records

- Edit Request Details

An entry of '2' for an existing request will allow the user to change the request parameters.

```

CMC100                                COMPANY NAME                                4.09.06
SCRN3                                Edit Request Details                        10:37:02

Appl/Lvl: TEST 10  RFP:                Object: JAVAXREF
Project.:                               Type: *SQLTAB
Reason.: *MODIFY
Attribute . . SQLTABIFS_
Programmer . . MMORGAN__
Sort Sequence.
Source Name . JAVAXREF.sql
Object Desc . Admin - Invoice maintenance_____ *SAME,*BLANK
From Lvl . . .
From Obj Lib . MMORGAN__
From Src Lib . /home/mmorgan_____
Data Origin . *SAME_____ Name, *SAME, *MIGRATE, *NONE
Data Member . _____ Name, *ALL, *FIRST
Use MDRapid . *DEFAULT_____ *DEFAULT, *YES, *NO
Automatically Reapply Y/N:
Journaling: Y Constraints: Y Triggers: Y

Enter=Confirm  F2=Full Name  F4=Browse  F8=Edit Projects  F9=Get Object Desc

```

Attribute

The MDCMS attribute may be changed, as long as the new attribute is of the same Object Type as the old attribute, and the target source or object for the attribute isn't already locked by another request.

Programmer

The programmer can be changed to a different user registered in MDSEC.

Sort Sequence

Object Requests are sorted by attribute compile sequence, sort sequence and object name. The sort sequence for the individual object can be entered here in case other objects of the same attribute compile sequence are dependent on this object. For SQL objects see the MD Best Practice - Managing SQL Entities guide for more information on automatic sorting.

Source Name

The source name may differ from the object name and can be modified here

Object Desc

The object description that is either currently on the object or that can be entered to be applied to the object when deployed.

*SAME - keep the same value for the object description when the object is created. If blank, then the object description will be set to the description of the object that it is replacing.

*BLANK - set the object description to be blank.

Press F9 to retrieve the current description for the Object

From Lvl

If more than one level migrates to the request level, a different level to migrate from can be selected

From Obj Lib/Src Lib/Src File

If the request is from the lowest level, the from location for the object (and source when applicable) can be changed.

Data Origin

When the request is for a file, existing data will by default be copied from the old version of the file to the new version of the file.

The origin can be one of the following:

*MIGRATE - the data in the file is migrated with the changed format for the file. This is the equivalent of having a *FILE request and a *DATA request in the same RFP.

*NONE - any existing data will not be retained. *NONE is required when changing the system attribute from PF to LF or from LF to PF.

*SAME (default) - any existing data in the file being replaced will be mapped to the new format for the file.

The system or SQL name of the file containing the data to copy from. The file must exist in the same target library as the file being modified.

Data Member

When the request is for a file, and the Data Origin is a different file, the member in the other file can be defined to copy from. This is particularly helpful when converting an existing multi-member DDS file to several new SQL tables, since SQL only allows for one member per table.

The member can be one of the following:

*ALL - all members in the file will be copied. This is only valid if the requested file is a DDS file.

*FIRST - the first member in the file will be copied.

The name of the member to copy from the Data Origin to the requested file.

Use MDRapid

Whether or not MDRapid, if licensed, should be used to copy data from the prior version of a file to the new version of the file, to significantly reduce the amount of time required during deployment.

*DEFAULT - MDRapid will be used for modify or recompile requests, if the number of records in the file at RFP submission time meet or exceed the minimum defined on the MDRapid Usage template.

*YES - use MDRapid for the copy/syncing of data, even if the current record count is less than the default minimum, or if the file is requested for Update.

*NO - don't use MDRapid for the file deployment, even if the file would otherwise be qualified.

Automatically Reapply Journaling

Whether or not Journaling for a file should be automatically reapplied when the file is modified.

Automatically Reapply Constraints

Whether or not constraints for a file should be automatically reapplied when the file is modified.

Automatically Reapply Triggers

Whether or not system (non-SQL) triggers for a file should be automatically reapplied when the file is modified. Any SQL triggers that should be re-applied should be requested for recompile and placed on same RFP as the file.

Automatically Reapply LF Members

Whether or not existing members for a logical file should be automatically recreated when the file is modified.

- Delete Object Request

An entry of '4' will delete the request for an object modification. This is only allowed if the Status of the request record is currently '00 or '01', which means that the installation of the request is not yet in progress. A confirmation screen is displayed before the request is deleted.

If the request is for the lowest level on the system, the user may choose to delete the source and object from the programmer library. This allows for a cleaner developer environment.

- Display Request Details

The Option '5' will display all relevant information pertaining to the object request.

- Edit Projects for Request

An entry of '6' allows the user to change the list of Projects, Tasks, or Subtasks that the Request is assigned to. If the user has enough authority, they can also edit the details of the projects or add new Projects, Tasks or Subtasks.

- Rename Object Request

An entry of '7' will prompt the user for a new name for the requested object. The user may also let MDCMS automatically rename the source and object residing in the programmer's library.

Renaming is permitted for new or existing objects for a level allowing checkout.

The rename only affects the name to be used in the developer's library and when deployed, but will not automatically delete an object with the prior name.

- Create Object

An entry of '8' will prompt the user to compile the object into their own library from the checked out source. This is useful for validating the source or for unit testing prior to submitting the RFP. This is only valid for object attributes defined with a source and object location or for ILE programs/service programs. The source must be checked out as New, Modify or Recompile from a level allowing check-out.

The compile process uses the Pre-Compile, Compile and Post-Compile commands defined for the attribute or specific object so that the object is created in exactly the same way as during a deployment.

In the case of SQL Constraints or Triggers, the Post-Installation commands are used instead of the Compile commands.

If compiling a physical file, any logical files over the physical that exist in the developer library will be automatically deleted. However, logical files in other libraries must be handled manually.

Library List

1 - The library list defined for the Job Description assigned to the Application Level is used

2 - The current library list for the job is used

Include Dev Library

Y - The developer object library for the request is added to the top of the library list to reference any objects in that library that may also have changed.

N - The developer object library is not added to the library list. If it is already in the library list, it will remain at the position it is in.

Object Exists

Y - The object already exists in the developer library and will be automatically deleted prior to the create process.

N - The object doesn't yet exist in the developer library

Show Create Log

The Create Log consists of job log entries and compile log entries written during the create process. In order for compile log entries to be written, the CRTxxxx command must include the option *EVENTF, if that option is available for the command.

The following options determine when the create log will be shown directly after processing the pre-compile and compile-commands:

E - if command exceptions occurred or the object didn't get created

Y - always

N - never

When the Create Log is displayed, the minimum severity can be set to filter out lower severity messages than the filter value.

- View Spooled File

An entry of '9' will display the most recent spooled file for the object. The spooled file will have been created during the compile of the object into the developer's library using option 8 or during the compile of the object during RFP processing.

A - Assign RFP

An 'A' entry in the option field will assign the RFP number entered in the RFP field to the Object Request record. The Status of the Request record must currently be 00 or UL. If the RFP is blank, the system will transfer the display to the RFP Select Display so that the user may add and/or select an RFP.

B - Bound Objects for Program

An entry of 'B' will allow the programmer to configure the list of Bound Modules and Service Programs for an ILE Program or Service Program.

This information will then be used when the program is created, assuming a compile command is defined for the attribute or object with the placeholders ##MODULE##, ##SRVPGM## and ##ENTMOD## (for programs).

If this option is not used before a program is created during installation, then MDCMS will use the current definition for the object in the migration library.

```

MDCCMSB          MD Test Environment          11.03.08
SCRN1            Bound Modules                17:18:30

  Program: ILEXREF      Type: *PGM      Attribute: ILEPGM

Type options, press Enter.
M=Modify  4=Remove from List  E=Entry Module

Opt Module      Library  PEP Attribute  Description
-  MDCDATR      TSTLIBMOD  CBLLE      MDXREF: calculate date range
-  MDCDIRL      TSTLIBMOD  Y CBLLE      MDCMS - view/select directory contents
-  MDCIFSE      TSTLIBMOD  CBLLE      MD Check access of IFS object
-  MDCIFST      TSTLIBMOD  CBLLE      MD Check type of IFS object
   _____  *LIBL
   _____  *LIBL
   _____  *LIBL

                                           Bottom
F3=Exit  F4=Browse  F8=Service Programs  F10=Create in Programmer Lib

```

Opt

M=Modify - Request the Module or Service Program for modification. The requested element will automatically be assigned to the same RFP and Project as the Program binding it.

4=Remove from List - Remove a Module or Service Program from the list

E=Entry Module - Designate a specific module to contain the PEP (Program Entry Procedure)

Module [or Service Program]

The name of a Module or Service Program to add to the list

Library

The current location of the Module or Service Program. MDCMS looks first in the developer library and then in the library list for the Level.

Attribute

The MDCMS attribute to use if requesting to modify the Module or Service Program

Function Keys:

F3=Exit

F4=Browse

F8=Service Programs - toggle the listing between Modules and Service Programs

F10=Create in Programmer Lib - create the program in the developer library, based on the currently defined list of bound modules and service programs. MDCMS will use the version of each module or service program based on the found library location. It is not necessary to create a program in the check-out library, but it can be useful for testing purposes.

C - Commands/Scripts for Object

An entry of 'C' activates the MD Detail Command Maintenance function for a specific object. This function is used to define IBMi commands that can be executed during the installation of objects into an application level. This function is also used to override the default compile, data, and update commands defined at the attribute level.

```
CMC192                                COMPANY NAME                4.09.06
SCRN1                                Commands for this Object    15:54:04

Appl/Lvl: ACCT 10  Object: ACRPT01

Type options, press Enter.
2=Edit  3=Copy  4=Delete  5=View

Opt Type Seq  Command String
_   1   10  OVRDBF FILE(ACCTPF1) TOFILE(PRODLIB/ACCTPF2)
_   3   10  RMVM PRODLIB/ACCTPF1 XXXTEST

F3=Exit  F6=Add  F12=Previous                                Bottom
```

Type

C - Compile Command. Will be used to compile the object from source code. The C command override uses the compilation command as defined in the System Settings for the attribute as a default model. The command can then be changed for the compile process. This override will then be used to compile the specific object rather than the default compile command for the attribute.

D - Data Copy Command

- ***FILE attributes** - determines how the existing records in a physical file should be mapped to the new format when a physical file is installed.

Data Transformation must be disabled for the file in order for MDCMS to consider a Data Copy command. It can be disabled using option F=File Data Transformation from the Object Manager and then pressing F10.

The data copy command can use CPYF, in which case the parameters FROMMBR, TOMBR and MBROPT are considered. All other keywords in the CPYF command are ignored. Only 1 command may be defined for *FILE mapping.

Other commands, such as RUNSQLSTM or CALL, may also be used for mapping the data in a changed file from the old format to the new format. If such a command is used, it is critical to use the ##OFF placeholders so that MDCMS can correctly provide the location of the old file format.

- ***DATA attributes** - determines how and which data records should be copied from one environment to another. All keywords except FROMFILE and TOFILE are then used when the CPYF command is run.
Only the CPYF command is permitted for *DATA attributes

U - Update Command. The U command override will be used to update the existing object rather than the U commands defined at the attribute level. An example would be the UPDPGM command to update existing ILE programs. The Update Command may also be used to update an existing object using the modified source. An example for this would be the CHGPF command to update the format of a physical file for a modified DDS source. In this case, the source would be checked out using the M (modify) option and at installation time, the Update command would be used.

1 - Pre-Compile Command runs prior to compiling objects

P - Post-Compile Command runs after compiling objects

2 - Pre-Installation Command runs prior to installing objects into the environment

3 - Post-Installation Command runs after the installation of objects is complete, but prior to releasing the application for usage. Possible to roll back RFP if command fails.

Q - Command that runs during the Archive/Cleanup phase of the RFP after the application is released. Any command error will flag a warning, but not cause a roll back. Typically used post-installation notifications or for additional processing of archived source and objects. For example, command MDCMPPFM can be invoked to generate a comparison report between the prior and new code in source members.

O - Data Copy during Send runs for *DATA requests only during the copy of data to send to a remote location, determining which data records should be sent to a remote location based on the INCCHAR and INCREL parameters of the CPYF command. The command is run separately for each target location. Placeholder ##SVFLOC## could, for example, be used to filter by the location ID, if a column in the table contains that value.

Ignore Errors

Y - Continue with RFP processing even if the command fails. Flag will always be Y for type 3.

N - Cease and Rollback RFP processing if the command fails

Keep MD Libs in Libl

N - The MD Libraries (MDCMS and MDXREF) are removed from the library list before the command is invoked. This assures that any MD Objects with the same name as your objects are not used.

Y - The MD Libraries are left in the library list. This is necessary when MD Objects, such as interface programs, MDMAIL or MDMAILF, are needed to process the command.

Reuse Command

Y - The next time that this same object is checked out, this command will be reapplied to the request

N - This command is intended to be used only once for this object

Placeholders in SQL

N - The SQL member or IFS file used by a RUNSQLSTM command does not contain MDCMS placeholders - no conversion will occur

Y - The SQL member or IFS file used by a RUNSQLSTM command contains MDCMS placeholders - MDCMS will create a temporary copy of the script and convert the placeholders in the copy to the actual runtime values.

This flag is only relevant for RUNSQLSTM commands. The placeholders embedded in the SQL script may be delimited by ++ instead of ## to avoid code page issues.

Sequence

The sort sequence of the command at run time, in case multiple commands for the same type are defined.

Frequency

If the command type is 5 (Pre-Send), 6 (Post-Send) or 7 (Send Error), the Frequency parameter will be displayed and allow one of the following values:

B - Batch - the command will be executed once per batch of locations to be sent to

L - Location - the command will be executed for each target location/level

Location to run Cmd

The location that the command should be run, allowing for commands to be run only for certain environments. Enter a valid Location ID or press F4 to select a location from the list.

Otherwise, select from one of the following special values:

*ALL - run the command on every level in the migration path

*LOCAL - run the command on any level on this system

*LOCLVL - run the command only for this level

*REMOTE - run the command on any level everywhere but this system

Run as User Profile

By default, commands executed during an RFP run under the profile of the user profile defined on the job description of the application level for the RFP. If a specific command should run under the authorities of a different user, that user ID can be entered here. As a safety precaution, the user placing a value in this field must have authority to use that entered user profile in order to save the command definition.

Command

The IBM i or user-defined command to be performed. Enter the name of the command and then press F4 to fill in the keywords.

Some placeholder parameter values may be used and are substituted by MDCMS at run-time. The placeholder value may be typed directly into the command or the cursor may be positioned in the command and F7 pressed to insert the value from a list. The full list of values are in this manual in the Attribute Command section.

Scripts

If the MDCMS object type for an object is *IFS or *REMOTE, then scripts can be applied to the object to be run before or after the object is deployed to IFS or a remote server.

To manage the scripts for an object, use option C for Commands/Scripts from the object manager and press F10 from the command listing.

```

CMC171                                COMPANY NAME                                4.09.15
SCRN1                                Scripts for this Object                        15:54:04

Appl/Lvl: ACCT 10  Object: webApp.war

Type options, press Enter.
2=Edit  3=Copy  4=Delete  5=View  S=Script Content

Opt Type Seq Script
_   2     1 /ifs-stop-tomcat.sh
_   3     1 /ifs-start-tomcat.sh

F3=Exit  F6=Add  F12=Previous

Bottom

```

Type

The Type value designates when a script should run

Column 1	Column 2	Column 3
2	Pre-Installation	runs prior to installing objects into the environment
3	Post-Installation	runs after the installation of objects is complete

Sequence

The sort sequence of the script at run time, in case multiple scripts for the same type are defined.

Ignore Errors

Y - Continue with RFP processing even if the script fails.

Flag will always be Y for type 3.

N - Cease and Rollback RFP processing if the script fails

Reuse Script

Y - The next time that this same object is checked out, this script will be reapplied to the request

N - This script is intended to be used only once for this object

Replace Placeholders

N - The script doesn't contain placeholder values to be replaced by runtime values when executed

Y - Replace placeholder values in the script at run time

Loc. to run Script

The location that the command should be run, allowing for commands to be run only for certain environments. Enter a valid Location ID or press F4 to select a location from the list.

Otherwise, select from one of the following special values:

*ALL - run the command on every level in the migration path

*LOCAL - run the command on any level on this system

*LOCLVL - run the command only for this level

*REMOTE - run the command on any level everywhere but this system

Run as User

The user profile that the IFS script will run under within QSHELL

Wait for Response

Y - MDCMS waits until the Remote server confirms completion of the script execution

N - MDCMS continues without waiting for a response from the remote server

Submit Job

Y - Submit the IFS Script execution to a separate job. MDCMS will not wait for a response in this case, but instead continue with RFP processing.

N - the ifs script execution runs within this job

Job Name

The name of the submitted job that will process the IFS script

Job Queue

The name and library of the Job Queue to receive the submitted job

Script Subfolder

The relative path of the script, if it isn't directly located in the script root folder.

Script

The name of the script file located in IFS

D - MDRapid Data Copy Status

A 'D' entry in the option field will result in seeing the copy status of all physical and logical files that require MDRapid processing once copy is pending until such time that the RFP is installed. The status can also be viewed from the RFP after installation to check the amount of time that was required for the copy.

F - File Data Transformation

An 'F' entry in the option field will bring up the Data Transformation screen. This is only relevant for physical files or SQL tables that are checked out for modify or recompile, or for files/tables that are checked out for update and MDRapid has been enabled for that request.

Data Transformation is used, by default, to map the data in a file from the prior format for the file to the new format during the installation of the file.

Data Transformation performs a dynamic SQL insert to populate the new version.

The results for each column, by default, are the contents of the same column name in the prior version, if the prior column type can be cast to the new column type. For new or invalid columns, MDCMS automatically fills with blank, 0 or null, depending on column properties.

In order to view/customize the data transformation values for a file, the new and old version of the file must exist. MDCMS will attempt to create the new version of the file if it doesn't exist in the developer's library when requested for a check-out level. For higher levels, the file must exist in the from level to use the Data Transformation screen.

The following screen lists each column in the new format of the file, it's format and the new value of the column when the transformation occurs.

```

MDCRAPF                                COMPANY NAME                29.01.22
SCRN1                                Data Transformation            15:14:50
File...: INVOICE_PARTNERS
Enabled: Y      Filter by Field: _____ Type: _ Desc: _____

Type options, press Enter.
  2=Edit  4=Remove Custom Result  5=Display  K=Add/Remove Key for MDRapid

Opt  Field Name    Len Typ Dec SQL Name          S Result Value
- K  INVNR        9  B      INVOICE_NUMBER    D INVNR
- K  PARNBR       9  B      PARTNER_NUMBER     D PARNBR
-    INVAMT      11  P   2  INVOICE_AMOUNT        INVAMT
-    CREATED      26  Z                      C DATETIME_TO_TIMESTAM
-    CREATED_BY   10  A                      C CRTUSR
-    CHANGED      26  Z                      C DATETIME_TO_TIMESTAM
-    CHANGED_BY   10  A                      N NULL

Bottom
F3=Exit  F7=View SQL  F8=New/Diff/Custom only  F9=Descriptions  F10=Disable

```

Enabled

Y - When the file is installed, Data Transformation will be used to map the existing records to the new format for the file.

N - A Data Copy Command will be used to map the records. If a Data Copy Command isn't defined, then a CPYF *MAP/*DROP will be performed.

A file is enabled by default, unless it contains temporal or generated expression columns. Use F10 to toggle between disabled and enabled.

Filter by Field

Enter a value to limit the list of fields to field names or SQL names that contain that value

Filter by Type

Enter a field type to limit the list of fields to that type

Filter by Desc

Enter a value to limit the list of fields to field descriptions that contain that value

Opt

2 - Edit - add or change the custom Result value for a field

4 - Remove Custom Result - return the Result value to the default value for the field

5 - Display - view all information about the Data Transformation for the Field

K - Add/Remove Key for MDRapid. If MDRapid will be used to minimize downtime during deployment of the file, K can be used to designate the columns that combined would uniquely identify each record in the file. If the file has a unique key or primary key constraint on it, those fields will automatically be designated and the key fields. If key fields are defined, MDRapid will map the records by relate record number instead, which is a bit slower and takes more overhead during the journal syncing process. If using MDRapid to transition a table from single-membered to partitioned, the designation of key fields is required. Up to 99 fields can be designated a key field. If a field is marked in error, use option K to remove the designation.

Function Keys

F7 - View the SQL syntax for the INSERT statement that will be used for the copy based on the current transformation definitions for the file. This can then be copied to an interactive SQL session for troubleshooting purposes.

F8 - toggle the listing between all fields in the new format of the file and only those fields that are new, have a different format, or have a custom Result Value.

F9 - toggle the listing between showing the Field Description and the SQL Name

F10 - toggle Data Transformation for the file between Enabled and Disabled

Result Value

This is the SQL syntax containing the value for the field in the new version of the file for each record selected from the old version of the file.

When Data Transformation is performed, MDCMS runs an SQL insert into new file select from old file.

The Result Value can be any valid SQL value, containing any combination of constants, functions, expressions and field names.

Basic SQL syntax checking is done immediately when a custom value is entered. Additionally, full validation of the insert statement occurs during the Compile phase of the RFP, in order to catch any issues before the actual installation occurs.

*GEN - this special value can be used on columns containing the Generated By Clause. *GEN for a column will cause a new value to be generated for each row during the copy from the old version to the new version of the file. In the case of Temporal Columns and Generated Expression columns, *GEN is the only value that is permitted. If it is important that the existing values for such columns are retained, then MDTransform should remain disabled for that file.

H - Installation History

An 'H' entry in the option field will result in directly navigating to the Installation History listing for the object. This option is available for new or existing request records in the display.

I - Include Related Objects

This option is used to request objects that 1) are dependent upon a requested file, ILE module, Service Program, or copybook or 2) invoke a requested program, command, query, function, procedure or menu. **MDXREF** is used to identify the objects.

Example 1: the length of a field in file COHDRP needs to be changed. The user would first select COHDRP for modification. Then, the user would place an 'I' in front of the request record so that all of the objects that use COHDRP (or other files that use COHDRP, such as logical files) can be selected for modification, deletion, or recompilation.

Example 2: the linkage section of a COBOL program needs to be changed. The user would first select the program for modification. Then, the user would place an 'I' in front of the request record so that all of the objects that invoke the program can be selected for modification, deletion, or recompilation.

```

CMC120                               Source and Object Control          11/20/11
SCRN1                               Request Objects using File        07:10:24

Object: COHDRP      Type: *FILE      Appl: ACCT      Project: VAT      +
                   Attr: PF          Lvl: 10      RFP Nr.: _22371

Type options, press Enter.
D=Delete  M=Modify  R=Recompile  U=Update  S=View Source  5=View Request

Opt Object      Type      Attribute  Req'd By  Description
R COHDRL1      *FILE      LF        XYZ CO HDR file by costs
R COHDRL2      *FILE      LF        XYZ CO HDR file by cocst
R COHDRL3      *FILE      LF        XYZ CO HDR file by copsts
R CO001D      *FILE      DSPF      XYZ Customer Order Maint
R CO002D      *FILE      DSPF      XYZ Customer Order Browse
S CO002R      *PGM       RPG       XYZ Customer Order Browse
R CO003D      *FILE      DSPF      XYZ Customer Order Maint
D CO006D      *FILE      DSPF      XYZ Customer Order Print
R CO007P      *FILE      PRTF      XYZ Customer Order Print
                                   More...
F3=Exit  F4=Browse  F9=Dft Attribute  F13=Repeat Opt  F14=Repeat Attribute

```

This display lists all objects that somehow reference a selected file or invoke a selected object.

OPT

D=Delete - Delete the object and source for the object. When the promotion occurs that causes the deletion, the source or object is archived prior to deletion (if archiving is turned on for the level.) Any cross-reference information about the object is also removed at promotion time.

M=Modify - Modify the object (and source used to create object).

R=Recompile - Recompile an object from the existing source at the requested level. This can be requested even when work is in progress for the source.

U=Update - Update the existing object

S=View Source - View the source code for the object.

5=View Request - View the details of an already requested object.

Function Keys:

Enter=Confirm - Process the Request selections for the currently listed Application. If other Applications are linked to the Base Application and references to the Object are found, a list references for each Linked Application will be displayed. A separate RFP can be selected for each Application by changing the number at the upper right of the screen.

F3=Exit

F4=Browse

F9=Dft Attribute - Default Attribute will be set to be used for new objects with same system attribute.

F13=Repeat Opt - Repeat an option until end of list. For example, if 'R' was entered on the 4th line of the list and F13 was then pressed, lines 5 through the end would also have 'R' entered.

F14=Repeat Attribute - Repeat an attribute. Place cursor on line for attribute to be repeated and press F14. For every object with a matching object type, this attribute will be inserted.

L - Lock Object Request

The Option 'L' will lock a requested object so that other users are unable to install a different request of the same object. A lock will only be granted to the request if the object is not already locked by another request.

M - Merge Source Updates

The Option 'M' for checked out source provides the ability to compare and merge source code from another member.

Member Selection Fields:

Location

*LOCAL - the other member is located on the same system

Synchronization Location - The location of a remote system containing the other member

Source File

*TGTFIL - the source file name is identical to the name of the source file of the checked out member

Source File - The name of the source file containing the other member

Library

*TGTLIB - the source library name is identical to the name of the source library of the checked out member

Source Library - The name of the source library containing the other member

Member

*TGTMBR - the source member name is identical to the name of the checked out member

Source Member - The name of the other member

Compare/Merge Screen:

If the 2 members are identical, a message is returned stating this and the code is not displayed.

If they are different, the top half of the screen displays the checked out member and the bottom half displays the other member. The code will be positioned to the first difference between the 2 members and the difference will be highlighted.

Press F14 to merge all differences from the other member into the checked out member.

Press F15 to merge only the highlighted difference from the other member into the checked out member.

Press F16 to position the source code to the next difference

O - Object Replication Rules

This option is used to override the Add/Update rules for Object Replication for the specific object request.

The overrides travel with the object request to all target levels.

This option is only applicable for system/SQL objects. IFS and Remote objects are limited to template rules.

Any overrides will take effect for the object and given promotion level when an Object Replication Template is defined for the attribute at a level at RFP installation time. Any specific library rules will take effect when the Object Replication Template includes the library.

Usage example 1: by default, a number of template libraries are set to only update objects but not add new objects. However, this specific object should be added to those libraries. The general rule could be set to *ALL or left as *DFT and specific libraries could be added to the specific rules list.

Usage example 2: by default, the object is updated for all replication libraries, but for this object, certain libraries should retain the old version of the object. The rules could be set to generally not update except for certain libraries or to generally update except for certain libraries.

```

MDCTOOR          MD T 8.2 dev          3.08.20
SCRN1            Replication Rules for Object 12:25:38

Appl/Lvl: TEST 10 RFP:          Type: *FILE   Attribute: PF
Object..: MDAINV

General Rule . . *NOADD *DFT, *ALL, *NONE, *NOADD, *NOUPD

Specific Rules . Library *generic Incl/Omit
                  TEST80*      0
                  TEST8010R2   I
                  TEST8010R3   I
                  _____   I

F3=Exit  F4=Browse  F5=Refresh  F8=Templates  F10=Qualified Libraries  More...

```

This display lists the general and specific override rules for the object request.

General Rule

- *DFT - Library add and update rules are based on the rules defined in the Replication Template
- *ALL - object will generally be included for all replication libraries
- *NONE - object will generally be omitted for all replication libraries
- *NOADD - Library Add rule set to Omit. Library Update rule based on rule defined in the Replication Template
- *NOUPD - Library Update rule set to Omit. Library Add rule based on rule defined in the Replication Template

Specific Rule Library

The specific or generic library name to include/omit for replication. This rule will only apply for deployment to a target level if the template for that level's attribute also includes the library.

Hierarchical Logic to Determine if a Library will be included for replication at deployment time:

- Load the libraries from the Replication Template and set the Add/Update rules based on the template
- Override the Add/Update rules for the libraries in the work list based on the General Rule
- Override the Add/Update rules for the libraries in the work list based on generic libraries in the Specific Rules list
- Override the Add/Update rules for the libraries in the work list based on specific libraries in the Specific Rules list

F10=Qualified Libraries can be pressed to see the list of libraries that would be included for the object request for the current promotion level of the object request.

P - PDM/IFS-links

The Option 'P' will begin the Work with Members[or Objects] Using PDM display for the specific source member or, for the specific object (when source is not applicable).

This option is valid as long as the source/object is requested for modification and has not yet been submitted for installation.

For IFS objects, the Work with Object Links display is presented.

Q - Trace Request

The Option 'Q' will list the route that an object request has taken as it is deployed to various levels across all partitions. The data includes the date/time of the event as well as the RFP number and user.

The steps listed will include:

- all steps up to the request for the selected level
- all steps for the request after the selected level on the same partition
- if the partition is designated as an MDWorkflow location, then all steps taken on other partitions where data syncing back to this partition is defined.

The possible Step values are:

REQ - The object request is created

RCV - The object request is received from another partition or level

INST - The request is installed into the level

DEL - The request is manually deleted

REPL - The object request has been replaced by a newer object request, either through the installation of a follow-up RFP into the prior level, or by the merge of multiple RFPs.

R - Remove Object from RFP

An entry of 'R' will remove the assigned RFP number from the object. This is only allowed if the Status of the request record is currently '01', which means that the request has been assigned a promotion number that is not yet in progress. A confirmation screen is displayed before the RFP number is removed.

S - View/Edit Source

Option 'S' will open the IBM editor for the source based on the type and attribute of the source.

For IFS - The Stream file editor will be opened

For Message Descriptions, S will start a WRKMSGF session for the file that the message description resides in.

For Source Members, the Source Entry Utility (SEU) is invoked for the editor based on the source member attribute.

A user may edit the source if it is requested for modification by that user and if the request is for a level flagged as a Check-out level. Otherwise, the user will only be allowed to view the contents of the source.

U - Unlock Object Request

The Option 'U' will unlock a locked object request, which allows another user to request the same object.

V - Version Conflict Resolution

This option is used to manage resolution of objects belonging to multiple versions of the same Application. Conflict Resolution is automatically prompted for an object when it is checked out for New, Modify or Delete from a level that other levels are based on. In the case of Modify or Delete, the prompt is only given when the object also exists in at least one of the dependant levels.

Since Resolution may not be possible immediately when an object is checked out, or to view/change the status of Resolution, it can be managed at any time by using option V for an object showing a Resolution Status in Object Manager or by using option V for an RFP to see all relevant objects in the RFP in one view.

CMC175	COMPANY NAME										17.03.15
SCRN1	Version Conflict Resolution										20:58:07
Appl: TEST Lvl: 30 RFP: 2000018 Plex import											
Auto-Gen/Assign RFP: Y Y/N											
Type options, press Enter.											
5=Details B=Bind C=Clr D=Delete I=Ignore L=Ignore Lvl M=Modify R=Recomp											
U=Update											
Opt	Object	Type	Rsn	Status	Ins	Obj	Src	Request			RFP
-	MDAPAR	*FILE	M	Open	31	31	31	PF	N	N	
-	MDAPAR	*FILE	M	Reslvd	32	32	32	PF	Y	Y	M 2000024
Bottom											
F3=Exit F5=Refresh F13=Repeat Opt											

This display lists all objects that somehow reference a selected file or invoke a selected object.

OPT

5=Details - View extensive details about this request and the Object in the depending version

B=Bind - Resolve the conflict by binding this request to an existing request for the depending version

C=Clr - Clear the Resolution Status, which returns the status to Open

D=Delete - Request to Delete the Object in the depending version. MDCMS automatically binds the new Delete request to this request and sets the status to Resolved.

I=Ignore - Ignore the Conflict between this Object and the depending version for entire migration path. MDSEC authority to code 36 for application required.

L=Ignore Lvl - Ignore the Conflict between this Object and the depending version for this level only. Status will return to Open for next level in migration path. MDSEC authority to code 36 for application required.

M=Modify - Request to Modify the Object in the depending version. MDCMS automatically binds the new Modify request to this request and sets the status to Resolved.

R=Recomp - Request to Recompile the Object in the depending version. MDCMS automatically binds the new Recompile request to this request and sets the status to Resolved.

U=Update - Request to Update the Object in the depending version. MDCMS automatically binds the new Update request to this request and sets the status to Resolved.

Auto-Gen/Assign RFP

When an object for a depending version is requested for Modify, Delete, Recompile or Update, it can be automatically assigned to an RFP for that level with the same description as the RFP description as this request. If an open RFP for the level and description is not found, it is automatically created. This is only applicable if this request is assigned to an RFP.

Status

Ignore - Conflict ignored between this object and the depending version of the object and will continue to be ignored throughout the migration path.

Tmplgn - Conflict ignored between this object and the depending version of the object, but will be reset to Open status at next level.

Open - Conflict Resolution has not yet occurred for this version. If the Level requires resolution, the RFP cannot be submitted until Resolution occurs.

Reslvd - Conflict Resolution is completed for this version.

Ins Lvl

The level number of the other version

Obj Lvl

The level number where the object for the other version was found. MDCMS first searches in that level, then in the chain for that level, then in the chain of levels it is based on. This helps to indicate if the object already exists for that version when delta levels are used.

Src Lvl

The level number where the source for the other version was found. MDCMS first searches in that level, then in the chain for that level, then in the chain of levels it is based on. This helps to indicate if the object already exists for that version when delta levels are used.

Attribute

The MDCMS attribute for the object

Request Fnd

If an active request for the object in the depending level already exists.

Request Bnd

If an active request for the object is bound to this request

Function Keys:

F3=Exit

F13=Repeat Opt - Repeat an option until end of list. For example, if 'R' was entered on the 4th line of the list and F13 was then pressed, lines 5 through the end would also have 'R' entered.

X - MDXREF Information

The Option 'X' will result in directly navigating to the MDXREF Cross-Reference screen with the search criteria pre-filled with the object name, application and level.

Y - Synon/2E Model List

If MDCMS is configured to migrate objects from Synon/2E models, Option Y will appear that can be used to view/work with checked out objects in the Synon/2E model list for the user.

See the PDF document MDCMS_SYNON-2E_Interface_Manual for further information and instructions.

1.2.6 MDADDREQ - Generate Object Request Records command

MDCMS is delivered with a command-based API that allows external tools or applications to create Object Requests within MDCMS.

The MDCMS command is named **MDADDREQ** and is located in library MDCMS. It is not necessary to have the MD libraries in the library list prior to using this command. If you are unable to invoke a command from your tool, you can also directly call program **MDADDREQ** in library MDCMS. In this case, be certain that the parameter order and formats sent to the program exactly match the parameters in command MDADDREQ.

All MDADDREQ API transactions are logged to file MDCMS/MDDAREQ.

MDADDREQ Parameter Table

Name	Type	Length	Description
KEYWORD	Description	Type	Length
APPL	Application	CHAR	6
LVL	Level	INTEGER	3
OBJT	Object Type	CHAR	7
ATTR	MDCMS Attribute	CHAR	10
OBJN	Object Name	CHAR	128
RPTH	Object Relative Path	CHAR	240
SRCN	Source Name	CHAR	128
RSN	Request Reason	CHAR	10
USER	Programmer	CHAR	10
FOLB	From Object Library	CHAR	240
FSLB	From Source Library	CHAR	240
FSFL	From Source File	CHAR	10
COPY	Copy from Env	CHAR	4
PROJ	Project	CHAR	12
TASK	Task	INTEGER	7
STSK	Subtask	INTEGER	7
ARFP	Assign RFP	CHAR	4
RFP	RFP Number	INTEGER	7
RFPD	RFP Description	CHAR	160
CREQ	Create Requests for Next Level	CHAR	4
AREQ	Assign RFP to Next Level Reqs	CHAR	7
SREQ	Place RFP in Send List	CHAR	7
LOCK	Lock Request	CHAR	4
CSQO	Compile Subsequence	INTEGER	5
DATA	Data Origin	CHAR	60
DMBR	Data Member to Copy	CHAR	10
RPGM	Use MDRapid	CHAR	10
RJRN	Reapply Journals	CHAR	4
RCST	Reapply Constraints	CHAR	4
RTRG	Reapply Triggers	CHAR	4
RLFM	Reapply LF Members	CHAR	4
DIR	Is IFS Directory	CHAR	4
ENV	MDCMS Environment ID	CHAR	4
VREF	Vendor Reference ID	CHAR	20

Name	Type	Length	Description
EMSG	Exception Message	CHAR	7

Detailed Description of MDADDREQ Parameters

Application (APPL)

The target MDCMS Application code for the request

This is a required parameter.

Level (LVL)

The target MDCMS Promotion Level for the request that allows check-outs

This is a required parameter.

Object Type (OBJT)

The System or MDCMS Object Type code for the Object. For example: *PGM for a program or *IFS for an IFS file.

This is a required parameter.

MDCMS Attribute (ATTR)

The MDCMS Attribute code that identifies the behaviour and target locations for the requested object.

This is a required parameter.

Object Name (OBJN)

The name of the Object to be requested.

For *SOURCE, this would be the name of the member

For *MSGD, this would be the name of the Message ID

For *DTAGRP, this would be the value of the record key(s)

This is a required parameter.

Relative Path (RPTH)

Specifies the relative portion of an IFS path, starting with /, that will be deployed with the object.

For example, if the *IFS attribute has a target fixed directory defined as /srv/dev and this object should be deployed to /srv/dev/app1/dist, then the value of RPTH should be /app1/dist.

Member/IFS File Name (SRCN)

Specifies the name of the Source Member or IFS Source File to be requested. This parameter is ignored if attribute defined as having no source.

*OBJ - The name of the source is the same as the name of the object

Request Reason (RSN)

The reason for the object request

*MIGRATE - a source and/or object will be migrated into the selected application level

*DELETE - an existing object will be deleted

*RECOMPILE - an object will be recompiled based on the currently active source for that environment without the source being modified

*UPDATE - this is intended for ILE programs to bind the current modules and service programs to the program. A U command (such as CHGPGM) must be defined for the attribute.

Programmer (USER)

Specifies the user profile to be indicated as the programmer for the request. If this command generates an RFP, the owner of the RFP will also be this user

*USER - the current user profile of the job invoking this command is the user

From Object Library/Path (FOLB)

Specifies the library or IFS path that contains the object to be migrated to the specified level. The library should be a developer or team library that is not managed by MDCMS.

If the attribute contains source only, then enter the library/path containing the source.

If the object resides in IFS, provide the entire directory path starting with /.

*USER - the library name is the same as the user defined for parameter USER

From Source Library/Path (FSLB)

Specifies the library or IFS path that contains the source for the object that is to be migrated to the specified level. The library should be a developer or team library that is not managed by MDCMS. This parameter is ignored if attribute is defined as having no source.

*OBJLIB - the library containing the source is the same library that contains the object

From Source File (FSFL)

Specifies the source file containing the source member to be migrated. This parameter is ignored if attribute defined as having no source.

*ATR - the Source File to migrate from has the same name as the source file defined for the attribute.

Copy Source/Object from Env (COPY)

Specifies if the source or object should be copied from the target environment to the library from which to be migrated from. This parameter is only considered for Reason *MIGRATE.

If the attribute defines a source and object location, only the source will be copied.

If the source or object already exists in the From Library, it will not be replaced by the source or object in the target environment.

*NO - the Source or Object will be manually placed in the From Library prior to migration.

*YES - MDCMS will copy the Source or Object from the Target Environment to the From Library, if it doesn't already exist in the From Library.

Project (PROJ)

Specifies the Project to assign to the Request. The project, if entered, must already exist and be in an open status. If the project is not yet authorized, then the user must have MDSEC authority to authorize the Project and then MDCMS will do so automatically.

Task (TASK)

Specifies the Project Task to attribute to the Request. The task, if entered, must already exist and be in an open status.

Subtask (STSK)

Specifies the Subtask to attribute to the Request. The Subtask, if entered, must already exist and be in an open status.

Assign Request to RFP (ARFP)

Specifies if the request should be immediately assigned to an RFP and the method of determining the RFP.

***NO** - The request will be created without being assigned to an RFP

***YES** - The request will be assigned to the RFP number based on parameter RFP

***AUTO** - MDCMS searches for an open RFP matching the Application, Level, User and Description values entered for this command. If an RFP is found the Request will be assigned to that RFP. If an RFP is not found, a new RFP will be created.

***NEW** - A new RFP will be created for the Application, Level, User and Description values entered for this command.

Existing RFP Number (RFP)

Specifies the RFP to assign to the Request. Will only be used if parameter ARFP is set to ***YES**.

RFP Description (RFPD)

The description to be used for a new RFP or to search for an existing RFP. Will only be used if parameter ARFP is ***AUTO** or ***NEW**.

Create Requests for Next Level (CREQ)

If a level exists to migrate after this target level, this parameter specifies if the object requests should be generated for that level once this level's RFP is complete. This parameter will only be applied to the RFP if it is created during the processing of this command.

***YES** - Requests for the next level will be generated upon completion of the RFP into this level.

***NO** - Requests for the next level will not be generated.

Assign RFP to Next Level Reqs (AREQ)

If a level exists to migrate after this target level, this parameter specifies if the generated object requests should be assigned to an RFP. This parameter will only be applied to the RFP if it is created during the processing of this command.

***YES** - Requests for the next level will be assigned to a new RFP number with the same description as this RFP's number.

***NO** - No, requests for the next level will not be assigned to a new RFP.

***MANUAL** - Requests for the next level will be assigned to a new RFP, but the RFP will not be automatically submitted, even if the next level is set to automatically submit RFPs by default.

Place RFP in Send List (SREQ)

If distribution levels are defined for this level, this parameter specifies if the RFP should be placed in the Send List. This parameter will only be applied to the RFP if it is created during the processing of this command.

***YES** - The RFP will be placed in the send list upon completion of the installation.

***NO** - The RFP will not be placed in the send list.

***MANUAL** - The RFP will be placed in the send list, but the RFP will not be automatically sent, even if the level is set to automatically send RFPs by default.

Lock Request (LOCK)

Specifies whether or not the Request will be placed in Locked status

***YES** - The Source/Object will be locked for check-out by this request. The Source or Object may not already be locked by another request for this Request to be created.

***NO** - The Request will be created in Unlocked status. Other requests for the same Source or Object may exist.

Compile Subsequence (CSQO)

Specifies the sequence for compiling (lowest first) for objects in same RFP that have the same primary sort sequence in order to handle potential dependency issues. This parameter is not relevant for ***IFS** Objects.

Data Origin for Physical Files or SQL Tables (DATA)

Specifies the origin of the data that should be copied into a new or modified physical file/SQL Table

***SAME** - The data is mapped from the old format of the modified file to the new format of the file of the same name/target library.

***MIGRATE** - The data is migrated with the file from the check-out location to the target library.

***NONE** - The data is not migrated. The new file format will be empty. ***NONE** is required for a logical file if it is replacing a physical file.

character-value - Specify the name of the file from which to migrate the data. The data origin file must exist in the same library as the target file at the time of installation.

Data Member to Copy (DMBR)

Specifies the member(s) to copy to the new version of a physical file/SQL Table or to migrate from the prior environment.

***ALL** - All existing members are included for the copy. If the target is an SQL Table, only the first member will be copied.

***FIRST** - The first member in the originating file is copied. Any other members are omitted.

character-value - The name of the specific member to be copied from the originating file. Any other members are omitted.

Use MDRapid (RPGM)

Specifies if MDRapid should be used to map the data from the old version of a file to the new version.

***DEF** - MDRapid will be used for modify and recompile requests if the number of records in the file is at least the number in the MDRapid template for the attribute. Otherwise not.

***YES** - MDRapid will be used for the file, even if it wouldn't qualify for MDRapid processing or is for an update request.

***NO** - MDRapid will not be used for the file, even if it would qualify for MDRapid processing.

Automatically Reapply Journaling (RJRN)

Specifies if the new version of a table or access path should have the journaling attributes applied to it that belonged to the file that it replaced.

***DEF** - The default defined for the Application is used

***YES** - If journaling was used on the prior version of the file, it will be applied to the new version.

***NO** - Journaling will not be automatically reapplied. Commands run during the installation, or external processes, will determine the definition.

Automatically Reapply Constraints (RCST)

Specifies if the new version of a table should have the constraints applied to it that belonged to the table that it replaced.

***DEF** - The default defined for the Application is used

***YES** - If constraints were used for the prior version of the table, they will be applied to the new version.

***NO** - Constraints will not be automatically reapplied. Commands run during the installation, or external processes, will determine the definition.

Automatically Reapply Triggers (RTRG)

Specifies if the new version of a table should have the system (non-SQL) triggers applied to it that belonged to the table that it replaced.

***DEF** - The default defined for the Application is used

***YES** - If SQL triggers were used for the prior version of the table, they will be applied to the new version. Any SQL triggers that should be re-applied should be requested for recompile and placed on same RFP as the file.

*NO - Triggers will not be automatically reapplied. Commands run during the installation, or external processes, will determine the definition.

Automatically Reapply Logical File Members (RLFM)

Specifies if the new version of a logical file should have the members added to it that belonged to the logical file that it replaced.

*DEF - The default defined for the Application is used

*YES - Any members that existed for the prior version of the logical file will be added to the new version.

*NO - Members will not be automatically reapplied. Commands run during the installation, or external processes, will determine the definition.

IFS Object is a Directory (DIR)

Specifies whether or not the Request of an object of type *IFS is a directory.

*NO - The Requested Object is not an IFS Directory

*YES - The Requested Object is an IFS Directory

Environment ID (ENV)

Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST.

*DEF - The default environment will be used. This correlates to library MDCMS.

*CUR - The environment currently in the library list will be used

Vendor Reference ID (VREF)

Specifies the Vendor Generated Identifier in order for an external process to easily identify the transaction record in the MDDAREQ table. Any value up to 20 characters in length can be used.

Exception Message Returned (EMSG)

Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail.

*DIAG - A diagnostic message will be placed in the calling program's message queue in the following format:

MDADDREQ Exception. Object=, Vendor Reference=, Reason=

If the Vendor Reference isn't passed to MDADDREQ, it won't be included in the diagnostic message.

*ESCAPE - The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor.

*NONE - An exception message will not be returned to the calling program's message queue.

MDDAREQ EXAMPLE for invoking API and retrieving exception details

This example is a snippet of CL source that tries to create a new request for an SQL Table and add the request to an auto-generated RFP based on the description. The CL then monitors for an exception and retrieves the details of the exception for the diagnostic message.

```
DCL VAR(&KEY) TYPE(*CHAR) LEN(4)
```

```
DCL VAR(&MSG) TYPE(*CHAR) LEN(132)
```

```
MDADDREQ APPL(TEST) LVL(10) OBJT(*SQLTAB) ATTR(SQLTABIFS) +
```

```
OBJN('CUSTOMER_TABLE') SRCN('CUSTOMER_TABLE.sql') +
```

```
USER(MMORGAN) FSLB('/home/mmorgan/source') PROJ(MODERNIZE) +  
ARFP(*AUTO) RFPD('modernize customer table') DATA(CUSTTAB) +  
VREF(A123CX) EMSG(*ESCAPE) EMSG(*ESCAPE)  
MONMSG MSGID(CPF0001) EXEC(DO)  
RCVMSG MSGTYPE(*LAST) RMV(*NO) KEYVAR(&KEY)  
RCVMSG MSGTYPE(*PRV) MSGKEY(&KEY) RMV(*NO) KEYVAR(&KEY) MSG(&MSG)  
ENDDO
```

1.2.7 MDADDCMD - Add MDCMS Command command

MDCMS is delivered with a command-based API that allows external tools or applications to add commands to the MDCMS configuration for specific object requests, future object requests, attributes, any RFP for a level or for a specific RFP.

If successful, the additional command will be visible in the appropriate location based on the context and will run at the point in the process dictated by the Command Type.

The MDCMS command is named **MDADDCMD** and is located in library MDCMS. It is not necessary to have the MD libraries in the library list prior to using this command.

All MDADDCMD API transactions are logged to file MDCMS/MDDACMD.

If trying to add a command to an object request, the APPL, LVL, OBJT, ATTR, OBJN and USER values must be identical. The RPTH, RFP, RFPD or REQN parameters can be used to uniquely identify the request in case multiple requests for the same object name and type could exist.

MDADDCMD Parameter Table

Column 1	Column 2	Column 3
KEYWORD	Label	Description
APPL	Application	The application code for the application that the command will be added to
LVL	Level	The MDCMS Promotion Level within the application
CMD	Command	The command string to be added. The string may be up to 640 characters in length. Note - it is recommended to avoid using hardcoded library names in the string. Instead, use placeholder ##OBJLIB##.
CMDC	Command Context	Specifies the context for the command, as in which level in the configuration hierarchy that the command should be added. *OBJECT The command is added to a specific object *ATTRIBUTE The command is for an object attribute, such that it will be executed for any object request of the given attribute, unless overridden by an object-level command. *LVLRFP The command is executed once per RFP for the given level. The command can be viewed/edited from within attribute commands for attribute *RFP. *SPECRFP The command is added to a specific RFP number.
CMDT	Command Type	The Command Type, which specifies at which point in the deployment process that the command is invoked. If not specified, the default of C=Compile is used.
OBJT	Object Type	The object type for the application, level and attribute. For example: *PGM for a program or *IFS for an IFS file. Only relevant for *OBJECT and *ATTRIBUTE command contexts.
ATTR	MDCMS Attribute	An existing Attribute code for the application level. Only relevant for *OBJECT and *ATTRIBUTE command contexts.
OBJN	Object Name	A valid Object name based on the Object Type. For *SOURCE, this would be the name of the member For *MSGD, this would be the name of the Message ID For *DTAGRP, this would be the value of the record key(s) Only relevant for *OBJECT and *ATTRIBUTE command contexts.
CMDO	Command Option	The Command Option determines what should happen to any commands that are already defined for the same context and command type. Note - Only one Data Copy command is permitted per Object. All other types allow up to 999 commands. *ADD The command will be appended to the end of the list of commands that will run for the context and command type, so that the command runs after any already defined command. *REPLACE The command will replace any commands already defined for the context and command type. Commands defined for a different command type will not be removed.
IGNE	Ignore Errors	Specifies if the RFP process should continue if an error occurs during the execution of the Object command. Note - certain command errors are automatically ignored because the exit point is outside the scope of an RFP in the process of installation. A warning will be

Column 1	Column 2	Column 3
		generated, though. *YES any error that occurs will cause a warning condition to occur, but the RFP will continue with the deployment process. *NO MDCMS will end processing and roll back the RFP to the state it was in prior to beginning of the deployment step.
KEEP	Keep MD Libs in Libl	Specifies if the MD libraries (MDCMS, MDXREF, and MDSEC) should remain in the library list during the execution of the command. *NO the libraries will be removed from the library list to avoid allocation of MD objects that are named the same as objects in your application. *YES The libraries will remain in the library list, which is important if the command is an MD command.
REUS	Reuse Command	Specifies if the command should automatically reattach to the object the next time that the object is requested for the same application and level. This parameter is only relevant for context *OBJECT *YES The command should be reused for future versions of the object *NO The command is to be used this time only *DEF The command is only to be applied as a definition for future requests of the object and shouldn't be applied to a current object request. The definition can be viewed/edited from the Object Commands settings.
WCRD	Placeholders in SQL Script	Specifies if MDCMS should inspect the SQL script for placeholders and replace them with the runtime execution values. This flag is relevant when the command RUNSQLSTM is used and the SQL script is stored in either a source member or in an IFS file. *NO The script doesn't contain placeholders or the command isn't RUNSQLSTM *YES The RUNSQLSTM command is defined and placeholders need to be replaced in the script.
RLOC	Location to Run Command	Specifies which locations the command should be on, at the time that an RFP containing the command runs at that location. *ALL The command should run at every location that the RFP containing the command deploys to. *LOCAL The command should only run on this system and will not be distributed to other locations. *LOCLVL The command should only run on this system for this level and nowhere else. *REMOTE The command should not run on this system, but should for every system that the RFP is distributed to. location The Location ID of a specific system that the command should run on when the RFP is deployed on that system. Note: this parameter is only relevant for *OBJECT and *SPECRFP contexts

Column 1	Column 2	Column 3
RUSR	Run as User Profile	Specifies the user profile to use when executing the command. *USER the user profile of the job that is running at the time that the command is executed. character-value a valid User Profile name. The profile will be saved with the command definition only if *USE authority is enabled for the invoker of MDADDCMD.
USER	Programmer	Specifies the user profile to whom the object request is assigned *USER the current user profile of the job invoking this command is the user character-value a valid User Profile name. The command will only be attached to the object if the request user is that same value. Note: this parameter is only relevant the *OBJECT context
RPTH	Object Relative Path	Specifies the relative portion of an IFS or REMOTE path for the object. This is in case multiple objects of the same name are in different folders, so that MDCMS can add the command to the appropriate object. This is only relevant for the *OBJECT command context.
RFP	Existing RFP Number	Specifies the RFP that the Object Request is assigned to, in case multiple objects of the same name are currently requested at the same level. Or, the specific RFP for a command to be added directly to an RFP.
RFPD	RFP Description	Specifies the description of the RFP that the Object is currently assigned to, in case multiple objects of the same name are currently requested at the same level. Or, for adding a command directly to an RFP.
REQN	Request Number	The Request Number to uniquely identify the Object to add the command to, if known.
MOD	Run for Modifications	If command is for an attribute, it can be selectively run or not when an object of the given attribute is requested for Modification. This includes when the request reason is for a new object. *YES The command should be run when an object is requested for Modification *NO The command should be skipped when an object is requested for Modification
RCMP	Run for Recompiles	If command is for an attribute, it can be selectively run or not when an object of the given attribute is requested for Recompile. *YES The command should be run when an object is requested for Recompile *NO The command should be skipped when an object is requested for Recompile
DEL	Run for Deletions	If command is for an attribute, it can be selectively run or not when an object of the given attribute is requested for Deletion. *YES The command should be run when an object is requested for Deletion.

Column 1	Column 2	Column 3
		*NO The command should be skipped when an object is requested for Deletion.
UPD	Run for Updates	If command is for an attribute, it can be selectively run or not when an object of the given attribute is requested for Update. *YES The command should be run when an object is requested for Update. *NO The command should be skipped when an object is requested for Update.
FREQ	Execution Frequency	Depending on the Command Context, options are available for the frequency that a specific command is executed for an RFP. *OBJECT If adding a command to an attribute, *OBJECT indicates that the command should run once for every object in the RFP of the given attribute. This value is ignored for other command contexts. *RFP If adding a command to an attribute, *RFP indicates that the command should run once for an RFP if at least one object is requested in the RFP for the given attribute. If multiple objects of the given attribute are in the RFP, it will only run for the first object, based on the sort sequence of the objects. This value is ignored for other command contexts. *BATCH If adding a command of command type 5 (Pre-Send), 6 (Post-Send) or 7 (Send Error), the value of *BATCH indicates that the command will be executed once per Send of a batch of locations. This value is ignored for other command contexts. *LOC If adding a command of command type 5 (Pre-Send), 6 (Post-Send) or 7 (Send Error), the value of *LOC indicates that the command will be executed once for every target location/level in the batch of a Send process. This value is ignored for other command contexts.
ENV	MDCMS Environment ID	Specifies the MDCMS environment that the Object Request exists in. The ID correlates to the suffix of the MDCMS library name. *DFT The default environment will be used. This correlates to library MDCMS. character-value A specific environment for MDCMS. For example, TEST correlates to library MDCMSTEST.
VREF	Vendor Reference ID	Specifies the Vendor Generated Identifier in order for an external process to easily identify the transaction record in the MDDACMD table. character-value A string of up to 20 characters used to identify this transaction
EMSG	Exception Message	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the add of the request to fail. *DIAG A diagnostic message will be placed in the calling program's message queue in the following format:

Column 1	Column 2	Column 3
		MDADDCMD Exception. Object=, Vendor Reference=, Reason= If not for *OBJECT context, the object won't be in the message If the Vendor Reference isn't passed to MDADDCMD, it won't be included in the diagnostic message. *ESCAPE The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE An exception message will not be returned to the calling program's message queue. .

1.2.8 MDADDORR - Add Replication Rules to Object Request command

MDCMS is delivered with a command-based API that allows external tools or applications to add object-level replication rules to existing Object Requests within MDCMS.

The MDCMS command is named **MDADDORR** and is located in library MDCMS. It is not necessary to have the MD libraries in the library list prior to using this command.

All MDADDORR API transactions are logged to file MDCMS/MDDAORR.

To match the rules to the object request, the APPL, LVL, OBJT, ATTR, OBJN and USER values must be identical. The RFP, RFPD or REQN parameters can be used to uniquely identify the request in case multiple requests for the same object name and type could exist. Also, the matched Object Request must be in status '00' or '01' and the Object Type must be for objects residing in libraries.

MDADDORR Parameter Table

Name	Type	Length	Description
KEYWORD	Description	Type	Length
APPL	The MDCMS Application code for the request	CHAR	6
LVL	The MDCMS Promotion Level for the request	INTEGER	3
OBJT	The System or MDCMS Object Type code for the request	CHAR	7
OBJA	The MDCMS Attribute that the existing Object Request is assigned to	CHAR	10
OBJN	The name of the Object that the replication rules should be added to	CHAR	128
USER	Specifies the user profile to whom the object request is assigned. *USER - the job user is the assigned user	CHAR	10
GENR	The general rule to apply to libraries defined in the Object Replication Template that is applied to the object request's attribute for a given application level. Any libraries listed in the specific rules take precedence over the general rules. *DFT - The add and update rules defined on the template will be used *ALL - replicate to every library listed for a template unless omitted by a specific rule *NONE - ignore every library listed for a template unless included by a specific rule *NOADD - ignore every library listed for a template if the object doesn't already exist in the library, unless included by a specific rule *NOUPD - ignore every library listed for a template if the object already exists in the library, unless included by a specific rule	CHAR	6
SPCR	A list of up to 80 specific rules to add or remove from the list for a specific object request. Each rule consists of 2 elements: Library - the name of a specific library, or *generic* name for any libraries matching the name pattern. The rule to apply is prioritized by specific library, then generic library and finally general rule. Option *INCLUDE - Include the library or libraries for replication *OMIT - Exclude the library or libraries for replication *REMOVE - Remove the specific rule for the library or libraries from the list. The general rule will apply instead for the library or libraries.	0 to 80 entries of CHAR(10) + CHAR(8)	2000
RFP	Specifies the RFP that the Object Request is assigned to. This is in case multiple objects of the same name are currently requested at the same level.	INTEGER	7
RFPD	Specifies the description of the RFP that the Object is currently assigned to. This is in case multiple objects of the same name are currently requested at the same level.	CHAR	160
REQN	The Request Number to uniquely identify the Object to add the rules to, if known.	INTEGER	11
ENV	MDCMS Environment ID *CUR - same MDCMS instance as current library list *DFT - the default MDCMS instance (no suffix)	CHAR	4
VREF	Specifies the Vendor Generated Identifier in order for an external process to easily identify the transaction record in the MDDAORR table.	CHAR	20
EMSG	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when	CHAR	7

Name	Type	Length	Description
	an input parameter value is invalid, causing the execution to fail. *DIAG - A diagnostic message will be placed in the calling program's message queue in the following format: MDADDORR Exception. Object=, Vendor Reference=, Reason= If the Vendor Reference isn't passed to MDADDORR, it won't be included in the diagnostic message. *ESCAPE - The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE - An exception message will not be returned to the calling program's message queue.		

1.2.9 MDCRTOBJ - Create Object in Dev Library command

MDCMS is delivered with a command-based API that provides external tools or applications the ability to create an object in the Developer Library for currently checked out source.

When invoked, MDCMS uses either the current library list or the library list defined for the job description of the request's Application and Level.

Optionally, the developer library itself can be included at the top of the library list when depending on other checked out objects that have already been created.

The creation process uses the pre-compile and compile commands defined for the Object or Attribute so that the developer is certain that the result mirrors what would occur during the actual submission of the request in an RFP.

In the case of SQL Constraints or SQL Triggers, the pre-compile and post-install commands are used to create the entity, since these types use Post-Install commands rather than Compile commands.

The MDCMS command is named **MDCRTOBJ** and is located in library MDCMS. It is not necessary to have the MD libraries in the library list prior to using this command. If you are unable to invoke a command from your tool, you can also directly call program **MDLCRTO** in library MDCMS. In this case, be certain that the parameter order and formats sent to the program exactly match the parameters in command MDCRTOBJ.

All MDCRTOBJ API transactions are logged to file MDCMS/MDDCRTO.

To find the object request, the APPL, LVL, OBJT, ATTR, OBJN and USER values must be identical. The RFP, RFPD or REQN parameters can be used to uniquely identify the request in case multiple requests for the same object name and type could exist.

MDCRTOBJ Parameter Table

Name	Type	Length	Description
KEYWORD	Description	Type	Length
APPL	Application	CHAR	6
LVL	Level	INTEGER	3
OBJT	Object Type	CHAR	7
ATTR	MDCMS Attribute	CHAR	10
OBJN	Object Name	CHAR	128
USER	Programmer	CHAR	10
LIBL	Library List	CHAR	8
INCL	Include Dev Lib in LIBL	CHAR	4
REPL	Replace existing Object	CHAR	4
RFP	RFP Number	INTEGER	7
RFPD	RFP Description	CHAR	160
REQN	Object Request Number	INTEGER	11
ENV	MDCMS Environment ID	CHAR	4
VREF	Vendor Reference ID	CHAR	20
EMSG	Exception Message	CHAR	7

Detailed Description of MDCRTOBJ Parameters**Application (APPL)**

The target MDCMS Application code for the request

This is a required parameter.

Level (LVL)

The target MDCMS Promotion Level for the request that allows check-outs

This is a required parameter.

Object Type (OBJT)

The System or MDCMS Object Type code for the Object. For example: *PGM for a program or *IFS for an IFS file.

This is a required parameter.

MDCMS Attribute (ATTR)

The MDCMS Attribute code that identifies the behaviour and target locations for the requested object.

This is a required parameter.

Object Name (OBJN)

The name of the requested Object.

This is a required parameter.

Programmer (USER)

Specifies the user profile assigned to the existing request.

*USER - the current user profile of the job invoking this command is the user

Library List (LIBL)

Specifies the library list to use during the creation process.

*JOB~~D~~ - the library list of the job description for the Application Level will be used

*CURRENT - the current library list for the job will be used

Include Dev Lib in LIBL (INCL)

Specifies if the developer library should be placed at the top of the library list to use any objects it is dependent on that have already been created.

*YES - the compile-time library list will include the developer library at the top.

*NO - the developer library won't be added to the top of the list

Replace Existing Object (REPL)

Specifies if the prior version of the object should be replaced, if it already exists.

*YES - an existing object will be replaced

*NO - MDCMS will not replace the object if it exists, and will generate an exception message.

Existing RFP Number (RFP)

Specifies the RFP assigned to the Request.

This is optional and is only used to help uniquely identify the object request

RFP Description (RFPD)

The description used for the RFP assigned to the object request.

This is optional and is only used to help uniquely identify the object request

Object Request Number (REQN)

The internal request number of the object request, which can be retrieved from the MDDAREQ log, if MDADDREQ was used to add the request.

This is optional and is only used to help uniquely identify the object request

Environment ID (ENV)

Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST.

*DEF - The default environment will be used. This correlates to library MDCMS.

*CUR - The environment currently in the library list will be used

Vendor Reference ID (VREF)

Specifies the Vendor Generated Identifier in order for an external process to easily identify the transaction record in the MDCRTO table. Any value up to 20 characters in length can be used.

Exception Message Returned (EMSG)

Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail.

*DIAG - A diagnostic message will be placed in the calling program's message queue in the following format:

MDCRTOBJ Exception. Object=, Vendor Reference=, Reason=

If the Vendor Reference isn't passed to MDCRTOBJ, it won't be included in the diagnostic message.

*ESCAPE - The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor.

*NONE - An exception message will not be returned to the calling program's message queue.

1.2.10 MDOBJRPT - Run MD Object Request Report command

MDCMS is delivered with a command-based API that creates a report of all object requests for specific filters. The report is available in the Report Output screen and can additionally be exported via email or copied to an IFS folder, spooled file or Database file.

The list will be of active object requests, unless an RFP value is provided and the RFP is already installed.

MDOBJRPT Parameter Table

Name	Type	Length	Description
KEYWORD	Description	Type	Length
APPL	Application - will be filtered to a specific application If provided	CHAR	6
LVL	Level - will be filtered to a specific level if provided	INTEGER	3
RFP	RFP Number - will be filtered to a specific RFP if provided	INTEGER	7
PROJ	Project ID - will be filtered to a specific Project if provided	CHAR	12
TASK	Task Number - will be filtered to a specific Task number if provided	INTEGER	7
STSK	Subtask Number - will be filtered to a specific Subtask number if provided	INTEGER	7
USER	Programmer - will be filtered to object requests assigned to a specific user ID if provided	CHAR	10
ENV	MDCMS Environment ID *CUR - same MDCMS instance as current library list *DFT - the default MDCMS instance (no suffix)	CHAR	5
PRINT	Print result to spooled file *NO / *YES	CHAR	4
COPY	Copy result to physical file *NO / *YES	CHAR	4
EXPORT	Export result to IFS file *NO / *YES	CHAR	4
EMAIL	Email result *NO / *YES	CHAR	4
CPYF	Copy to Physical File - the name of the file to copy the results to, when COPY = *YES	CHAR	10
CPYL	Copy to Library - the name of the library to copy the results to, when COPY = *YES	CHAR	10
IFSF	Export to filename - the name of the IFS file when EXPORT = *YES or the name of the file attached to the email when EMAIL = *YES	CHAR	60
APPTS	Append Timestamp to filename *NO / *YES	CHAR	4
IFSD	Export to directory - the path of the folder to place the IFS file in, when EXPORT = *YES	CHAR	80
RPTFMT	Report Format - the format of an exported or emailed report. Either CSV, PDF, TXT or XLSX	CHAR	4
CSVDEL	CSV delimiter when report format is CSV	CHAR	1
EADR	Address to receive Email, when EMAIL = *YES	CHAR	60
EUSR	User ID to receive Email, when EMAIL = *YES. Address stored in MDSEC for user will be used	CHAR	10
EGRP	Group to receive Email, when EMAIL = *YES	CHAR	10

1.2.11 MDADDIWS - Add Integrated Web Service command

The Add Integrated Web Service (MDADDIWS) command adds a Rest or SOAP service to an existing IWS server, making it possible to manage and deploy IWS services automatically using MDCMS.

It's recommended to run this command as an object-level or attribute-level post-install command on an RFP for the requested *IFS properties file or *IFS pcml file.

It's also highly recommended to keep the configuration for the service in the *IFS properties file, so that changes or rollbacks are audited and easy to perform. Refer to the **Integrated Web Services Server Administration and Programming Guide** for more details.

The MDCMS command is named **MDADDIWS** and is located in library MDCMS. The MD libraries must already be in the library list prior to using this command (Keep MD Libs in Libl = 'Y').

Prompt the command and then use the help function (F1 in MDCMS, Help in MDOpen) for detailed instructions about each command parameter.

Example MDADDIWS Parameters for an Attribute Command

The following is an example of the command to define for a *IFS attribute to add/replace a service in an existing Integrated Web Services server:

```
MDADDIWS SERVICE(##OBJNAM##) SERVER(##SERVER##) PGMNAM(##OBJNAM##) PGMTYP(*SRVPGM) PROP('##OBJLIB##/##OBJNAM##') LIBL(*CURLIBL)
```

- This example assumes the invoked program has the same name as the service and requested properties file. If different, then generate a reusable object-level command from this command for the specific service.
- The ##SERVER## placeholder is replaced at runtime with the server ID on the *IFS attribute or the object replication server for the attribute.
- LIBL(*CURLIBL) will automatically insert the library list for the target level into the library list for the service so that dependencies are correctly located at service run-time.

1.2.12 MDRMVIWS - Remove Integrated Web Service command

The Remove Integrated Web Service (MDRMVIWS) command removes a Rest or SOAP service from an IWS server, making it possible to remove IWS services automatically using MDCMS.

It's recommended to run this command as an object-level or attribute-level post-install command on an RFP for the *IFS properties file or *IFS pcml file that is requested to be deleted.

The MDCMS command is named **MDRMVIWS** and is located in library MDCMS. The MD libraries must already be in the library list prior to using this command (Keep MD Libs in Libl = 'Y').

Prompt the command and then use the help function (F1 in MDCMS, Help in MDOpen) for detailed instructions about each command parameter.

1.3 RFP Manager

1.3.1 RFP Manager

1.3.2 RFP Listing

```

CMC228                                COMPANY NAME                10/18/20
Filters                                RFP Manager                19:21:41
Assigned: MMORGAN_____
Appl/Lvl: TEST01_____   Project....: DEMOUK1_____   Cmd/Script: _ / _
RFP Nbr.: _____ T: _   Task/Subtsk: _____5_____
RFP Sts.: _____   Description: _____
Problems: _____

1=Select, F4 for other options
  Appl      RFP Stat  Lvl Assigned  CS Description
_ TEST01    1021 02    100 MMORGAN   displays for days
_ TEST01    1038 01    300 MMORGAN   branch changes
_ TEST01    1864 00    310 MMORGAN   with varchar into 11 for archive

F4=Browse  F6=Add  F7=Submit  F8=Approve  F9=Install  F10=Manage  Bottom
F17/18=T/B

```

The RFP (Request for Promotion) Manager is accessed with option 3 from the Main Menu or by pressing **F9** from the Object Manager panel. It may also be accessed by pressing **F4** while the cursor is positioned on an RFP Number field.

Filters

The Request for Promotion Number Listing can be filtered by any of the following fields at the top of the display.

Assigned - The Programmer assigned to the RFP

Appl -Application

Lvl - Application Level

Project - The Project associated with the RFP

Cmd - Y= only RFPs containing commands are listed, N only RFPs not containing commands are listed

Script - Y= only RFPs containing scripts are listed, N only RFPs not containing scripts are listed

RFP Nbr - Request for Promotion number

T - RFP Type - used in conjunction with the RFP number filter

C - number of current RFP

F - number of prior RFP in migration path

O - number of original RFP in migration path

Task - The Project Task associated with the RFP

Subtask - The Projects Task and Subtask associated with the RFP

RFP Sts - If the Install Status filter is set to blank, only open RFP numbers will be displayed. Enter a Status of 09 to see closed RFPs or press F10=History to see installed RFPs.

Description - The RFP Description. The description filter will list all RFPs that have matching text in the description. For example, enter PRINT to list only RFPs with print somewhere in the short description. The Description filter is not case sensitive.

Problems - if warnings or errors have occurred for an RFP

Send Status - the state of deployments of this RFP to other systems for an installed RFP

Test Status - the state of MDWorkflow acceptance for an installed RFP

Install Date - When in history mode, the minimum and/or maximum install date can be entered.

RFP Status

RP - Request pending - the RFP is waiting for MDWorkflow acceptance of an RFP in the prior level before the new RFP can be used.

00 - Open, no request records assigned to RFP

01 - Open, one or more request records assigned to RFP

SP - RFP has been scheduled for submission and is waiting for the MD Submission service to submit the RFP

YY - RFP Submission currently in Job Queue

XX - RFP Submission in progress

02 - RFP is waiting for approval

CP - MDRapid Data Copy process is pending launch

CJ - MDRapid Data Copy process has been submitted to a job queue

CR - MDRapid Data Copy is in process

03 - RFP is waiting to be installed

IP - Installation Pending - RFP has been scheduled for installation and is waiting for the MD Installation service to install the RFP

04 - Installation in JOBQ

XY - RFP Install in progress

IC - The installation of the objects into the target application is complete

05 - The entire RFP process, included clean-up, is complete

09 - RFP Closed/No Install

Exception Status

E - RFP Error has occurred, causing the processing of the RFP to be rolled back

W - Warnings occurred during the processing of the RFP

B - Special filter value to show only RFPs with errors or warnings

N - Special filter value to show only RFPs without an exception

Option L=Log can be used for extensive details about any warnings or errors that occurred.

Send Status

O - open - the RFP hasn't been sent to any target systems yet

P - partial - the RFP is in the process of being sent and installed on some target systems

C - closed - the RFP is no longer open in the send list

N - not applicable - special filter value to show only RFPs that aren't defined to be sent to targets

U - not closed - special filter value to show any open or partially sent RFPs

Option T=Target Locs can be used for extensive details about the send progress as well as to initiate the send of the RFP to target systems.

Test Status

The state of MDWorkflow acceptance for an installed RFP.

Blank - MDWorkflow not applicable for RFP

0 - MDWorkflow acceptance is ongoing - any further steps are blocked at this time

1 - MDWorkflow provisionally accepted - waiting for confirmation from authorized user

2 - MDWorkflow acceptance complete - next step in process for RFP is freed, as long as all objects in RFP aren't waiting for acceptance in another RFP

8 - MDWorkflow provisionally rejected - waiting for confirmation from authorized user

9 - MDWorkflow rejection complete - next step in process for RFP has been deleted. Corrections must be brought up to this level to allow objects to continue.

Options

1=Select - Select, Enter and return the RFP number back to the requesting process.

2=Edit - Edit the RFP's detail information.

3=Copy - Copy the RFP's detail information to a new RFP. If a completed RFP (status 05) is copied, the user can also choose to re-request some or all of the objects in the RFP.

5=View - View the RFP's detail information.

7=Reset - Reset the RFP. This function causes the following based on the current RFP Status:

01 - All requests assigned to the RFP are removed from the RFP and may optionally be deleted.

02 - Installation Package waiting for Approval is deleted and the status is returned to 01.

CP - RFP is returned to status 02 or 01, depending on whether or not Approval is automatic

CR - MDRapid Data Copy is stopped and the RFP returns to status CP

03 - If Approval is required at the RFP's level, the status returns to 02, otherwise the Installation Package waiting for Installation is deleted and the status returns to 01.

XX/04/XY - MDCMS checks if the submitted RFP job is still active. If the job is no longer active, the status returns to 01 or 03 depending on the last completed installation step.

9=Close - If the current status of the RFP is 00-Empty, the close option will close the RFP (status set to '09') so that it no longer appears in the list. If the current status is IC-Installation Complete, and the RFP job that was performing the clean-up is no longer active, the Close option should be used to finish the post-installation process for the RFP.

A=Accpt Test - View/Manage the MDWorkflow Acceptance of an installed RFP

C=Cmd/Scrp - Define commands or scripts to run for this specific RFP.

D=Rapid Sts - the MDRapid Copy Status of all physical and logical files that require MDRapid processing are displayed. This option is available once the RFP has at least reached Copy Pending status.

L=Log - view all steps that have occurred during the processing of the RFP. For each step, the job log entries can be viewed for additional information. The steps, the job log, or a combination of both can be exported to an excel report. The job log entries are applied to the RFP by the MDLOG service. If the entries are missing, then check that MDLOG is running. Both the log and joblog entries will be retained for only as long as the age parameter in the MDCMS Log Maintenance screen.

M=Merge - Merge 2 or more RFP Packages into 1 RFP. Enter an M for at least 2 RFP packages of the same application and level and then press Enter. A confirmation screen is shown where the target RFP number can be selected and the description of the merged package can be edited. All objects (and commands) of the selected RFPs will be merged into the target RFP. The other specified Packages will be emptied and closed once the merge is complete. Duplicate objects and commands will be eliminated automatically.

O=Objects - Display all objects that are contained within the RFP.

P=Projects - Display all projects that are contained within the RFP.

R=Rollback - Select to rollback some or all objects in a completed RFP.

S=Spools - Display the spooled files for the most recent submission of the RFP

T=Target Locs - view extensive details about the send progress as well as to initiate the send of the RFP to target systems

U=AutUsrs - Display the users in MDSEC that have authority to submit, approve or install depending on the status of the selected RFP.

V=Versions - Display the Conflict Resolution Status for dependent versions of object requests in this RFP. See the section on option V from Object Manager for additional details.

Function Keys:

F3=Exit

F4=Browse - Browse list of valid values for the filter fields.

F5=Refresh

F6=Add - Add a new RFP.

F7=Submit/Manage - Toggle between RFP Submit and RFP Manage modes

F8=Approve/Manage - Toggle between RFP Approve and RFP Manage modes

F9=Install/Manage - Toggle between RFP Install and RFP Manage modes

F10=History/Manage - Toggle between RFP History and RFP Manage modes

F17=Top - Position cursor to the top of the RFP listing.

F18=Bottom - Position cursor to the bottom of the RFP listing.

1.3.3 RFP Details

```

CMC228                                COMPANY NAME                                11.03.16
SCRN2                                Request For Promotion Number Details          16:44:31

Application.: TEST                                User                                Date      Time
RFP Level...: 30                                Assigned.: MMORGAN                    10.03.16 18:25:15
RFP Number...: 1217                              Submitted: MMORGAN                    10.03.16 18:30:06
From RFP....: 1011  Loc: *LOCAL                  Approved.: MMORGAN                    10.03.16 18:30:09
Original RFP: 2022  Loc: MD71                    Installed: MMORGAN                    10.03.16 18:30:20
Status.....: 05-Installed                      RFP Cmds.: Y                          Scripts: Y
Send Status.: 0-Open  Test: 0-Ongoing
RFP Description
Change to main accounting report_____

Upon COMPLETION of RFP
Delete from Developer Library - Source: Y  Y/N  Object: Y  Y/N
Delete from Import Library   - Source: N  Y/N  Object: N  Y/N
Delete Job Log when no Warnings occur.: Y  Y/N
Generate Requests for the Next Level..: N  Y/N
Assign new RFP to Next Level Requests.: N  Y=Yes, N=No, M=Manual Submit Only
Place RFP in Send Promotion List.....: N  Y=Yes, N=No, M=Manual Send Only

F4=Browse  F12=Previous  F15=Print

```

The Request for Promotion Number Details display is where the Promotion number details are entered.

Application

The Application that objects will be promoted into.

RFP Level

The Application level for this RFP.

RFP Number

The assigned number of the RFP.

Merged into RFP

The number of the RFP that the objects for this RFP were merged into for this level when the RFP was merged/cancelled.

From RFP

The number of the RFP that was installed one step prior in the migration path. If the path started at the current level, then this will be blank.

From Loc

The location ID of the RFP that was installed one step prior in the migration path. If the path started at the current level, then this will be blank. Special value *LOCAL will be displayed if the prior level was on the same system as this RFP.

Original RFP

The number of the initial RFP in the migration path. If the path started at the current level, then this will be blank.

Original Loc

The location ID of the initial RFP in the migration path. If the path started at the current level, then this will be blank. Special value *LOCAL will be displayed if the prior level was on the same system as this RFP.

Status

The status of the RFP.

Send Status

O - open - the RFP hasn't been sent to any target systems yet

P - partial - the RFP is in the process of being sent and installed on some target systems

C - closed - the RFP is no longer open in the send list

Test Status

The state of MDWorkflow acceptance for an installed RFP.

Blank - MDWorkflow not applicable for RFP

0 - MDWorkflow acceptance is ongoing - any further steps are blocked at this time

1 - MDWorkflow provisionally accepted - waiting for confirmation from authorized user

2 - MDWorkflow acceptance complete - next step in process for RFP is freed, as long as all objects in RFP aren't waiting for acceptance in another RFP

8 - MDWorkflow provisionally rejected - waiting for confirmation from authorized user

9 - MDWorkflow rejection complete - next step in process for RFP has been deleted. Corrections must be brought up to this level to allow objects to continue.

Assigned

The programmer that the request changes are assigned to. More than one programmer may be included in a request, but only one programmer may be entered on this display (includes the Date and Time of assignment).

Submitted

The user who submitted the RFP (includes the Date and Time of submission).

Approved

The user who approved the RFP (includes the Date and Time of approval).

*AUTO - the RFP was automatically approved

*STSTRG - the RFP was approved by a status trigger after a status transitioned for a Project or Task impacted by the RFP

*TEMPLATE - Object Approval Templates were used for approving the RFP. Press F10 to view the list of all involved Approval groups, as well as the approver, date, time and comment per group. From that approval logging screen, you can also press F10 a 2nd time in order to list the object and template for each object requiring approval on the RFP.

Installed

The user who installed the RFP (includes the Date and Time of installation).

*AUTO - the RFP was automatically installed

*STSTRG - the RFP was installed by a status trigger after a status transitioned for a Project or Task impacted by the RFP

Upon COMPLETION of RFP:

Delete Source from Developer library

Y - Delete the source from the developer library after the successful installation of the RFP. This is only permitted when installing into an Application Level that permits checkout.

N - Leave a copy of the source in the developer library

Delete Object from Developer library

Y - Delete the objects from the developer library after the successful installation of the RFP. This is only permitted when installing into an Application Level that permits checkout.

N - Leave a copy of the objects in the developer library

Delete Source from Import library

Y - Delete the source from an imported library after the successful installation of the RFP. This is only permitted when installing into an Application Level that permits checkout.

N - Leave a copy of the source in the import library

Delete Object from Import library

Y - Delete the objects from the imported library after the successful installation of the RFP. This is only permitted when installing into an Application Level that permits checkout.

N - Leave a copy of the objects in the import library

Delete Job Log when no Warnings occur

Y - Delete the job log for the RFP installation job once it has successfully finished and no warnings occurred.

N - Retain the job log even if there were no errors or warnings

Generate Requests for the Next Level

Y - If a next level on the same system is defined for this level, automatically create request records for all objects in this RFP for migration from this level to the next level.

N - Do not create request records for the next level

Assign new RFP to Next Level Requests

Y - If object requests are to be generated for the next level, then also create a new RFP number to assign to those requests. The description and user will be copied from this RFP.

N - Do not assign object requests to a new RFP

M - Assign to a new RFP for the next level, but don't automatically submit the RFP, even if the next level is defined to automatically submit RFPs by default.

Place RFP in Send Promotion List

Y - If a distribution queue is defined for this level, automatically place the RFP in the send queue.

N - Do not place the RFP in the send queue.

M - Place RFP in the send queue, but don't automatically send the RFP, even if the level is defined to automatically send RFPs by default.

Function Keys:

F4=Browse - Browse the Assigned field.

F12=Previous - Cancel any changes.

F15=Print - Print the details of the RFP to a spooled file.

1.3.4 RFP Commands

An entry of 'C' for an RFP activates the MD Detail Command Maintenance function for a specific RFP. This function is used to define IBMi commands that can be executed during the processing of the specific RFP.

```
CMC192                      COMPANY NAME                      4.09.06
SCRN1                      Commands for this RFP              15:54:04

Appl/Lvl: ACCT 10  RFP: 1031 demo 42

Type options, press Enter.
2=Edit  3=Copy  4=Delete  5=View

Opt Type Seq  Command String
-   1   10   OVRDBF FILE(ACCTPF1) TOFILE(PRODLIB/ACCTPF2)
-   3   10   RMVM PRODLIB/ACCTPF1 XXXTEST

F3=Exit  F6=Add  F10=Scripts                                Bottom
```

Type

Column 1	Column 2	Column 3
L	Object Lock	runs during the compile or installation process when a required object or source is locked. Separate field Wait before Usage specifies the amount of time to wait before executing the command. Multiple commands can be defined in order to have a lock escalation process in place.
V	Pre-Submit Validation	runs when user selects to submit an RFP for promotion. Command MDCHKRFP must be used and this provides an organization with the ability to add custom validation rules before an RFP can be submitted. See section MDCHKRFP API for more information.
1	Pre-Compile	runs prior to compiling objects
P	Post-Compile	runs after all object compilations are successfully completed
E	Compile Error	runs when the compile phase of an RFP fails to complete successfully.
A	RFP Approved	runs after an RFP has been approved for installation
J	RFP Rejected	runs after an RFP has been reset from Waiting for Approval status
F	MDRapid Waiting to Launch	runs after an RFP has been approved and MDRapid is required for the RFP
G	MDRapid Started	runs to indicate that MDRapid has begun copying data for changed files
H	MDRapid Completed	runs after all existing records in the changed files has been copied to inform the users that the installation can be started.
I	MDRapid Error	runs when the MDRapid Data Copy phase of an RFP fails to complete successfully.
2	Pre-Installation	runs prior to installing objects into the environment
3	Post-Installation	runs after the installation of objects is complete, but prior to releasing the application for usage. Command errors can trigger an automatic roll back of the RFP.
Q	Installation Archive/Cleanup	Runs after the installation of objects is complete and the application is released for usage to avoid prolonging the downtime window. Typically used for post-installation notifications or other processes that don't require a roll back if they fail.
4	Installation Error	runs when the installation phase of an RFP fails to complete successfully. This type could be used, for example, to send an email or SMS to the installer if a weekend Installation fails.
W	Installation Warning	runs if an RFP Installation completes, but with warnings. Warnings can occur if data cannot be copied or if a Post-Installation Command fails to run successfully.
S	RFP Test Status Accepted	runs if an RFP Test Status is Accepted in MDWorkflow
T	RFP Test Status Rejected	runs if an RFP Test Status is Rejected in MDWorkflow
5	Pre-Send	runs once prior to sending an RFP to one or more remote systems
6	Post-Send	runs once, after an RFP has been successfully sent to one or more remote systems
7	Send Error	runs in case the send of an RFP fails to complete successfully
8	Post-Receive	runs after an RFP has been successfully received from a remote system
9	Receive Error	runs in case the receipt of an RFP fails to complete successfully
R	Receive Warning	runs in case the receipt of an RFP completes, but with warnings

Sequence

The sort sequence of the command at run time, in case multiple commands for the same type are defined.

Ignore Errors

Y - Continue with RFP processing even if the command fails. Flag will always be Y for type 3.

N - Cease and Rollback RFP processing if the command fails

Keep MD Libs in Libl

N - The MD Libraries (MDCMS and MDXREF) are removed from the library list before the command is invoked. This assures that any MD Objects with the same name as your objects are not used.

Y - The MD Libraries are left in the library list. This is necessary when MD Objects, such as interface programs, MDMAIL or MDMAILF, are needed to process the command.

Location to run Cmd

The location that the command should be run, allowing for commands to be run only for certain environments. Enter a valid Location ID or press F4 to select a location from the list.

Otherwise, select from one of the following special values:

*ALL - run the command on every level in the migration path

*LOCAL - run the command on any level on this system

*LOCLVL - run the command only for this level

*REMOTE - run the command on any level everywhere but this system

Run as User Profile

By default, commands executed during an RFP run under the profile of the user profile defined on the job description of the application level for the RFP. If a specific command should run under the authorities of a different user, that user ID can be entered here. As a safety precaution, the user placing a value in this field must have authority to use that entered user profile in order to save the command definition.

Command

The IBM i or user-defined command to be performed. Enter the name of the command and then press F4 to fill in the keywords.

Some placeholder parameter values may be used and are substituted by MDCMS at run-time. The placeholder value may be typed directly into the command or the cursor may be positioned in the command and F7 pressed to insert the value from a list. The full list of values are in this manual in the Attribute Command section.

1.3.5 RFP Scripts

An entry of 'C' for an RFP activates the MD Detail Command Maintenance function for a specific RFP. Then, F10 can be pressed to access the list of scripts to be executed for this specific RFP.

```

CMC171                                COMPANY NAME                4.09.15
SCRN1                                Scripts for this RFP        15:54:04

App1/Lvl: ACCT 10  RFP: 1031 demo 42

Type options, press Enter.
2=Edit  3=Copy  4=Delete  5=View  S=Script Content

Opt Type Seq Script
_   2     1 /ifs-stop-tomcat.sh
_   3     1 /ifs-start-tomcat.sh

F3=Exit  F6=Add  F12=Previous

Bottom

```

Type

The Type value designates when a script should run

Column 1	Column 2	Column 3
2	Pre-Installation	runs prior to installing objects into the environment
3	Post-Installation	runs after the installation of objects is complete

Sequence

The sort sequence of the script at run time, in case multiple scripts for the same type are defined.

Ignore Errors

Y - Continue with RFP processing even if the script fails.
Flag will always be Y for type 3.

N - Cease and Rollback RFP processing if the script fails

Attribute for Settings

The name of the MDCMS attribute containing the IFS or server connection settings to be used during the execution of the script.

Replace Placeholders

N - The script doesn't contain placeholder values to be replaced by runtime values when executed

Y - Replace placeholder values in the script at run time

Loc. to run Script

The location that the command should be run, allowing for commands to be run only for certain environments. Enter a valid Location ID or press F4 to select a location from the list.

Otherwise, select from one of the following special values:

*ALL - run the command on every level in the migration path

*LOCAL - run the command on any level on this system

*LOCLVL - run the command only for this level

*REMOTE - run the command on any level everywhere but this system

Wait for Response

Y - MDCMS waits until the Remote server confirms completion of the script execution

N - MDCMS continues without waiting for a response from the remote server

Submit Job

Y - Submit the IFS Script execution to a separate job. MDCMS will not wait for a response in this case, but instead continue with RFP processing.

N - the ifs script execution runs within this job

Job Name

The name of the submitted job that will process the IFS script

Job User

The user profile of the submitted job that will process the IFS script

Job Queue

The name and library of the Job Queue to receive the submitted job

Script Subfolder

The relative path of the script, if it isn't directly located in the script root folder.

Script

The name of the script file located in IFS

1.3.6 Promoting an RFP

Once 1 or more objects are assigned to an RFP, the Request for Promotion may be submitted. This is done by pressing **F7** from the Object Manager or **F7** from the RFP Manager.

The list of all RFPs in status 01 (Open, one or more request records assigned to RFP) OR SE (Partially Open, prior submit ended in error) is displayed. The filter and command handling of this list is identical to the RFP Control list.

Enter a '1' for one or more RFP numbers to promote them.

If the RFP status is currently 01, MDCMS then immediately runs an extensive series of checks on the contents of the RFP. If any warnings or errors are found, a screen is displayed detailing the exception and providing some options to correct them directly from the screen. Warnings can be ignored, though some warnings require specific MDSEC authority to be able to ignore. Errors must be resolved before the RFP can be submitted.

For automatically submitted RFPs, the RFP is only checked for error exceptions.

Option / Field	Description
Excp. ID	Description
ERROR 1	Source or Object not found for Recompile requests. For any object with an attribute containing source, MDCMS checks in the target source library, migration chain, based-on levels and source search template for the source. For any object with an attribute without source defined, MDCMS checks in the target object library, migration chain, based-on levels and object search template for the Object.
ERROR 2	Unlocked Object Requests. Every object request in an RFP must be in a locked state in order to submit the RFP
ERROR 3	Object not found for Update requests. MDCMS checks in the target object library, migration chain, based-on levels and object search template for the object.
ERROR 4	Uncommitted Object Requests. For *REMOTE and *IFS requests where the file originates from outside the system, the file must first be committed to MDCMS using MDOpen.
ERROR 5	Incomplete Deletion requests for contents of an IFS Directory that has been requested for deletion. Every folder and file within the requested directory must also be requested for deletion. This can be done recursively by re-requesting to delete the directory and selecting to include contents.
ERROR 6	Object Requests not assigned to a Project. Every object request in an RFP must be assigned to at least one project in order to submit the RFP.
ERROR 7	Requests not Assigned to Approval Template. Object Approval Templates are required for the Promotion Level to approve the RFP for installation, but the listed objects aren't assigned to an Object Approval Template to determine which Approval Groups are involved. If you have authority to MDSEC code 23 for the Promotion Level, you can use option 1=Assign to Template in order to select the template to add the object(s) to.
ERROR 8	MDWorkflow acceptance not granted in prior level for objects in RFP. The submission of an RFP into the next level depends on every RFP containing any of the RFP's objects in the prior level to have been accepted, if MDWorkflow Acceptance is enabled for the prior level.
ERROR 9	Project/Task Status outside Boundary for Action. If Status Boundaries are defined for the target level to limit when and RFP can be submitted, each Project, Task or Subtask (depending on the boundary definition) that is assigned to requests in the RFP must be within the defined range.
ERROR 10	Missing Database Relations for Modified Files. For any modified file, along with logical files over that file, each database relation (LF, index, view, materialized query table) that isn't part of the RFP is listed.
ERROR 11	Unresolved Merge Conflicts. When the RFP is for a level designated as the Trunk and the RFP was received locally from a Branch, then any source code in conflict status must be set to Resolved before the RFP can continue. Resolution is performed in MDOpen using the option Compare with Branch on the RFP. A source member/IFS file is considered to be in conflict if it is different than the source currently in the trunk and the source in the trunk has either not yet reached production or it was installed after the source was checked out in the branch.
ERROR 12	Code Review Quality Gate. If any source code in the prior level requires a Code Review and the Code Review template for the attributes has the Quality Gate parameter set to true, then the next step in the migration path is not permitted until the Code Review has completed with a status of SUCCESS. If you have authority to MDSEC code 58 for the prior level, you can use option O to override the Quality Gate and continue with the RFP submission.
WARNING 1	Missing Dependencies for Modified Files. For any modified file, along with the logical and reference files over that file, each dependency that is not part of the RFP is listed. See the MDXREF manual for more information about the usage codes. If the dependency is a program or module, and that dependant has record-level access to the file, this warning will not be permitted to be ignored, unless MDSEC code 35 is granted to the user for the target level of the RFP.
WARNING 2	Missing Programs for Modified Source Members. For any *SOURCE request, all programs or modules that copy the source (copybook), but aren't requested in the RFP, are listed.
WARNING 3	Missing Programs for Modified Modules. All ILE Programs and Service Programs that bind a requested module, but aren't included in the RFP, are listed.

Option / Field	Description
WARNING 4	Missing Programs for Modified Service Programs. All ILE Programs that require a requested service program, but aren't included in the RFP, are listed.
WARNING 5	Objects to be migrated are older than the existing objects. If a non-compiled object has been requested to be imported, but the source change date on that object is older than the object already in the target application, then the object is listed. This is to help flag when a vendor sends the wrong version of an object.
WARNING 6	Objects already requested for Next Level. The listed objects are already requested for promotion at the next level from the target level of this RFP. The result of continuing with the promotion is that the changes in this RFP will overwrite the changes requested in the prior RFP(s). If the existing requests for the next level are by a different user than the user(s) that requested the objects for this RFP, the user submitting this RFP must be granted MDSEC code 55 (Merge Other Users into RFP) in order to continue. If the existing requests for the next level are for a different project than the projects for this RFP, the user submitting this RFP must be granted MDSEC code 56 (Merge Other Projects into RFP) in order to continue. If the existing requests for the next level are for different tasks than the tasks for this RFP, the user submitting this RFP must be granted MDSEC code 57 (Merge Other Project Tasks into RFP) in order to continue. If authorized, and this RFP is set to create the requests for the next level, the user must choose if the existing RFPs should be automatically merged into this RFP when finished. N=don't auto-merge - the existing RFPs remain active and any objects that were already requested won't be part of this RFP at the next level. Y (recommended)=auto-merge - all existing RFPs that conflict with this RFP will be automatically merged into this RFP for the next level. The existing RFPs will then be automatically closed.
WARNING 7	Objects already requested for next level that won't be overwritten. Lists all object requests that promote from a different level than the target level of this RFP or that are already in the process of being installed. The existing RFPs remain active and any objects that were already requested will be requested in the new RFP for the next level in Unlock Mode.
WARNING 8	Objects already in Send Queue. The listed objects are already requested to be sent to target systems in other RFPs for this target level. The result of continuing with the promotion is that the changes in this RFP will overwrite the changes requested to be sent in the prior RFP(s). If the existing requests in the send queue are by a different user than the user(s) that requested the objects for this RFP, the user submitting this RFP must be granted MDSEC code 55 (Merge Other Users into RFP) in order to continue. If the existing requests in the send queue are for a different project than the projects for this RFP, the user submitting this RFP must be granted MDSEC code 56 (Merge Other Projects into RFP) in order to continue. If the existing requests in the send queue are for different tasks than the tasks for this RFP, the user submitting this RFP must be granted MDSEC code 57 (Merge Other Project Tasks into RFP) in order to continue. If authorized, and this RFP is set to send, the user must choose if the existing RFPs should be automatically merged into this RFP when finished. N=don't auto-merge - the existing RFPs remain active. The objects will be in the old and new RFPs in the send queue. Y=auto-merge - all existing RFPs that conflict with this RFP will be automatically merged into this RFP in the send queue. The existing RFPs will then be automatically closed. If your organization prefers that an auto-merge of RFPs in the Send List should ALWAYS or NEVER happen, the choice can be locked down by application by setting parameter Auto-Merge RFP in Send List to Y for ALWAYS or N for NEVER.
WARNING 9	Objects in process of being Installed. Any compiled object that is being installed at the same time in another RFP (due to recompiles) is listed to indicate that an unintended version of the object may end up in the target object library.
WARNING 10	Objects that have been deployed to an Emergency Level. Each object that was deployed to an emergency level since the last time it was deployed to the target level is listed. This is to keep visibility on the emergency deployments, in case those changes need to be retrofitted into the standard version.
WARNING 11	Dependencies in Linked Apps for Modified Files. Objects that exist in linked applications that depend on files in this RFP.

Option / Field	Description
WARNING 12	Programs in Linked Apps for Modified Copybooks. Objects that exist in linked applications that depend on source copybooks in this RFP.
WARNING 13	Programs in Linked Apps for Modified Modules. Objects that exist in linked applications that depend on modules in this RFP.
WARNING 14	Programs in Linked Apps for Modified Service Programs. Objects that exist in linked applications that depend on service programs in this RFP.
WARNING 15	Recompiles based on Uninstalled Requests. This warning indicates when objects are requested for recompile in this RFP, that are based on source in a different level, but that source hasn't been deployed yet to that based-on level. This usually indicates that the RFP for that level should be installed before continuing with this RFP.
WARNING 16	Objects Installed Since Checkout. Objects are listed that have been installed into the target level between the time that the object on this RFP was checked out in the originating level and now. This is to provide awareness that potentially other project work had passed through this level in the meantime.
WARNING 17	Missing External References for Requested System Objects. Files in a Git Repository, SVN Repository or IFS reference a system object that is requested for modify or delete in the RFP, but external File itself isn't included in the RFP. If you should never be warned about a given External Reference in the list, option I=Ignore can be used to permanently skip the warning for that specific file. If it should ever be important in the future, it can be unignored from the MDOpen External Reference view.
WARNING 18	Missing SQL Routines for Programs. Programs or Service Programs are requested in the RFP for modification or recompile and these programs are invoked by SQL Functions or Procedures, but the routine isn't included in the RFP. This can lead the routine to be dropped by the system if it isn't included with the RFP.
WARNING 19	Locked Source Members. Source members that are to be deployed are currently locked in the developer library. Close the source editor for each member and press F5 to refresh the list.

If any of the listed conditions are true, a screen will appear for each warning or error allowing for the correction or confirmation of the issue.

Once all errors have been corrected, the following confirmation screen will appear with the default submission parameters, based on the job description for the promotion level.

```

CML400                                COMPANY NAME                                4.09.06
SCRN1                                Submit Confirmation and Override                07:06:37

Jobname      . . . . . Parameters      Override
Job Description . . . . MD30
Library      . . . . . QGPL

Submission Date . . . . *CURRENT      _____ *CURRENT, Date
Submission Time . . . . *CURRENT      _____ *CURRENT, Time
Installation Date . . . *CURRENT      _____ *CURRENT, Date
Installation Time . . . *CURRENT      _____ *CURRENT, Time
Place in Job Queue . . . *YES          _____ *YES, *NO
Job Queue     . . . . . QBATCH          _____
Library       . . . . . QGPL            _____
Hold in Job Queue . . . *NO             _____ *YES, *NO

Enter=Confirm   F12=Cancel

```

Submission Date

*CURRENT - submit the RFP today

date - schedule the submission for the entered date. If the job is immediately placed in the job queue, be certain that an IPL does not occur between now and the scheduled date

Submission Time

*CURRENT - submit the RFP at this time

time - schedule the submission for the entered time

Installation Date

If the level for the RFP allows for automatic approval and installation, the date and time of the installation can also be controlled when performing the initial submission.

*CURRENT - install the RFP on the same day that the bundling process is complete

date - schedule the installation for the entered date.

Installation Time

*CURRENT - install the RFP as soon as the bundling process is complete

time - schedule the submission for the entered time

Place in Job Queue

*YES - the job will be submitted immediately to the job queue and scheduled for the entered date/time

*NO - the job is intended to be submitted no sooner than the scheduled date/time by the MDSBMRFP process. The status of the RFP is changed to SP for Submission Pending.

Job Queue

The name and library of the job queue to use if placed in a job queue

Hold in Job Queue

*YES - the job will be placed in the job queue in hold status so that something can release the job at a later time

*NO - the job will be placed in the job queue in released status for automatic processing

Delay Delete Prior Obj

*YES - the temporary library holding the prior version of the installed objects will not be deleted until the following day. This allows active jobs to continue using the prior version of programs that were already invoked by those jobs.

*NO - the temporary library will be deleted as soon as the installation is complete

1.3.7 The RFP Installation Process

Once a request for promotion has been submitted, the actual process of installing the new or modified source and objects takes place. Listed below are the steps that this process goes through and the result of each step.

The Source/Object Preparation Steps

- Temporary MDCMS libraries (naming based on system settings for temp libraries + the RFP number) are created to handle the entire process so that no permanent changes take place until MDCMS is certain that all is ready.
- Pre-Steps:
 - Process Pre-Compile commands for *RFP attributes
 - Process Pre-Compile commands for this RFP
- Object Steps processed in full for each object before continuing to next object:
 - The source or non-compiled object is checked for existence.
 - If new or modified source is to be compiled, the existing source is copied to a backup library and the new version of the source is copied to the target source file/ifs path
 - Process Pre-Compile commands for object or attribute
 - Process Compile commands for object or attribute
 - Process Post-Compile commands for object or attribute
 - Validate that object has been created into temporary packaging library
 - Apply object authority to the object in the temporary packaging library
 - Stamp the object with MDCMS Meta-Data
 - Delete any triggers and disable any referential constraints from new version of a file
 - Validate the Data Transformation for mapping existing records to new version of a file
 - Add Comments to the source in the packaging library, if requested for an attribute assigned to a Source Comment template
- Post-Steps:
 - Process Post-Compile commands for this RFP
 - Process Post-Compile commands for *RFP attributes
 - Sign source and objects, if enabled for system, to ensure that manual changes are detected
 - Warn about any level check issues, if enabled for level
 - Warn and stop process if insufficient disk space is available to deploy file changes

If a failure occurs during these steps, a message will be sent to the user that submitted the job describing why the failure occurred and the Compile Error exit point will be triggered. For additional detail, the RFP log and the spooled files for the job should be reviewed. The RFP will remain at status 01 and can be re-requested from the RFP Manager. If the RFP is not in status 01, it will need to be reset using option 7 in the RFP Manager.

Source and Object Signing

MDCMS uses an SHA-1 encryption algorithm with a HMAC key unique to each distinct object migration chain to create a 1-way signature for each source member, IFS source file or IFS/Remote object files that have been prepared to be installed. The initial signature is applied when it is installed into the initial promotion level, and this signature is compared to the newly generated signature at higher levels.

If the System Settings parameter Sign Objects is set to true, and the signature does not match, then MDCMS will require that an authorized user approves the installation before the installation steps will be started.

1.3.8 Approving a Promotion

An RFP is first submitted for promotion which prepares the source and objects for deployment in a temporary library. If there are no errors, the installation process checks the Promotion Level parameters and if the Automatic RFP Approval flag is set to 'N' or 'T', or the RFP contains attributes that require approval, the RFP status is set to '02' - Approval Pending. An authorized user or users must then approve the promotion before it can be installed. To do this, toggle to the Approve list using F8 in the RFP Manager.

The list of all RFPs in status 02 are displayed.

Enter a '1' for an RFP number to approve it.

Enter a '7' to remove the temporary promotion library and to set the RFP back to status '01'.

If approval could be completed and the auto-install flag is set to 'Y' for the promotion level, then a confirmation screen will be displayed for the submission of the installation of the promotion.

Manual Approval

A single user can approve the RFP.

The user must have authority to MDSEC code 42 for the application if the RFP was submitted by someone else.

The user must have authority to MDSEC code 52 for the application if the RFP was submitted by that same user.

Template Approval

One user per Approval Group required for the RFP will need to approve the RFP for Installation. The required Approval Groups are determined by the Object Approval Templates that the RFP's objects are assigned to. Once the status for each group is set to approved, then the RFP will be transitioned to status 03=Ready for Installation.

```

MDCRIAG                      T86 Dev/Test                      8.01.25
SCRN1                        RFP Installation Approval          15:38:15
App1/Lvl: TEST01 100
      RFP: 1797      add parm to simplecl

Type options, press Enter.
1=Approve  7=Undo  9=Reject

Opt Appr. Grp  Status  User      Date      Time      Comment
-  EUROTEST   approved MMORGAN  08.01.25  15:38:15
-  MEXTSTMGR  open
-  NORAM      open
-  PGMR 1     approved MMORGAN  08.01.25  15:38:06 looks good to me

F3=Exit  F5=Refresh  F10=Templates/Objects

Bottom

```

You will have a prompt to Approve, Reject or Undo for each Approval Group that you belong to.

Options

1 - set the status to approved for the selected Approval Group. A confirmation screen will be displayed where a comment can also be optionally provided.

7 - undo the approved or rejected status for the selected Approval Group. The undo occurs without a confirmation screen.

9 - set the status to rejected for the selected Approval Group. A confirmation screen will be displayed where a comment can also be optionally provided.

Function Keys

F3=Exit - exit the screen

F5=Refresh - refresh the listing

F10=Templates/Objects - view the list of all Objects and Object Approval Templates that combined to determine the list of required Approval Groups.

1.3.9 Launching MDRapid

Once approval is granted, and the RFP contains one or more files that should have their data copied prior to installation, the installation process checks the Promotion Level parameters and if the Automatic Launch MDRapid is set to 'N' the RFP status is set to 'CP' - Copy Pending. An authorized user must then launch MDRapid to begin the Copy process. To do this, toggle to the Install list using F9 in the RFP Manager.

The list of all RFPs in status CP or 03 are displayed.

Enter a '1' for a RFP number with status CP to launch it. A confirmation screen with the following fields is displayed:

Auto-Install Objects when Data Copy Complete

Y - Yes, the install steps should begin automatically once all data has been copied

N - No, an authorized user must schedule the installation

W - Yes, auto-install if the data copy finishes within the Time Window

Time Window for Auto-Install

The minimum and maximum Date/Time that the Copy process must finish within in order for the RFP to auto-install. If the RFP finishes outside of the window, then an authorized user must schedule the installation. Exit point commands can be defined for the level to notify the group when the Data Copy is finished.

Once Enter is pressed, the MDRapid jobs are submitted to the job queue defined by the MDRapid template and MDCMS monitors the progress. Once a physical file has completed the copy process, MDCMS builds the dependent logical files. Once all files are prepared for installation, the status of the RFP is switched to 03.

1.3.10 MDRapid Console

If one or more Files in an RFP are to use MDRapid for copying the data, then option D=Rapid Sts can be used in front of the RFP, or in front of the file request, once the status of the RFP has reached at least CP=Copy Pending. That option brings up the following screen:

```

CMC247                               MD T 8.1 dev                               1.03.18
SCRN1                               MDRapid Copy Status                          19:00:48

Appl: TEST  Lvl: 10  RFP:    1539                               Start: 01.03.18 19:00:11
Status: 03-Waiting for Installation                               End: 01.03.18 19:00:19
Filter by File: _____ Library: _____ Active: _ Y/N
Type options, press Enter.
 5=Details  E=End  H=Hold  I=Init+Restart  J=Job  R=Rec Errors  S=Restart
  Target    Source      F                               Usage  Est/Actual End
O File      Library     T Status          Initial Recs  Pct  hh:mm:ss  Date  Time
_ MDALIC    TEST80_10  P Sync/Idle          724  100           01.03.18 19:00
_ MDALIC    TEST8010R1 P Sync/Idle          724  100           01.03.18 19:00
_ MDALIC    TEST8010R2 P Sync/Idle          724  100           01.03.18 19:00
_ MDACSTL1  TEST80_10  L LF Built           100           01.03.18 19:00
_ MDACSTL1  TEST8010R1 L LF Built           100           01.03.18 19:00
_ MDACSTL1  TEST8010R2 L LF Built           100           01.03.18 19:00
_ MDALIC1   TEST80_10  L LF Built           100           01.03.18 19:00
_ MDALIC1   TEST8010R1 L LF Built           100           01.03.18 19:00
_ MDALIC1   TEST8010R2 L LF Built           100           01.03.18 19:00
_ MDALIC2   TEST80_10  L LF Built           100           01.03.18 19:00
_ MDALIC2   TEST8010R1 L LF Built           100           01.03.18 19:00
More...

F3=Exit  F5=Refresh  F13=Repeat Opt  F17=Top  F18=Bottom

```

Option

5 - view additional information about the MDRapid process for the file. This is particularly helpful to see:

- the complete error reason if the status for the job is in error
- the number of synced transactions or
- temp library names where the data copying and syncing is occurring so that any analysis and validation of the file contents can be performed.
- If an idle sync point has been reached, the current number of records in the old and new version of the file for comparison.

E - End the MDRapid job for the file

H - Hold the MDRapid job for the file

I - clear all data in the new version of the file and restart the job from the beginning of the copy process

J - view details of the processing job for a physical file or for the MDRapid Monitor

R - view the list of records in the file that failed to get inserted, updated or deleted and choose to copy those records to another file or to allow the file to be installed with the errors in place.

S - restart the job at the point where it left off when last ended

Target File

The name of the file being prepared, or the value Monitor for the MDRapid monitor job

Source Library

The location of the data origin file that the records are being copied from, which is also the library that the file will then be deployed to during the installation phase.

FT (File Type)

I - SQL Index

L - Logical file

M - Monitor job

P - Physical file

T - SQL Table

V - SQL View

Status

Option / Field	Description
Pending	The file hasn't begun processing yet
Resetting	A reset to Copy Pending has been requested for the RFP
Reset	A reset to Copy Pending has completed for the RFP
Launch Err	Error occurred trying to submit the launch of the file for MDRapid processing
Copying	The current data in the origin file is being copied to the new version of the file
Copying/RE	The current data in the origin file is being copied to the new version of the file, and one or more of the records failed to be copied. Use option R for more details. The errors may potentially be automatically resolved during the sync process.
Copy Held	A user has held the copy job
Copy Ended	The copy job has ended without reaching completion
Copy Error	Error occurred during the copy of data
Copy Resume	A user has requested that a copy job resume processing
LF Building	A logical file is in the process of getting built over its physical file(s)
LF Built	A logical file has finished the build process
LF Error	Error occurred during the logical file build
Syncing	The copy process is complete and outstanding Journal transactions are in the process of being synced to the new version of the file
Syncing/RE	The copy process is complete and outstanding Journal transactions are in the process of being synced to the new version of the file and one or more of the records failed to be copied. Use option R for more details.
Sync/Idle	All copying and transaction syncing is complete, will continue to sync new transactions as they occur
Sync/IdleRE	All copying and transaction syncing is complete, will continue to sync new transactions as they occur and one or more of the records failed to be copied. Use option R for more details.
Sync Held	A user has held the sync job
Sync Ended	The sync job has ended without reaching completion
Sync Error	Error occurred during the sync of journal transactions
Sync Resume	A user has requested that a sync job resume processing
Finish Pending	The RFP install job has requested the sync job to finish any outstanding transactions and then end so that the deployment of the files can occur.
Sync Comp	The job for the file has completed so that the installation can proceed
Running	The monitor job is actively observing the individual file jobs
Monitor Held	A user has held the monitor job
Monitor Ended	The monitor job has ended
Monitor Error	Error occurred
	A user has requested that the monitor job should resume processing

Option / Field	Description
Monitor Resume	

Initial Recs

The total number of records across all members in the live physical file at the time that the MDRapid job for the file is started

Pct

The percentage of records that have been copied to the new version of the file. 100% will show once all records have been copied and all outstanding journal transactions have been processed.

Usage

The amount of time that has elapsed in order to copy the initial set of records to the new version of the file in hours:minutes:seconds format.

Est/Actual End Date Time

Physical files - If still running, an estimate of when the copy of the initial set of records will complete. Once the copy process is complete, the actual completion date/time is displayed.

Logical Files - The date/time when the logical file was built

Monitor - If still running, and an install window was defined, the start of that window is displayed.

If MDRapid is complete, then the actual date/time when installation began is displayed.

1.3.11 MDSTRRAP - Restart MDRapid Jobs command

MDCMS is delivered with a command-based API that allows external processes to restart MDRapid jobs for an RFP. An RFP must have status CR (MDRapid Copy Running) or 03 (Ready to Install) in order to be considered by the API.

The MDCMS command is named **MDSTRRAP** and is located in library MDCMS*.

All MDSTRRAP API transactions are logged to file MDCMS/MDDARAP.

MDSTRRAP Parameter Table

Name	Type	Length	Description
Name	Type	Length	Description
APPL	CHAR	6	Application Code (required)
RFP	INTEGER	7	RFP Number. 0=Restart MDRapid for all RFPs in the Application that were previously started and are currently in status CR=Copy Running or 03=Waiting for Installation
MINF	CHAR	10	Minimum File Name Value - the minimum alphabetic value of files in the list to restart *FIRST = Files beginning with the first file in the list
MAXF	CHAR	10	Maximum File Name Value - the maximum alphabetic value of files in the list to restart *LAST = Files ending with the last file in the list
MON	CHAR	4	Restart Monitor Job - if the MDRapid monitor job should be restarted *YES - if the monitor job is not active, it will be restarted *NO - do not restart the monitor job
ENV	CHAR	4	Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST. *DFT = The default environment will be used. This correlates to library MDCMS.
EMSG	CHAR	7	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail. *DIAG = A diagnostic message will be placed in the calling program's message queue in the following format: MDINSRFP Exception. Object=, Reason= *ESCAPE = The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE = An exception message will not be returned to the calling program's message queue.

1.3.12 MDENDRAP - End MDRapid Jobs command

MDCMS is delivered with a command-based API that allows external processes to end MDRapid jobs for an RFP. An RFP must have status CR (MDRapid Copy Running) or 03 (Ready to Install) in order to be considered by the API.

The MDCMS command is named **MDENDRAP** and is located in library MDCMS*.

All MDENDRAP API transactions are logged to file MDCMS/MDDARAP.

MDENDRAP Parameter Table

Name	Type	Length	Description
Name	Type	Length	Description
APPL	CHAR	6	Application Code (required)
RFP	INTEGER	7	RFP Number 0=End MDRapid for all RFPs in the Application that were previously started and are currently in status CR=Copy Running or 03=Waiting for Installation
MINF	CHAR	10	Minimum File Name Value - the minimum alphabetic value of files in the list to end *FIRST = Files beginning with the first file in the list
MAXF	CHAR	10	Maximum File Name Value - the maximum alphabetic value of files in the list to end *LAST = Files ending with the last file in the list
MON	CHAR	4	End Monitor Job - if the MDRapid monitor job should be ended *YES - if the monitor job is active, it will be ended *NO - do not end the monitor job
ENV	CHAR	4	Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST. *DFT = The default environment will be used. This correlates to library MDCMS.
EMSG	CHAR	7	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail. *DIAG = A diagnostic message will be placed in the calling program's message queue in the following format: MDINSRFP Exception. Object=, Reason= *ESCAPE = The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE = An exception message will not be returned to the calling program's message queue.

1.3.13 Installing a Promotion

Once any compile, approval and MDRapid steps are complete, the installation process checks the Promotion Level parameters and if the Auto-Install flag is set to 'N', the RFP status is set to '03' - Waiting to Install. An authorized user must then select the promotion for installation before the objects are actually installed into an application. To do this, toggle to the Install list using F9 in the RFP Manager.

The list of all RFPs in status CP or 03 is displayed.

Enter a '1' for a RFP number with status 03 to install it. A confirmation screen will be displayed for the submission of the installation of the promotion. If the RFP installation job is not placed in the Job Queue, then the status is changed to IP for Installation Pending and will wait until the RFP Installer API (MDINSRFP) submits the RFP.

The user must have authority to MDSEC code 44 for the application if the RFP was approved by someone else.

The user must have authority to MDSEC code 53 for the application if the RFP was approved by that same user.

Enter a '7' to remove the temporary promotion library and to reset the RFP back to status '01'.

The Installation Steps

- Pre-Steps:
 - Process Pre-Installation commands for *RFP attributes
 - Process Pre-Installation commands and scripts for this RFP
 - Process Pre-Installation commands and scripts for objects and object attributes
 - Lock all target files to be replaced with new versions of those files
 - If MDRapid is running, finish any outstanding journal syncing and then end MDRapid processing
 - Object Steps processed in full for each object before continuing to next object:
 - Move current version of source and object to a backup library/folder
 - Move new version of source and object to target locations
 - Set object authorities for each target library, if replicated to multiple libraries and MDRapid not used to prepare the object.
 - Stamp object with MDCMS metadata information, if the object was re-compiled during the install phase.
- Post-Steps
 - All prior members for modified physical files are copied to the new file using Data Transformation, if enabled. If disabled, CPYF with option *map/*drop will be used unless an overriding data copy command is specified.
If MDRapid was used for a file, then this step already occurred prior to installation, so only a simple move is required.
 - All constraints, journals and system (non-SQL) triggers are reapplied (if the file flags indicate to do so). If a logical file is being replaced, all prior members of the file are created for the new file (if the file flag indicates to do so).
If MDRapid was used for a file, then the constraints will have already been applied prior to installation.
 - Unlock all files
 - Process Post-Installation commands and scripts for objects and object attributes
 - Process Post-Installation commands and scripts for this RFP
 - Process Post-Installation commands for *RFP attributes
 - Set status of RFP and objects to IC=Installation Complete, indicating the application can be used again.

If an exception occurs during the Installation Steps, any completed portion of the installation is automatically rolled back and the RFP will return to status 03=Ready for Installation, unless the exception is for a command or replication location that has the Ignore Errors flag set to Y. In the case of ignoring a specific error, the warning will be logged and the RFP warning exit point will be triggered at the conclusion of the RFP process.

The Archiving/Cleanup Steps

- Update MDXREF information for the installed source and objects
- If the Application Level is tied to X-Analysis libraries in MDXREF, the deployed objects will be passed to the MDXANI service for the asynchronous update of object information in X-Analysis for those libraries.
- Process Installation Archive/Cleanup commands for this RFP
- Process Installation Archive/Cleanup commands for *RFP attributes
- All replaced source is archived. Replaced objects will be zip compressed and archived to the MDCMS IFS path, if they are not compiled from source.
During the archiving process for each object, any Installation Archive/Cleanup command for the specific object or for the MDCMS attribute used by the object will be invoked to be able to perform additional processing on the archived source and objects.
- If the installation occurred at a checkout level and the RFP is defined to remove the source or objects from the developer's library and/or from an import library, the removal is performed at this time.
- Delta Source and Objects are removed from other levels based on the templates assigned to the object attributes in this RFP. They are left in place if the version in the delta level is different than the version in the target level, unless the delta level is also flagged as an emergency level.
- Installation History records are created for each object.
- The finished Request detail records are removed.
- If any of the object requests require Code Review, they will be added to the pending batch for each impacted Code Review Template. If the number of pending items meets the criteria to run the review, the batch will be executed.
- The temporary libraries and spool files are deleted unless the parameters specify to keep them.

The Next Level Preparation Steps

- If a Distribution Level is defined for the RFP's promotion level, the RFP is placed in the send list. If Auto-Send is set to Y for this Level, the RFP will immediately be sent to all Target Levels where the Default flag is set to Y.
If other RFPs containing one or more of the same objects are open in the send list, and this RFP was flagged to auto-merge, then the other RFPs will be merged into this new RFP.
- New Request records are created for the next level on the same system, if direct migration is defined and the object attribute exists further up the chain.
- A new RFP number is generated and automatically assigned to the new Request records.
- If an object is already requested for the next level, and auto-merge was set to No during the RFP submission, a Request record will not be created and a warning condition will be generated. If auto-merge was set to Yes, the other RFPs will be merged into this new RFP and a warning isn't flagged.
- If Auto-Submit is set to Y for the next level, and no errors exist at the next level, and Workflow acceptance of this RFP is not required, the new RFP is submitted to batch.

1.3.14 MDWorkflow Acceptance of Installed Promotion

If MDWorkflow Acceptance Group Types are defined for the RFPs promotion level, then the groups assigned for acceptance for the Projects contained in the RFP must sign off on the installed changes before the RFP may continue to the next step. A next step would be submission to the next level on this system and/or sending to target levels on other systems.

To perform MDWorkflow acceptance, either use the MDWorkflow web application or use option A=Acpt Test from the RFP listing for the installed RFP.

```

CMC263          MD T 74 6.1          24.04.16
SCRN1           RFP Test Status      18:14:47

Appl/Lvl: TEST 30 Test Status: 0-Ongoing
RFP:      1061 data areas

Type options, press Enter.
A=Accept  C=Comments  G=Group Info  I=In Progress  R=Reject  U=Undo

Opt Project      Group Type Group      User      Status      Date      Time      Cmt
-  LIBRARYPROJ   MARKETING MARK-CH   User      Status      Date      Time      Cmt
-  LIBRARYPROJ   TESTER     TEST 1    MMORGAN   Accepted 23.04.16 18:03:15 Y

F3=Exit  F5=Refresh

Bottom

```

Options

A=Accept - accept the RFP for the project entry. You must belong to the defined group for the project to perform acceptance or rejection. Every entry must be accepted before acceptance confirmation can be granted.

C=Comments - view/edit comments for the project entry

Group Info - If a group isn't yet defined for the project, and you have authority to edit projects, the group (and optionally user) can be selected. If a group is already defined, the information about the group is displayed.

I=In Progress - specify that you are testing the results for the project entry. The entry is then reserved for you.

R=Reject - reject the RFP for the project entry. If any entry is rejected, the entire RFP can be confirmed for rejection.

U=Undo - Undo the provisional acceptance or rejection of a project entry. This also frees the entry to be worked on by another member of the group, if not for a specific user for the project.

Confirm Acceptance/Rejection

Once all entries are accepted, or any entry is rejected, F10 must then be pressed by an authorized user (MDSEC code 46 for the RFPs Application). This then confirms the status for the RFP, which will either of the following:

2 - MDWorkflow acceptance complete - next step in process for RFP is freed, as long as all objects in RFP aren't waiting for acceptance in another RFP

9 - MDWorkflow rejection complete - next step in process for RFP has been deleted. Corrections must be brought up to this level to allow objects to continue.

1.3.15 MDSBMRFP - RFP Submission command

MDCMS is delivered with a command-based API similar to the Installer API. The difference with the Submitter API is that RFPs will be submitted when they have status 01 (Objects assigned to RFP) and/or status SP (Submission Pending). This API allows external processes, such as End-of-Day, to submit some or all RFPs for promotion.

The Object Checking and Compilation portion of a Promotion will be performed for the selected RFP(s). If no problems are encountered, the Auto-Approve and Auto-Install flags for the Promotion Level will be checked. If one of the flags is set to N, the process stops, otherwise the RFP will be installed. The API does not fail if no RFPs are currently waiting to be submitted.

This allows a business to embed the MDCMS Submission process into its remote systems for clean, hands free processing.

The MDCMS command is named **MDSBMRFP** and is located in library MDCMS*.

If the submission of an RFP is not successful, its status returns to 01 and the objects in the environment remain the same as they were prior to the submission.

All MDSBMRFP API transactions are logged to file MDCMS/MDDSRFP.

MDSBMRFP Parameter Table

Name	Type	Length	Description
Name	Type	Length	Description
APPL	CHAR	6	Application Code or *ALL for any application
FROMLVL	INTEGER	3	Minimum Application Level to consider
TOLVL	INTEGER	3	Maximum Application Level to consider
FROMRFP	INTEGER	7	Minimum RFP Number to consider
TORFP	INTEGER	7	Maximum RFP Number to consider
PEND	CHAR	4	Include Pending RFPs *YES = RFPs with status SP are also considered *NO = only RFPs with status 01 are considered *ONLY = only RFPs with status SP are considered
SCHDT	CHAR	8	Pending until Scheduled Date *CURRENT = include RFPs with a scheduled date that is not greater than the current date Or, enter a date in YMD format to designate the maximum allowed scheduled date
PROJ	CHAR	12	Project Filter - only submit RFP if one or more Objects in the RFP are requested for the Project
TASK	INTEGER	7	Task Filter - only submit RFP if one or more Objects in the RFP are requested for the Project Task
STSK	INTEGER	7	Subtask Filter - only submit RFP if one or more Objects in the RFP are requested for the Project Subtask
PIPE	CHAR	10	Pipeline Filter - Specifies the Pipeline Server ID of a Pipeline TraceKey request. This value is required if a value for TRCKEY is provided. If values for PIPE/TRCKEY are provided, an RFP will only be included if it contains an object request of type *PIPE with the Pipeline server ID and TraceKey in the object name.
TRCKEY	CHAR	128	Pipeline TraceKey Filter - Specifies the Pipeline TraceKey of a Pipeline TraceKey request. This value is required if a value for PIPE is provided. If values for PIPE/TRCKEY are provided, an RFP will only be included if it contains an object request of type *PIPE with the Pipeline server ID and TraceKey in the object name.
USER	CHAR	10	The User Profile ID to be displayed in Installation History. *CREATOR = same user that created the RFP number *USER = same user that called the API A specific User Profile
CONT	CHAR	4	Continue Submitting RFPs if a RFP Fails *YES = any further RFPs will be submitted *NO = this API stops submitting RFPs
ENV	CHAR	4	Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST. *DFT = The default environment will be used. This correlates to library MDCMS.
EMSG	CHAR	7	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail. *DIAG = A diagnostic message will be placed in the calling program's message queue in the following format:

Name	Type	Length	Description
			MDSBMRFP Exception. Object=, Reason= *ESCAPE = The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE = An exception message will not be returned to the calling program's message queue.

1.3.16 MDAPRRFP - RFP Approver command

MDCMS is delivered with a command-based API that allows external processes to approve some or all RFPs. An RFP must have status 02 (Waiting for Approval) in order to be considered by the API.

By default, users are not authorized to use this command. Authority can be granted from the MDSEC Command Security feature.

The MDCMS command is named **MDAPRRFP** and is located in library MDCMS*.

All MDAPRRFP API transactions are logged to file MDCMS/MDDARFP.

MDAPRRFP Parameter Table

Name	Type	Length	Description
Name	Type	Length	Description
APPL	CHAR	6	Application Code or *ALL for any application
RFP	INTEGER	7	Specific RFP Number - if left blank, then the range of RFP numbers will be considered
RFPT	CHAR	8	Specific RFP Type - the type of specific RFP number passed in parameter RFP. *CURRENT = the current number for an RFP *FROM = The RFP number refers to the RFP installed into the prior level, which then automatically generated the RFP with a different number to be deleted. *ORIG = Each RFP to be deleted originated from the specified RFP number, which was installed into the initial level for a chain of migrations across systems.
FROMLVL	INTEGER	3	Minimum Application Level to consider
TOLVL	INTEGER	3	Maximum Application Level to consider
FROMRFP	INTEGER	7	Minimum RFP Number to consider
TORFP	INTEGER	7	Maximum RFP Number to consider
PROJ	CHAR	12	Project Filter - only install RFP if one or more Objects in the RFP are requested for the Project
TASK	INTEGER	7	Task Filter - only install RFP if one or more Objects in the RFP are requested for the Project Task
STSK	INTEGER	7	Subtask Filter - only install RFP if one or more Objects in the RFP are requested for the Project Subtask
PIPE	CHAR	10	Pipeline Filter - Specifies the Pipeline Server ID of a Pipeline TraceKey request. This value is required if a value for TRCKEY is provided. If values for PIPE/TRCKEY are provided, an RFP will only be included if it contains an object request of type *PIPE with the Pipeline server ID and TraceKey in the object name.
TRCKEY	CHAR	128	Pipeline TraceKey Filter - Specifies the Pipeline TraceKey of a Pipeline TraceKey request. This value is required if a value for PIPE is provided. If values for PIPE/TRCKEY are provided, an RFP will only be included if it contains an object request of type *PIPE with the Pipeline server ID and TraceKey in the object name.
ENV	CHAR	4	Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST. *DFT = The default environment will be used. This correlates to library MDCMS.
EMSG	CHAR	7	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail. *DIAG = A diagnostic message will be placed in the calling program's message queue in the following format: MDINSRFP Exception. Object=, Reason= *ESCAPE = The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE = An exception message will not be returned to the calling program's message queue.

1.3.17 MDINSRFP - RFP Installer command

MDCMS is delivered with a command-based API that allows external processes, such as End-of-Day, to install some or all RFPs. An RFP must have status 03 (Ready for Installation) and/or status IP (Installation Pending) in order to be considered by the API. The API does not fail if no RFPs are currently waiting to be installed. This allows a business to cleanly embed the MDCMS Installation process into its nightly or weekend batch processing so that conflicts are avoided.

The MDCMS command is named **MDINSRFP** and is located in library MDCMS*.

If the installation of an RFP is not successful, its status returns to 03 and the objects in the environment remain the same as they were prior to the installation. This API allows the option of automatically rolling back all RFPs that were installed prior to the RFP which failed.

All MDINSRFP API transactions are logged to file MDCMS/MDDIRFP.

MDINSRFP Parameter Table

Name	Type	Length	Description
Name	Type	Length	Description
APPL	CHAR	6	Application Code or *ALL for any application
FROMLVL	INTEGER	3	Minimum Application Level to consider
TOLVL	INTEGER	3	Maximum Application Level to consider
FROMRFP	INTEGER	7	Minimum RFP Number to consider
TORFP	INTEGER	7	Maximum RFP Number to consider
PEND	CHAR	4	Include Pending Installs *YES = RFPs with status IP are also considered *NO = only RFPs with status 03 are considered *ONLY = only RFPs with status IP are considered
SCHDT	CHAR	8	Pending until Scheduled Date *CURRENT = include RFPs with a scheduled date that is not greater than the current date Or, enter a date in YMD format to designate the maximum allowed scheduled date
PROJ	CHAR	12	Project Filter - only install RFP if one or more Objects in the RFP are requested for the Project
TASK	INTEGER	7	Task Filter - only install RFP if one or more Objects in the RFP are requested for the Project Task
STSK	INTEGER	7	Subtask Filter - only install RFP if one or more Objects in the RFP are requested for the Project Subtask
PIPE	CHAR	10	Pipeline Filter - Specifies the Pipeline Server ID of a Pipeline TraceKey request. This value is required if a value for TRCKEY is provided. If values for PIPE/TRCKEY are provided, an RFP will only be included if it contains an object request of type *PIPE with the Pipeline server ID and TraceKey in the object name.
TRCKEY	CHAR	128	Pipeline TraceKey Filter - Specifies the Pipeline TraceKey of a Pipeline TraceKey request. This value is required if a value for PIPE is provided. If values for PIPE/TRCKEY are provided, an RFP will only be included if it contains an object request of type *PIPE with the Pipeline server ID and TraceKey in the object name.
USER	CHAR	10	The User Profile ID to be displayed in Installation History. *APPROVER = same user that approved RFP for Installation *USER = same user that called the API A specific User Profile
CONT	CHAR	4	Continue Installing RFPs if an Installation Fails *YES = any further RFPs will be installed *NO = this API stops Installing RFPs
ROLLBACK	CHAR	4	Rollback any RFPs that were already installed by the API prior to the RFP that has failed. *YES = The prior RFPs will be rolled back (only valid if CONT=*NO) *NO = The prior RFPs remain installed
ENV	CHAR	4	Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST. *DFT = The default environment will be used. This correlates to library MDCMS.

Name	Type	Length	Description
EMSG	CHAR	7	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail. *DIAG = A diagnostic message will be placed in the calling program's message queue in the following format: MDINSRFP Exception. Object=, Reason= *ESCAPE = The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE = An exception message will not be returned to the calling program's message queue.

1.3.18 MDRBRFP - RFP Rollback command

MDCMS is delivered with a command-based API that allows an external CL program, such as a program within End-of-Day, to rollback a specific RFP. An RFP must have already been installed in order to be considered by the API.

The MDCMS command is named **MDRBRFP** and is located in library MDCMS*.

MDRBRFP Parameter Table

Name	Type	Length	Description
Name	Type	Length	Description
APPL	CHAR	6	Application Code
RFP	INTEGER	7	RFP Number
USER	CHAR	10	The User Profile ID to be displayed in Installation History. *INSTALLER = same user that installed the RFP *USER = same user that called the API A specific User Profile
ENV	CHAR	4	Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST. *DFT = The default environment will be used. This correlates to library MDCMS.
EMSG	CHAR	7	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail. *DIAG = A diagnostic message will be placed in the calling program's message queue in the following format: MDRBRFP Exception. Object=, Reason= *ESCAPE = The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE = An exception message will not be returned to the calling program's message queue.

1.3.19 MDDELRF - RFP Deletion command

MDCMS is delivered with a command-based API that allows an external CL program, such as a program within End-of-Day, to delete (reset) RFPs. If the RFP has already been installed, or a job is currently compiling or installing the RFP, it will not be considered by the API.

The MDCMS command is named **MDDELRF** and is located in library MDCMS*.

All MDDELRF API transactions are logged to file MDCMS/MDDDRF.

MDDELRF Parameter Table

Name	Type	Length	Description
Name	Type	Length	Description
APPL	CHAR	6	Application Code *ALL = The RFPs to delete can belong to any application
RFP	INTEGER	7	Specific RFP Number - if left blank, then the range of RFP numbers will be considered
RFPT	CHAR	8	Specific RFP Type - the type of specific RFP number passed in parameter RFP. *CURRENT = the current number for an RFP *FROM = The RFP number refers to the RFP installed into the prior level, which then automatically generated the RFP with a different number to be deleted. *ORIG = Each RFP to be deleted originated from the specified RFP number, which was installed into the initial level for a chain of migrations across systems.
FLVL	INTEGER	3	From Level - the lower limit for the level number to delete from
TLVL	INTEGER	3	To Level - the upper limit for the level number to delete from
FRFP	INTEGER	7	From RFP - the minimum RFP number to be deleted
TRFP	INTEGER	7	To RFP - the maximum RFP number to be deleted
PROJ	CHAR	12	Project - specifies the Project that must be assigned to one or more of the objects in an RFP for that RFP to be considered.
TASK	INTEGER	7	Task - Specifies the Project Task that must be assigned to one or more of the objects in an RFP for that RFP to be considered. If TASK > 0, then the Project ID must also be passed.
STSK	INTEGER	7	Subtask - Specifies the Project Subtask that must be assigned to one or more of the objects in an RFP for that RFP to be considered. If STSK > 0, then the Project ID and Project Task must also be passed.
ENV	CHAR	4	Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST. *DFT = The default environment will be used. This correlates to library MDCMS.
EMSG	CHAR	7	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail. *DIAG = A diagnostic message will be placed in the calling program's message queue in the following format: MDDELRF Exception. Object=, Reason= *ESCAPE = The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE = An exception message will not be returned to the calling program's message queue.

1.3.20 MDWFARFP - MDWorkflow Acceptance for RFP command

MDCMS is delivered with a command-based API that provides for automated updates to the MDWorkflow Test Status for RFPs.

An RFP will be considered if already installed with an "ongoing" test status.

The MDCMS command is named **MDWFARFP** and is located in library MDCMS*.

All MDWFARFP API transactions are logged to file MDCMS/MDDWFAR.

MDWFARFP Parameter Table

Name	Type	Length	Description
Name	Type	Length	Description
GRP	CHAR	10	The User Group ID of the user to update the Workflow test status for RFPs. This is a required parameter
USER	CHAR	10	The specific user in the Group to attribute the acceptance status to. The user must belong to the group that is involved with testing project(s) impacted by the RFPs to accept/reject. *USER = The user id of the job that invokes this command will be used.
ACT	CHAR	7	The action to carry out for each qualified project in each qualified RFP, based on the passed parameter values. *ACCEPT = Set the test status to accepted *REJECT = Set the test status to rejected *INPROG = Set the test status to In Progress *UNDO = Reset the provisional test status
CMNT	CHAR	120	A comment to apply to the status update for informational purposes
CONF	CHAR	4	Whether or not to set the RFP test status to confirmed, if all impacted projects for the RFP have been provisionally accepted or if at least one of the impacted projects for the RFP has been provisionally rejected. *NO = This command will only set the provisional status. Final confirmation will occur later. *YES = Set the RFP test status to confirmed and carry out any post-confirmation steps.
APPL	CHAR	6	Application Code *ALL = The RFPs to accept/reject can belong to any application
RFP	INTEGER	7	Specific RFP Number - if left blank, then the range of RFP numbers will be considered
RFPT	CHAR	8	Specific RFP Type - the type of specific RFP number passed in parameter RFP. *CURRENT = the current number for an RFP *FROM = The RFP number refers to the RFP installed into the prior level, which then automatically generated the RFP with a different number to be accepted. *ORIG = Each RFP to be accepted originated from the specified RFP number, which was installed into the initial level for a chain of migrations across systems.
FLVL	INTEGER	3	From Level - the lower limit for the level number to accept/reject
TLVL	INTEGER	3	To Level - the upper limit for the level number to accept/reject
FRFP	INTEGER	7	From RFP - the minimum RFP number to accept/reject
TRFP	INTEGER	7	To RFP - the maximum RFP number to accept/reject
PROJ	CHAR	12	Project - specifies the Project that must be assigned to one or more of the objects in an RFP for that RFP to be considered. If blank, then the RFPs won't be filtered by a project and the test status for all projects in the RFP will be updated. If not blank, the RFP must impact the Project and the test status will only be applied to that project.
TASK	INTEGER	7	Task - Specifies the Project Task that must be assigned to one or more of the objects in an RFP for that RFP to be considered. If TASK > 0, then the Project ID must also be passed.
STSK	INTEGER	7	Subtask - Specifies the Project Subtask that must be assigned to one or more of the objects in an RFP for that RFP to be considered. If STSK > 0, then the Project ID and Project Task must also be passed.

Name	Type	Length	Description
PIPE	CHAR	10	Pipeline Filter - Specifies the Pipeline Server ID of a Pipeline TraceKey request. This value is required if a value for TRCKEY is provided. If values for PIPE/ TRCKEY are provided, an RFP will only be included if it contains an object request of type *PIPE with the Pipeline server ID and TraceKey in the object name.
TRCKEY	CHAR	128	Pipeline TraceKey Filter - Specifies the Pipeline TraceKey of a Pipeline TraceKey request. This value is required if a value for PIPE is provided. If values for PIPE/ TRCKEY are provided, an RFP will only be included if it contains an object request of type *PIPE with the Pipeline server ID and TraceKey in the object name.
ENV	CHAR	5	Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST. *DFT = The default environment will be used. This correlates to library MDCMS. *SAME = the current instance, in case the library list is already set
EMSG	CHAR	7	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail. *DIAG = A diagnostic message will be placed in the calling program's message queue in the following format: MDWFARFP Exception. Object=, Reason= *ESCAPE = The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE = An exception message will not be returned to the calling program's message queue.

1.3.21 MDCMPPFM - MD Member Comparison Report

MDCMS is delivered with a command-based API that provides for the reporting of code differences between 2 source members.

This command can be used for any member comparisons, but is particularly useful for automatic reporting of differences for any source deployed by an RFP. To configure MDCMS to do this, do the following:

Create a command entry either for specific objects or for specific MDCMS attributes with the following properties:

Type = Q=Installation Archive/Cleanup

Run for Modifications = Y

Run for Recompiles, Deletes and Updates = N

Keep MD Libs in Libl = Y

Command

MDCMPPFM NEWFILE(##SRCLIB##/##SRCFIL##) NEWMBR(##SRCNAM##) OLDFILE(##PRISLB##/##PRISFL##)

OLDMBR(##PRISNM##) IFSF(CodeCompare_##SRCNAM##_##ATTRIB##)

TITLE('MDCMS Code Comparison for Level ##APPLIC##/##PROLVL## RFP ##RFPNBR##') IFSD('/Reports/CodeCompare/RFP##RFPNBR##')

MDCMPPFM Parameter Table

Name	Type	Length	Description
Name	Type	Length	Description
NEWFILE	QUAL	10-21	The qualified name of the source file containing the new version of the source. Use *LIBL for library when the file should be found in the library list.
NEWMBR	CHAR	10	The name of the new version of the source member
OLDFILE	QUAL	10-21	The qualified name of the source file containing the old version of the source. Use *LIBL for library when the file should be found in the library list.
OLDMBR	CHAR	10	The name of the old version of the source member
IFSF	CHAR	60	The name of the IFS file to contain the result
APPTS	CHAR	4	Append Timestamp to filename *YES - the date and time of the comparison will be appended to the file name *NO - the file name won't contain the date/time
TITLE	CHAR	100	The title to include in the PDF report, if the PDF is used
IFSD	CHAR	80	The folder path of the IFS file to contain the result
RPTFMT	CHAR	4	PDF - a PDF will be created for the result TXT - a plain text file will be created for the result

1.4 RFP History

1.4.1 RFP History

The RFP History screen lists all RFPs that have completed installation in descending order. The screen is identical to the RFP Manager screen. The RFPs can be toggled on this screen between historical and active using **F10**.

1.4.2 Rolling back a Promotion from within RFP History

To rollback part or all of an RFP from Object History, enter option R in front of any installed RFP.

A list of all objects assigned to the RFP will be displayed. Each object which still has the prior version of the source or object, or each object that is new, will have the ability of being rolled back. Enter a 1=Select for Rollback in front of each object to rollback or press F13=Select all available to select all available objects.

A new RFP will be automatically generated and all selected objects will be assigned to it. The Submit Confirmation and Override panel will then appear for the promotion or scheduling of the Rollback RFP. The promotion will delete new objects, recreate deleted objects, bring modified objects back to the prior version, and recompile objects that were originally set as *RECOMPILE. As with a normal RFP, a rollback RFP will also archive the source/objects it replaces.

1.4.3 Target Locations for Installed RFP

Option T can be used from RFP History to view the send status for each of the defined target levels based on the promotion level of the installed RFP. If the RFP in the Send List is still open, the RFP can also be sent directly from this screen.

1.5 Object History / Archive

1.5.1 Object History / Archive

Historical information is kept in MDCMS for every object that is promoted. The Installation History / Archive process is used to view the history of installed or deleted objects and to retrieve or rollback prior versions of objects.

```

CMC540                                COMPANY NAME                                10/19/20
Filters                                Installation History/Archive Retrieval        19:35:48
Appl:_____
Lvl.:_____ Attribute.:_____ Project...:_____ Install Date
RFP.:_____ Programmer:_____ Task/STsk:_____ Min:_____
Reason...:_____ Max:_____

Type options, press Enter.
5=Details C=Compare Src R=RFP T=Trace 7=Prior Src 8=Prior Obj 9=Rollback
                                     Pri
Object Installed Appl/Lvl Attribute Programmer RFP Project R SO
- ACCTPG01 8/21/96 MD2K 10 RPG M MUCKLEY 20028 VAT R
- ACCTPG02 9/28/96 MD2K 10 CBL M MORGAN 20017 VAT + M Y
- ACCTPG02 9/03/96 MD2K 10 CBL M MUCKLEY 20058 P288394 M Y
- ACDRHDL 9/03/96 MD2K 90 CLP M MUCKLEY 20059 P293823 D Y Y
- PKT1037 8/17/96 ACCT 10 PRTF_WIDE M MUCKLEY 20010 VAT M Y
- MTU553 6/06/96 MD2K 10 DSPFSE M MORGAN 20008 A382KS9 M Y
- SENTPGM 8/11/96 MD2K 10 CMD M MORGAN 20007 VAT M Y
                                     More...
F2=Full Name F4=Browse F8=Audit Reports F11=View Output F15=Print

```

All of the previously installed objects are displayed and subsetting using the filters at the top of the display.

If the promotion of an object results in the change or deletion of previously existing source, the previous version of the source will be archived. Installation History stores between 1 and an infinite number of generations of the source for each object at each promotion level. If an object is not compiled from source code, then the object itself is compressed and archived in the IFS directory MDCMS/ARCHIVE. The number of generations to store is set within the promotion level maintenance function.

Options

5=Details - Display the Installation History Detail.

C=Compare - Place this option in front of 1 entry containing archived source to compare that source to the source that currently exists in the source file for the attribute.

Place this option in front of 2 entries containing archived source to compare those 2 versions to each another.

R=RFP - Toggle to the RFP History, filtered to the selected RFP, in order to view additional information about the RFP or the objects in that RFP.

T=Trace - list the route that an object request has taken as it is deployed to various levels across all partitions. The data includes the date/time of the event as well as the RFP number and user. See the section on Trace Request under Object Manager/Process Request Records for more information.

7=Prior Src - Prompt the user for a location for the archived source to be copied to. The source can be copied to any library that is not managed by MDCMS or to a spooled file.

8=Prior Obj - Prompt the user for a location for the archived object to be copied to. The object can be copied to any library (or folder for IFS objects) that is not managed by MDCMS.

9=Rollback - Rollback selected object and/or other objects for same RFP as selected object.

Filters:

Entering a value into one of the filters fields will cause the list to be re-displayed and subsetted to show only archive records that match the entered filter field values.

Appl -Application.

Lvl - Application Level.

RFP - Request for Promotion number.

Attribute - The object Attribute used for the promotion.

Programmer - The Programmer assigned to the Object Request.

Project - The Project associated with the Object Request.

Task/STsk - The Project Task and/or subtask associated with the Object Request.

Reason - The Reason for the Object Request. Possible values are M=Modify, R=Recompile, U=Update and D=Delete

Installed - the minimum and/or maximum date that the promotion was installed

Position to:

The Position to field appears as above the Object column. Entering a value into the Position to field will position the contents of the subfile to the first record in the current list of archived records that is greater than, or equal to, the entered value.

Function Keys:

F2=Full Name - Displays full name of object when F2 is pressed when cursor is within the Object name field. This can be useful for IFS object names that exceed the length of the Object field within the display.

F3=Exit

F4=Browse - Browse a list of available filter entries depending upon which filter the cursor is positioned to. For example, to browse the RFP list, place cursor on RFP filter field and press **F4**.

F8=Audit Reports - MDCMS Audit Reports menu. Generate customizable audit reports for what has been installed either within, or outside of, MDCMS.

F11=View Output - Display the MD Output panel and other spool files.

F15=Print - Print a list of promotion records to a spooled file based on filters in current display.

1.5.2 Rolling back a Promotion from within Object History

To rollback part or all of an RFP from Object History, enter option 9 in front of any installed object that is part of the RFP.

A list of all objects assigned to the RFP will be displayed. Each object which still has the prior version of the source or object, or each object that is new, will have the ability of being rolled back. Enter a 1=Select for Rollback in front of each object to rollback or press F13=Select all available to select all available objects.

A new RFP will be automatically generated and all selected objects will be assigned to it. The Submit Confirmation and Override panel will then appear for the promotion or scheduling of the Rollback RFP. The promotion will delete new objects, recreate deleted objects, bring modified objects back to the prior version, and recompile objects that were originally set as *RECOMPILE. As with a normal RFP, a rollback RFP will also archive the source/objects it replaces.

1.5.3 Installation History Audit Report

To generate a report over promoted objects from within MDCMS, press **F8** from the Installation History screen and select **option 1 MDCMS Installation History** from the MDCMS Audit reports menu. The following prompt screen is then displayed:

```

CMC541                                COMPANY NAME                                10/19/11
SCRN3                                Installation History Report                    6:02:01

Select and sequence fields and record filters, press Enter.
Use F7 to load a definition, F9 to save a definition

Seq Field      Minimum      Maximum      Filter/Format      Sort
 10 Install Date *PM_____ YYYYMMDD,*PY,*PM,*Pn,*CY,*CM,*CD A
 20 Application _____ A
 30 Level       80_____ 90_____ A
   Programmer  _____ *gen*eric* A
   Approver    _____ *gen*eric* A
   Approval Date _____ YYYYMMDD,*PY,*PM,*Pn,*CY,*CM,*CD A
   Installer   _____ *gen*eric* A
   Install Time _____ HHMMSS A
   RFP Number  _____ A
   Project     _____ *gen*eric* A
   Task        _____ A
   Subtask     _____ A
   Object Name _____ *gen*eric* A
   Object Type _____ A
                                     More ...

F3=Exit  F4=Browse  F5=Refresh  F7=Load Def  F9=Save Def  F11=View Output

```

This screen allows you to define your own report. The report may consist of any or all of the listed fields and any or all promotion records may be selected and sorted as you choose. The report definitions may then be saved and used again in the future from this screen or from a command line.

Seq

Each field with a sequence number > 0 will be included in the report. The columns of the report are ordered by the sequence number. The sorting of the records is also based on the order of the sequence fields.

Minimum

The smallest value that the corresponding field may contain, unless the value is a special value or a generic value.

Special Values:

- *PY - the date must fall within the previous year (only valid for date fields)
- *PM - the date must fall within the previous month (only valid for date fields)
- *Pn - all object changes occurring during the previous n (1-9) days (only valid for date fields)
- *CY - the date must fall within the current year (only valid for date fields)
- *CM - the date must fall within the current month (only valid for date fields)
- *CD - only report on object changes occurring on the current date (only valid for date fields)
- M - the object must have been selected for a modification request (only valid for reason)
- D - the object must have been selected for a deletion request (only valid for reason)
- R - the object must have been selected for a recompile request (only valid for reason)
- U - the object must have been selected for an update request (only valid for reason)

Generic Values:

The wildcard value * may be used multiple times anywhere within a string to limit records to occurrences where the field contains the string. For example, *3XJ* will select all records where the value 3XJ is contained somewhere within the field string. *XJ will select all records where the value XJ is contained at the end of the field string. Wildcards may be used for all alphanumeric fields, except Object Type and Reason.

Maximum

The largest value that the corresponding field may contain. This field must be left blank if a special or generic value was entered in the Minimum field.

Sort

A - Sort this field in ascending (A->Z) order.

D - Sort this field in descending (Z->A) order.

NOTE: Only the first 10 columns will be considered for sorting. The system attribute and text for an object can be included in the report, but the filtering and sorting features aren't applicable for these 2 columns.

Function Keys:

F3=Exit - Exit the prompt screen.

F4=Browse - Browse the list of available entries depending upon which field the cursor is positioned.

F5=Refresh - Reset the definition back to the initial settings

F7=Load Def - Load a definition from the list of saved definitions

F9=Save Def - Save the entered configuration as a report definition. The saved definition may then be reused anytime in the future from within MDCMS or from a command line. See the chapter on MDRUNRPT for more information about running reports from a command line.

F11=View Output - Display the MD Output panel and other spool files.

When the report runs, optimized SQL routines are used against the MDCMS tables so that the report is created very quickly, even if several years of data are to be inspected.

1.5.4 Audit Report of Object Changes outside of MDCMS

Designing/Running Audit Report from Online Generator

To generate an audit report of object changes that have occurred outside of MDCMS, press **F8** from the Installation History screen and select option 2 from the report menu. The following prompt screen is then displayed:

```

CMC542                                COMPANY NAME                                09/04/05
SCRN1                                Modifications outside of MDCMS Report        10:37:52

Select and sequence fields and record filters, press Enter.
Use F7 to load a definition, F9 to save a definition

Seq Field      Minimum      Maximum      Filter                               Sort
 10 Date                _____  _____  YYYYMMDD, *PM, *Pn D, *CM, *CD    A/D
 20 Time                _____  _____  HHMMSS                             A
 30 User                _____  _____  *gen*eric*                         A
 40 Object Library      _____  _____  *gen*eric*                         A
 50 Object Name         _____  _____  *gen*eric*                         A
 60 Object Type         _____  _____  *gen*eric*                         A
 70 Object Attrib       _____  _____  *gen*eric*                         A
 80 Object Text         _____  _____  *gen*eric*                         A
 90 Program            _____  _____  *gen*eric*                         A
100 Job                _____  _____  *gen*eric*                         A
110 Reason             _____  _____  CREATE, DELETE                     A
120 Sequence Number    _____  _____  *gen*eric*                         A
     Application       _____  _____  *gen*eric*                         A
     Level             _____  _____  *gen*eric*                         A

F3=Exit  F4=Browse  F5=Refresh  F7=Load Def  F9=Save Def  F11=View Output
Bottom
  
```

This screen allows you to define your own report. The report may consist of any or all of the listed fields and any or all object changes may be selected and sorted as you choose. The only exceptions are the application and level fields. These fields may not appear in the report, as they are only used as selection criteria. If records are limited to a specific application or level, then only object libraries used by attributes in the application/level are evaluated.

The report configurations may then be saved as definitions and used again in the future from this screen or from a command line.

Seq

Each field with a sequence number > 0 will be included in the report. The columns of the report are ordered by the sequence number. The sorting of the records is also based on the order of the fields.

Minimum

The smallest value that the corresponding field may contain, unless the value is a special value or a generic value.

Special Values:

*PM - all object changes occurring during the previous month (only valid for date fields)

*Pn - all object changes occurring during the previous n (1-9) days (only valid for date fields)

*CM - all object changes occurring during the current month (only valid for date fields)

*CD - all object changes occurring during the current day (only valid for date fields)

CREATE - report only created objects (only valid for reason)

DELETE - report only deleted objects (only valid for reason)

Generic Values:

The wildcard value * may be used multiple times anywhere within a string to limit records to occurrences where the field contains the string. For example, *3XJ* will select all records where the value 3XJ is contained somewhere within the field string. *XJ will select all records where the value XJ is contained at the end of the field string. Wildcards may be used for all alphanumeric fields, except Object Type and Reason.

Maximum

The largest value that the corresponding field may contain. This field must be left blank if a special or generic value was entered in the Minimum field.

Sort

A - Sort this field in ascending (A->Z) order.

D - Sort this field in descending (Z->A) order.

Note: The system attribute and text for an object can be included in the report, but the filtering and sorting features aren't applicable for these 2 columns.

Function Keys:

F3=Exit

F4=Browse - Browse the list of available entries depending upon which field the cursor is positioned.

F5=Refresh - Reset the definition back to the initial settings

F7=Load Def - Load a definition from the list of saved definitions

F9=Save Def - Save the entered configuration as a report definition. The saved definition may then be reused anytime in the future from within MDCMS or from a command line. See the chapter on MDRUNRPT for more information about running reports from a command line.

F11=View Output - Display the MD Output panel and other spool files.

Troubleshooting the Audit Report

In order for the audit report of object changes to be accurate, it is important that the following system settings are in place:

The system value for Auditing control (WRKSYSVAL QAUDCTL) must be set to at least *AUDLVL. It is also recommended that the value *OBJAUD is included.

The system values for Security auditing level (WRKSYSVAL QAUDLVL) must be set to at least *CREATE and *DELETE.

The journal object QAUDJRN must exist and a journal receiver must be attached.

The current chain of journal receivers that exist on the system need to cover the time frame for the desired reporting range.

Objects will only be considered for the report if they reside in libraries or IFS-directories that are designated as Object Libraries in the MDCMS Attributes settings. If a desired library/directory is not reported, then create at least one attribute for that library/directory in the MDCMS Setup Menu option 3. This requirement exists to avoid excessive reporting of temporary libraries and directories.

1.6 Project Manager

1.6.1 Project Manager

1.6.2 Project Listing

```

CMC227                                COMPANY NAME                                10/18/11
SCRN1                                Project Listing                                12:22:20
FILTERS
App1: _____ Requester.: _____ Description.....: _____
Pri.: _ Sts: _ Assn User: _____ Project Type.....: _____
Pos to Project...: _____

Type options, press Enter.
1=Select 2=Edit 3=Copy 7=Rename 8=Chg Status G=Groups H=Hours O=Objects...

Opt Project      App1 Requester  Assign to Pr St Proj Type  Create  Exp Comp
-   VAT          ACCT  MMORGAN   MMORGAN   2  3  *DFT    28.01.07 14.02.07 Y
-   Version 6.0
-   SAVERESTORE  OPER  MMORGAN   MMORGAN   3  5  *DFT    11.02.07 31.03.07 Y
    Save and Restore functions

                                           Bottom
F3=Exit  F4=Browse  F5=Refresh  F6=Add  F8=Reports  F9=Closed Projects
F10=Sort by Comp. Date  F13=Exit Points  F17=Top  F18=Bottom  F23=More Opts

```

The Project Listing display is accessed from main menu option 6 or by pressing **F4** from the Object Manager when the cursor is on a Project field.

NOTE: Not all functions of the Project Management system are available within the 5250 UI. Refer to the MDWorkflow web application documentation for those features available within MDWorkflow or MDOpen.

Filters

The Project Listing is filtered by the fields at the top of the display. If the Status (Sts) filter is left blank, only Projects with an open status will be displayed. Press F9 to display closed Projects.

The description filter will list all Projects that have matching text in the title. For example, enter PRINT to list only Projects with print somewhere in the title. The description filter is not case sensitive.

Options

1=Select - Return the selected Project back to the requesting process. This option will only appear when using F4=Browse in the Project field of the Object Manager panel.

2=Edit - Edit the Project's detail information.

3=Copy - Copy the details of a Project to a new Project ID.

5=Display - View the Project's detail information.

7=Rename - Rename the Project to a new value. When renamed, the Project ID in all related tables for configuration, activity and history are also renamed. The original value is only retained in API logs for audit reasons.

8=Chg Status - Select a new status for the Project from a list of possible status codes, based on authority and current status.

NOTE: If the new status closes the Project, a warning will be given if the Project still has open Tasks or Subtasks. The user can bypass the warning by pressing Enter and all Tasks and Subtasks will also be closed.

G=Groups - Acceptance and Technical Groups assigned to project. Option only available when MDWorkflow is licensed.

H=Hours - View and enter hours worked on behalf of the project.

O=Objects - View a list of objects that are or were modified for the selected Project.

T=Tasks - View and manage the tasks for a Project.

Function Keys:

F3=Exit

F4=Browse - Browse list of valid values for the Filter fields.

F5=Refresh

F6=Add - Add a new Project.

F8=Reports - Define or run a Project or Task Report.

F9 - Toggles display between **Active Projects** and **Closed Projects**.

F10 - Toggles display between **Sort by Comp. Date** and **Sort by Project**.

F11=View Output - Display the MD Output panel and other spool files

F13=Exit Points - View/Manage the Exit Point definitions for when commands should be executed when a project, task or subtask transitions to a new status.

F17=Top - Position cursor to top of list.

F18=Bottom - Position cursor to bottom of list.

F23=More Opts - View additional options available for a Project

1.6.3 Project Details

CMC281	COMPANY NAME	10/18/11
SCRN1	Edit Project	12:37:15

Project.....: SAVERESTORE	Requested by.: MMORGAN	Date
Project Type...: *DFT_____ Appl OPER	Authorized by: MMORGAN	11.02.07
Assign to Group: NORAMTEST User MMORGAN	Work Started.: MMORGAN	11.02.07
Priority.....: 3 Medium	Test Ready...: MMORGAN	15.02.07
Exp. Completion: 31.03.07	Approved by..: MMORGAN	15.02.07
Status.....: 5 Changes Approved	Closed by....:	
Hours Expected.: _____18.0_	Hours Used...:	12.00

Project Title _____

Save and Restore functions _____

Project Description
for internal use _____

F3=Exit F4=Browse F11=View Output

More...

All Project information available within the 5250 client can be displayed or edited from this screen.

The Project Listing display is accessed by pressing **F4** from the Object Manager when the cursor is on a Project field or via option 6 from the MDCMS Main Menu.

NOTE: Not all functions of the Project Management system are available within the 5250 UI. Refer to the MDWorkflow web application documentation for those features only available within MDWorkflow or MDOpen.

Project

A 12-character field to uniquely identify the project

Project Type

The type of project, in order to categorize it and to apply pre-defined rules, custom fields and status codes for the project (if MDWorkflow is used). Press F4 on the Project Type field to manage the Project Types.

Appl

The primary application that the project will be used for. This is an optional field and if an application code is entered, requests for objects in other applications may still be assigned to this application.

Assigned to Group

The primary MDWorkflow Group that has been assigned to perform the work for this project. This screen only displays the primary value for this field. Use option G=Groups to view/manage all groups for the project.

User

The primary programmer to perform the work for this project. This is an optional field and other programmers may also perform work for the project, if the project type allows for it.

Priority

1 - Critical

2 - High

3 - Medium

4 - Low

5 - Optional

Exp. Completion

The date the project is expected to be complete

Status

1 - Project Opened

2 - Project Authorized

3 - Work in Process

4 - Ready for Testing

5 - Changes Approved

6 - Project Complete

9 - Project Cancelled

If the MDWorkflow license is active, additional status codes may be created and used.

Requested by

Authorized by

Work Started

Test Ready

Approved by

Closed by

For all these fields it will list the User that set each status and the date that the status was set.

Hours Expected

The number of hours that are expected to be needed to complete the project.

Hours Used

The sum of all hours entered to date for the project.

Project Title

A brief description of the Project.

Project Description

A full description of the Project.

Function Keys:

F3=Exit

F4=Browse - Browse list of valid values for available fields.

F11=View Output - Display the MD Output panel and other spool files

Project Types

```

MDCPRJT          MD T 8 6.1          4.04.17
SCRN1            Project Types       22:18:50

Pos: _____ Filter by Desc: _____ Tasks
Allow: _ Limit Requests: _
Require: _

Type options, press Enter.
1=Select 2=Edit 3=Copy 4=Delete 5=View S=Sts Transitions T=Task Types
                                     Tasks Limit
Opt Proj Type Description           Alw Req Req Dft
-   *DFT      Default                Y  N  N  N
-   NOTASKS   no tasks allowed        N  N  Y  N
-   ONLYTASKS Require request for task Y  Y  Y  Y
-   Z-TYPE    Z-Type                  Y  N  N  N

F3=Exit F6=Add

Bottom

```

Project Types are means to categorize projects and to set certain rules for projects of a given type. Every project must have a Project Type defined for it.

The listing to view and manage project types is reached by pressing F4 on the Project Type field in the Project screen.

Project Type

A 10-character identifier for a type of project

Description

Description of the Project Type

Allow Tasks

If Tasks are allowed to exist for this Project Type

Y - Tasks may be created

N - Tasks are not allowed. All work must be performed at the Project level

Require Requests be assigned to Tasks

If objects can be deployed directly for a Project, or if a Task must exist and applied to any checkouts before the RFP can be processed.

Y - Tasks must be created and assigned to every Object Request assigned to a project of this type prior to submission. Allow Tasks must also be set to Y if this flag is set to Y.

N - Object Requests are allowed to be assigned directly to the Project.

Limit Object Requests to Assigned Users

If developers are limited from assigning Object Requests to a Project of this type.

Y - Only developers that have been assigned to the Project, either directly or as a member of an assigned group, are allowed to assign Object Requests to the Project.

N - Any developer can assign Object Requests to a Project of this type.

Default Project Type

If the project type should be used as the default value when the user selects to create a new project.

Y - The Project Type should be used as the default for new projects. Only one Project Type can be the default. The user can overwrite the value with a different project type.

N - Not the default project type

Options

2=Edit - change the type properties

3=Copy - copy to a new type

4=Delete - remove the type

S=Sts Transitions - specify the allowed Project Status Transitions permitted for the Project Type

T=Task Types - specify the Task Types that can be used by Tasks or Subtasks by a Project of the Project Type

Project Groups

```

CMC261                      MD T 74 6.1                      24.04.16
SCRN1                      Project Group Listing             17:45:51

Project: DEMO              Demo project

Type options, press Enter.
 2=Edit  4=Delete  G=Group Info

Opt  Role      Type      Req  Group      User
-    Acceptance MARKETING Y    MARK-CH
-    Acceptance RLSMGR   Y
-    Acceptance TESTER   Y    TEST 1    MMORGAN
-    Technical  PROGRAMMER PGMR 1
-    Technical  PROGRAMMER PGMR 2    MMORGAN

F3=Exit  F5=Refresh  F6=Add  F9=Save as Default

Bottom

```

If a valid MDWorkflow license exists for the partition, option G can be used from Project Listing to view/manage all acceptance and technical groups for a project.

Role

A - Acceptance/Test - The role is used to perform acceptance testing on RFPs that impact the project once the RFP is installed for a level requiring MDWorkflow acceptance before the RFP can continue to the next step in the migration path.

T - Technical - The role is used to carry out work on behalf of the project.

Type

The User Group Type assigned to the role

Req

Whether or not the Group Type is required for the Project in order to be able to deploy an RFP all the way to production.

Group

A user group of the given group type. A group is mandatory for an Acceptance role entry, but is optional for technical roles.

Multiple user groups can be added to a project for the same group type. During RFP acceptance, members of any included group for same project can accept or reject an RFP.

User

If the group is blank, any user registered in MDSEC can be added to a project for a technical role.

If the group is entered, the user field can be blank to mean that any member of the group can be involved with the project. Otherwise, the user must belong to the group and then the project is intended for that specific user.

Multiple entries of specific users can be added for the same user group to a project.

Options

2=Edit - change the group or user for a group type entry

4=Delete - remove a group or user from the project

G=Group Info - Display the User Group listing positioned to the entry selected

Function Keys:

F3=Exit

F5=Refresh

F6=Add - Add a group and/or user to the project

F9=Save as Default - Save the current list of groups and users to your profile. When you create a new project, the list will automatically be applied to that project.

Project/Task Status Codes

The list of valid Status codes for Projects and Tasks can be viewed by pressing F4 on the Status filter in the Project and Task list views or by pressing F4 on the Status field in the Project and Task detail views.

If a valid MDWorkflow license exists for the partition, additional Status codes can be created and status behaviour can be modified.

Status Code

A one-character unique code for the status

Sort Sequence

The order of the code in the list. Any active status must have a sort sequence < 800 and any closed status must have a sort sequence >= 800.

The sort sequence is also important when defining status ranges for custom fields or status boundaries.

Description

A description of the status code

Use in Projects

Y - the status can be applied to a project

N - the status can't be applied to a project

Use in Tasks

Y - the status can be applied to a task or subtask

N - the status can't be applied to a task or subtask

Ending Status

Y - the status indicates that the project or task is closed. No further work is allowed when ended.

N - the status indicates that the project or task is still ongoing.

Allow Auto-Update

Y - Automated commands are permitted to update a project or task to this status. The commands that apply are:

MDUPDPROJ

MDUPDSTS

MDUPDTASK

N - this status can't be automatically applied to a project or task

Allow Man.-Update

Y - Authorized users are permitted to update a project or task to this status via the MDCMS, MDOpen or MDWorkflow views.

N - this status can't be manually applied to a project or task

Manual Group Type

If entered, limit the users that can manually set this status to members of a group of the given type that is involved with the project or task.

Options

2=Edit - change the status properties

3=Copy - copy the properties of an existing status to a new status code

4=Delete - delete a status code - only allowed for custom status codes

T=Transitions - manage the list of status codes from which the project or task can transition to this status. See Section Project/Task Status Transitions for more information.

Function Keys:

F3=Exit

F5=Refresh

F6=Add - Add a new status code

F8=Sort by Code/Seq - Toggle the listing to be ordered by Code or Sort Sequence

F9=Boundaries - Limit when an RFP can be processed based on the status of the Projects or Tasks that are impacted by the RFP. See Section Project/Task Status Boundaries per Level for more information.

F10=Triggers - Automatically initiate the submit, approve, install or send of RFPs for a Project or Task when the status of the Project or Task changes. See Section Project/Task Status Triggers per Level for more information.

Project/Task Status Transitions

By default, every status can transition to every other status for any given Project or Task Type, assuming authority, activity and mandatory field entry is otherwise in a permissible state.

However, for each Project Type and Task Type, the workflow of the projects, tasks and subtasks can be controlled by limiting which status codes can transition to other status codes.

For example, you may wish to have all tasks of type ABC limited to the following flow:

1-Opened

-> 2-Authorized

-> 3-Work in Progress ->

4->Ready to Test

-> Testing Complete or E-Errors found during Testing or 3-Work in Progress

-> 7-Closed

This can be done from the Status Transitions screen, which is accessible with option T from the Project Type or Task Type listings.

NOTE: a valid MDWorkflow license must exist for the partition to define Status Transitions.

Options

F=Codes to Transition from - specify which status codes can transition to the selected status

T=Codes to Transition to - specify the list of valid status codes values to change to from the selected status

Project/Task Status Boundaries per Level

Barriers can be put in place to limit when an RFP can be processed based on the status of the Projects or Tasks that are impacted by the RFP. The list of defined Boundaries can be viewed/managed by pressing F9 in the Project/Task Status Codes list.

NOTE: a valid MDWorkflow license must exist for the partition to define Status Boundaries.

Boundaries are checked when a submit, approve, install or send action is requested for an RFP. MDCMS then checks if a Boundary definition exists for that action for the level of the RFP.

If found, MDCMS verifies if the status of each Project or Task or Subtask impacted by the RFP is within the permitted range defined by the Boundary.

The status is checked for the lowest element assigned to each object in the RFP.

For example, if object ABC is assigned directly to a Project, then the Project Status is checked. If object XYZ is assigned to a Project Task, then the Task Status is checked, but the Project Status is ignored.

If at least one of the impacted projects or tasks have a status outside the allowed range, then the requested action will be denied.

Application

The target application of the RFP

Level

The application level of the RFP

RFP Action

1 - when an RFP is submitted for validation and building of the deployment package

2 - when an RFP is approved

3 - when an RFP is installed

4 - when an RFP is sent to a target location

Minimum Status

A valid status code that marks the minimum boundary of the range based on the sort sequence of the code. If blank, then any status below the maximum is allowed.

Maximum Status

A valid status code that marks the maximum boundary of the range based on the sort sequence of the code. If blank, then any status above the minimum is allowed.

Options

2=Edit - change the boundary

3=Copy - copy the properties of an existing boundary to a new boundary

4=Delete - delete a boundary

Function Keys:

F3=Exit

F6=Add - Add a boundary

Project/Task Status Triggers per Level

Triggers can be put in place to automatically initiate the submit, approve, install or send of RFPs for a Project or Task when the status of the Project or Task changes. The list of defined Triggers can be viewed/managed by pressing F10 in the Project/Task Status Codes list.

NOTE: a valid MDWorkflow license must exist for the partition to define Status Triggers.

Triggers are checked whenever a status changes for a Project, Task or Subtask.

Application

The target application of the RFP

Level

The application level of the RFP

RFP Action

1 - when an RFP is submitted for validation and building of the deployment package

2 - when an RFP is approved

3 - when an RFP is installed

4 - when an RFP is sent to a target location

New Status

The new status value that has just been transitioned to

From Status

The prior value of the status. Leave blank to trigger the action when transitioning from any status to the new status. Otherwise, enter a value to limit the transitions causing the trigger. A Trigger record can be created for each transition if multiple from values, but not all from values, are necessary.

Project Trigger

Y - trigger the action when the status was changed on a project

N - not applicable at the project level

Task Trigger

Y - trigger the action when the status was changed on a task

N - not applicable at the task level

Subtask Trigger

Y - trigger the action when the status was changed on a subtask

N - not applicable at the subtask level

Merge RFPs

This parameter is considered for the RFP Submit and Send actions

Y - if multiple RFPs containing the Project, Task or Subtask are ready to be submitted or sent, merge them into a single RFP prior to triggering the action.

N - submit or send each RFP separately

Submit Immed

This parameter is considered for the RFP Submit and Install actions

Y - submit the RFP to the job queue immediately for processing

N - place the RFP in pending status, to be picked up at the appropriate time by the MDSBMRFP or MDINSRFP commands.

Options

2=Edit - change the trigger

3=Copy - copy the properties of an existing trigger to a new trigger

4=Delete - delete a trigger

5=View - view the parameters of a trigger

Function Keys:

F3=Exit

F6=Add - Add a boundary

1.6.4 Project Task/Subtask Listing

```

CMC224                                COMPANY NAME                                10/18/11
SCRN1                                Task Listing                                12:37:15
FILTERS
Proj: PROJNAME                      Requester.: MMORGAN                      Description: _____
Pri : _   Sts: _                     Assn User.: ROGERS_                      Task Type : _____
                                         Pos to Task: _____

Type options, press Enter.
 2=Edit  3=Copy  5=Display  8=Chg Status  H=Hours  O=Objects  S=Subtasks

Opt  Task  Type      Requester  Assign to  Pri  Sts  Create  Due Date  STsks
-    1  INT_FIX    MMORGAN    ROGERS     3    1    8/18/11  10/01/11  12
-    Fix accounting program ACT001.
-    2  DEL_FIX    MMORGAN    ROGERS     3    1    9/22/11                5
-    Delete obsolete program ACT009.
-    3  DOC CHANGE MMORGAN    ROGERS     3    1    9/22/11
-    Change documentation for tasks 1 and 2.

                                           Bottom
F3=Exit  F4=Browse  F5=Refresh  F6=Add    F8=Ref Code  F9=Closed Tasks
F10=Sort by Due Date  F11=View Output  F17=Top    F18=Bottom

```

If necessary, projects can be granulated by tasks, which can be further granulated by subtasks.

The Project Task Listing display is accessed with option T from the Project Listing. Subtasks are then accessed with option S from the Task Listing.

The fields and handling for tasks and subtasks are largely the same as for projects. The only key difference is that the project can have any number of involved groups, but the task/subtask are limited to one assigned group (or user) and one test group (or user). The task-level groups and users do not have to be part of the groups at the project level.

FILTERS

Requester

Filter the listing by the Tasks Requester or leave blank to see all tasks for all Requesters.

Description

Filter the listing by a Tasks Description.

Pri - Priority

Filter listing by available Priority values.

1 - Critical

2 - High

3 - Medium

4 - Low

5 - Optional

Sts - Status

Filter listing by available Status values.

1 - Created

- 2 - Modified
- 3 - Email Sent
- 4 - Work in Progress
- 5 - Ready to Test
- 6 - Testing in Progress
- 7 - Testing Complete
- 8 - Closed
- 9 - Cancelled

If the MDWorkflow license is active, additional status codes may be created and used.

Assn User

Filter the listing by the user assigned to the task.

Task Type

Filter the listing by the Task Type. Press F4 on the Task Type to manage the Task Type definitions and/or select a valid Task Type from the list.

Pos to Task

Position the listing to the selected Task.

Options

1=Select - Return the selected Task (and Project) back to the requesting process. This option will only appear when using F4=Browse in the Project field of the Object Manager panel.

2=Edit - Edit the Tasks detail information.

3=Copy - Copy the details of a Task to a new Task.

5=Display - View the Tasks detail information.

8=Chg Status - Select a new status for the Task from a list of possible status codes, based on authority and current status. **NOTE:** If the new status closes the Task, a warning will be given if the Task still has open Subtasks. The user can bypass the warning by pressing Enter and all Subtasks will also be closed.

H=Hours - View and enter hours worked on behalf of the Task.

O=Objects - Display requested objects for Task.

S=Subtasks - Display a list of Subtasks for the selected Task.

Function Keys:

F3=Exit

F4=Browse - Browse list of valid values for available fields.

F5=Refresh

F6=Add - Add a Task to the selected Project.

F8=Ref Code/Description - Toggle between the Reference Code and Task Summary/Description for the filter field and information on the 2nd row of each task entry.

F9=Closed Tasks - Display a listing of closed Tasks for selected Project.

F10=Sort by Due Date - Sort the Task listing by the value of Due Date.

F11=View Output - Display the MD Output panel and other spool files

F17=Top - Position the display to the Top.

F18=Bottom - Position the display to the Bottom.

Task Types

```

MDCTSKT                      MD T 8 6.1                      5.04.17
SCRN1                        Task Types                      15:58:36

Filters:
Pos: _____ Desc: _____ Limit: _ Project Type: _____

Type options, press Enter.
1=Select 2=Edit 3=Copy 4=Delete 5=Display T=Transitions

Opt  Task Type  Description                      Limit
-    -         -                  Requests
-    ADMIN     Administration                  N
-    CHG_FUN    Change existing Function          N
-    COSMETIC   Cosmetic Fix                      N
-    DEMO       Product Demonstration            N
-    FUN_ERROR  Functional error                 N
-    INSTALL    Installation                     N
-    LICENSE    Product License                  N
-    NEW_FUN    New Function                     N
                                     More...

F3=Exit  F6=Add

```

Task Types are a means to categorize tasks and to set certain rules for tasks of a given type. Every task must have a Task Type defined for it.

Only Task Types that are enabled for a Project Type can be used for Tasks and Subtasks within a Project of the given Project Type.

The listing to view and manage task types is reached by pressing F4 on the Task Type field in the Task screen.

Task Type

A 10-character identifier for a type of task

Description

Description of the Task Type

Limit Object Requests to Assigned Users

If developers are limited from assigning Object Requests to a Task of this type.

Y - Only developers that have been assigned to the Task, either directly or as a member of an assigned group, are allowed to assign Object Requests to the Task.

N - Any developer can assign Object Requests to a Task of this type, unless they aren't involved with the Project and the Project Type has limited Object Requests.

Allow Manual Task Creation

Y - users are permitted to create tasks for the given type from within the standard MDCMS, MDOpen and MDWorkflow screens.

N - tasks of the given type must be created via an external process such as Jira, ServiceNow or via the MDUPDTASK interface.

Allow Task Creation via API

Y - tasks for the given Task Type are permitted to be created via the MDUPDTASK command or the /mdcms/task REST API.

N - tasks of the given Task Type may not be created using the MDUPDTASK command or the /mdcms/task REST API.

Import Tasks from Jira

Y - if the Task Type is mapped to a Jira Issue Type, allow issues that are created in Jira to be imported into MDCMS.

N - Jira Issues are not permitted to be imported into MDCMS as tasks of the given Type.

Export Tasks into Jira

Y - if the Task Type is mapped to a Jira Issue Type, allow tasks that are not created in Jira to be exported to Jira as new issues within Jira.

N - Jira Issues shouldn't be created as a result of Tasks of the given Type.

Import Tasks from ServiceNow

Y - if the Task Type is mapped to a ServiceNow Incident Type, allow incidents that are created in ServiceNow to be imported into MDCMS.

N - ServiceNow incidents are not permitted to be imported into MDCMS as tasks of the given Type.

Export Tasks into ServiceNow

Y - if the Task Type is mapped to a ServiceNow Incident Type, allow tasks that are not created in ServiceNow to be exported to ServiceNow as new incidents within ServiceNow.

N - ServiceNow Incidents shouldn't be created as a result of Tasks of the given Type.

Options

2=Edit - change the type properties

3=Copy - copy to a new type

4=Delete - remove the type

T=Transitions - specify the allowed Task/Subtask Status Transitions permitted for the Task Type

1.6.5 Project/Task Hours Used

```

CMC268                      MD T 8 6.1                      6.04.17
SCRN1                      Project/Task Hours Used          09:39:19
Filter by
Project: DEMO033_____ Task/STask: _____ Date Range: _____ - _____
Phase: _____ User: _____
Type options, press Enter.      Comment: _____
  2=Edit  3=Copy  4=Delete  5=View      Total Hours: 28.00

Opt  Date  Project      Task STask User      Phase Hours  Comments
-   30.03.17 DEMO033          MMORGAN  DOC    3.00  info
-   28.03.17 DEMO033          MMORGAN  FUN    3.00  initial draft
-   28.03.17 DEMO033          MMORGAN  TEC   20.00  Customer DOCS
-   24.03.17 DEMO033          REN     REQ    2.00

Bottom
F4=Browse F6=Add F7=Today F8=This Week F9=This Month F10=Prior Month

```

The Project/Task Hours Used listing provides an overview of hours worked based on a variety of filters and provides the means to enter hours worked. This display is accessed in 2 ways:

- Using the H=Hours option for a Project, Task or Subtask. This listing then filters the entries by default to show the hours worked for that Project, Task or Subtask.
- Pressing **F19** from the Object Manager. This listing then filters the entries by default based on the filters used the last time this screen was entered from the Object Manager.

Filters

The Hours Used Listing is filtered by the fields at the top of the display.

The comment filter will list all entries that have matching text in the comment. For example, enter PRINT to list only entries with print somewhere in the title. The comment filter is not case sensitive.

Total Hours

The sum of all records listed based on the filter criteria

Options

2=Edit - Edit the number of hours or Comments for an entry

3=Copy - Copy an existing entry to a new entry

4=Delete - Delete an entry

5=View - View the details of the entry

Function Keys:

F3=Exit

F4=Browse - Browse list of valid values for the Filter fields.

F5=Refresh

F6=Add - Add a new entry

F7=Today - change the date range filters to show only today

F8=This Week - change the date range filters to show only the current week

F9=This Month - change the date range filters to show only the current month

F10=Prior Month - change the date range filters to show only the prior month

Time Entry

CMC268	MD T 8 6.1	6.04.17
SCRN2	Time Entry	09:56:40

Date	06.04.17	
Project	DEM003	Demo project 03
Task	1	implement changes
Subtask	1	test to see if the subtasks are getting talli
Phase	FUN	Functional Design
User	MMORGAN	Michael Morgan
Hours Worked . .	7.5__	
Comments	_____	

F4=Browse F11=View Output F12=Previous F21=Sys Command

A new time entry can be added or modified from this screen.

Date

The date the work occurred. Required Field.

Project

The project for which the work was performed. Required Field. Enter value or press F4 to select from list of Projects that you are authorized to see.

Task

If work was performed for a task within the project, enter that number here or press F4 to select from a list.

Subtask

If work was performed for a subtask within the project task, enter that number here or press F4 to select from a list.

Phase

The project phase used to categorize the type of work performed. Required Field. Enter value or press F4 to select from the list of Project phases. Also Press F4 on this field in order to create or modify the list of Project Phases.

User

The MDSEC ID of the user that performed the work. Required Field. Enter value or press F4 to select from list of users.

Hours Worked

The number of hours for that day that were worked for the combination of project, task, subtask, phase and user. The number to the left of the decimal point are the number of hours and the number to the right of the decimal point is the percentage of an hour. Required Field.

Comments

Free text to further describe the work performed.

1.6.6 Project Report Generator

To generate a report over Projects from within MDCMS, press **F8** from the Project Listing screen select option 1 for Project Reports. The following prompt screen is then displayed:

CMC285
SCRN1

COMPANY NAME
Project Report

10/18/11
17:01:13

Select and sequence fields and record filters, press Enter.
Use F7 to load a definition, F9 to save a definition

Seq	Field	Minimum	Maximum		Sort A/D
___	Project	_____	_____	*gen*eric*	A
___	Title	_____	_____	*gen*eric*	A
___	Exp. Completion	_____	_____	YYYYMMDD, *PY, *PM, *CY, *CM	A
___	Priority	_____	_____		A
___	Status	_____	_____		A
___	Application	_____	_____	*gen*eric*	A
___	Requester	_____	_____	*gen*eric*	A
___	Date Created	_____	_____	YYYYMMDD, *PY, *PM, *CY, *CM	A
___	Assigned Group	_____	_____	*gen*eric*	A
___	Assigned User	_____	_____	*gen*eric*	A
___	Test Group	_____	_____	*gen*eric*	A
___	Test User	_____	_____	*gen*eric*	A
___	Closedby User	_____	_____	*gen*eric*	A
___	Date Closed	_____	_____	YYYYMMDD, *PY, *PM, *CY, *CM	A

Bottom

F3=Exit F4=Browse F5=Refresh F7=Load Def F9=Save Def F11=View Output

This screen allows you to define your own Project Report. The report may consist of any or all of the listed fields and any or all Projects may be selected and sorted as you choose. The report definitions may then be saved and used again in the future from this screen or from a command line.

Seq

Each field with a sequence number > 0 will be included in the report. The columns of the report are ordered by the sequence number. The sorting of the records is also based on the order of the sequence fields.

Minimum

The smallest value that the corresponding field may contain, unless the value is a special value or a generic value

Special Values:

- *PY - the date must fall within the previous year (only valid for date fields)
- *PM - the date must fall within the previous month (only valid for date fields)
- *CY - the date must fall within the current year (only valid for date fields)
- *CM - the date must fall within the current month (only valid for date fields)

Generic Values:

The wildcard value * may be used multiple times anywhere within a string to limit records to occurrences where the field contains the string. For example, *3XJ* will select all records where the value 3XJ is contained somewhere within the field string. *XJ will select all records where the value XJ is contained at the end of the field string.

Maximum

The largest value that the corresponding field may contain. This field must be left blank if a special or generic value was entered in the Minimum field.

Sort

A - Sort this field in ascending (A->Z) order.

D - Sort this field in descending (Z->A) order.

Function Keys:

F3=Exit

F4=Browse - Browse the list of available entries depending upon which field the cursor is positioned.

F5=Refresh - Reset the definition back to the initial settings

F7=Load Def - Load a definition from the list of saved definitions

F9=Save Def - Save the entered configuration as a report definition. The saved definition may then be reused at anytime in the future from within MDCMS or from a command line. See the chapter on MDRUNRPT for more information about running reports from a command line.

F11=View Output - Display the MD Output panel and other spool files.

1.6.7 Task Report Generator

To generate a report over Project Tasks from within MDCMS, press **F8** from the Project Listing screen select option 2 for Task Reports. The following prompt screen is then displayed:

CMC285
SCRN1

COMPANY NAME
Project Report

10/18/11
17:01:13

Select and sequence fields and record filters, press Enter.
Use F7 to load a definition, F9 to save a definition

Seq	Field	Minimum	Maximum		Sort A/D
___	Project	_____	_____	*gen*eric*	A
___	Task	_____	_____	1-99999	A
___	Subtask	_____	_____	1-99999	A
___	Due Date	_____	_____	YYYYMMDD, *PY, *PM, *CY, *CM	A
___	Due Time	_____	_____	HHMMSS	A
___	Priority	_____	_____		A
___	Status	_____	_____		A
___	Task Type	_____	_____	*gen*eric*	A
___	Internal Ref	_____	_____	*gen*eric*	A
___	Date Created	_____	_____	YYYYMMDD, *PY, *PM, *CY, *CM	A
___	Time Created	_____	_____	HHMMSS	A
___	Requester	_____	_____	*gen*eric*	A
___	Assigned Group	_____	_____	*gen*eric*	A
___	Assigned User	_____	_____	*gen*eric*	A
					More...

This screen allows you to define your own Task Report. The report may consist of any or all of the listed fields and any or all Tasks may be selected and sorted as you choose. The report definitions may then be saved and used again in the future from this screen or from a command line.

Seq

Each field with a sequence number > 0 will be included in the report. The columns of the report are ordered by the sequence number. The sorting of the records is also based on the order of the sequence fields. The only exception is the Description field, which is not part of the sort.

Minimum

The smallest value that the corresponding field may contain, unless the value is a special value or a generic value

Special Values:

- *PY - the date must fall within the previous year (only valid for date fields)
- *PM - the date must fall within the previous month (only valid for date fields)
- *CY - the date must fall within the current year (only valid for date fields)
- *CM - the date must fall within the current month (only valid for date fields)

Generic Values:

The wildcard value * may be used multiple times anywhere within a string to limit records to occurrences where the field contains the string. For example, *3XJ* will select all records where the value 3XJ is contained somewhere within the field string. *XJ will select all records where the value XJ is contained at the end of the field string.

Maximum

The largest value that the corresponding field may contain. This field must be left blank if a special or generic value was entered in the Minimum field.

Sort

A - Sort this field in ascending (A->Z) order.

D - Sort this field in descending (Z->A) order.

Function Keys:

F3=Exit

F4=Browse - Browse the list of available entries depending upon which field the cursor is positioned.

F5=Refresh - Reset the definition back to the initial settings

F7=Load Def - Load a definition from the list of saved definitions

F9=Save Def - Save the entered configuration as a report definition. The saved definition may then be reused at anytime in the future from within MDCMS or from a command line. See the chapter on MDRUNRPT for more information about running reports from a command line.

F11=View Output - Display the MD Output panel and other spool files.

1.6.8 Time Report Generator

To generate a report over Project Time Entries from within MDCMS, press **F8** from the Project Listing screen select option 3 for Time Reports. The following prompt screen is then displayed:

```

CMC258                                COMPANY NAME                                10/18/16
SCRN1                                Project Report                                17:01:13

Select and sequence fields and record filters, press Enter.
Use F7 to load a definition, F9 to save a definition

Seq  Field                Minimum      Maximum      YYYYMMDD, *PM, *PW, *CM, *CW      Sort
____  _____            _____    _____    _____                        A/D
____  Date                  _____    _____    _____                        A
____  Project                _____    _____    *gen*eric*                        A
____  Project Title          _____    _____    *gen*eric*                        A
____  Task                   _____    _____    1-99999                          A
____  Subtask                _____    _____    1-99999                          A
____  Task Desc.             _____    160         Min=*gen*eric* / Max=Length      A
____  User                   _____    _____    *gen*eric*                        A
____  User Desc.             _____    _____    *gen*eric*                        A
____  Phase                  _____    _____    *gen*eric*                        A
____  Phase Desc.           _____    _____    *gen*eric*                        A
____  Hours Reported         _____    _____    1 - 99                          A
____  Comments               _____    _____    *gen*eric*                        A
____  Cost per Hour          _____    _____    1 - 99999                       A
____  Total Cost             _____    _____    1 - 9999999                    A
                                           Bottom
F3=Exit  F4=Browse  F5=Refresh  F7=Load Def  F9=Save Def  F11=View Output
  
```

This screen allows you to define your own Time Entry Report. The report may consist of any or all of the listed fields and any or all entries may be selected and sorted as you choose. The report definitions may then be saved and used again in the future from this screen or from a command line.

Seq

Each field with a sequence number > 0 will be included in the report. The columns of the report are ordered by the sequence number. The sorting of the records is also based on the order of the sequence fields. The only exception is the Description field, which is not part of the sort.

Minimum

The smallest value that the corresponding field may contain, unless the value is a special value or a generic value

Special Values:

*PM - the date must fall within the previous month (only valid for date fields)

*PW - the date must fall within the previous week (only valid for date fields)

*CM - the date must fall within the current month (only valid for date fields)

*CW - the date must fall within the current week (only valid for date fields)

Generic Values:

The wildcard value * may be used multiple times anywhere within a string to limit records to occurrences where the field contains the string. For example, *3XJ* will select all records where the value 3XJ is contained somewhere within the field string. *XJ will select all records where the value XJ is contained at the end of the field string.

Maximum

The largest value that the corresponding field may contain. This field must be left blank if a special or generic value was entered in the Minimum field.

Task Description Field

Minimum - Tasks can be filtered by a generic value entered in the minimum field

Maximum - The maximum length of the description that will be in the report. The default length is 160 characters and a length of up to 600 characters is permitted.

Sort

A - Sort this field in ascending (A->Z) order.

D - Sort this field in descending (Z->A) order.

Function Keys:

F3=Exit

F4=Browse - Browse the list of available entries depending upon which field the cursor is positioned.

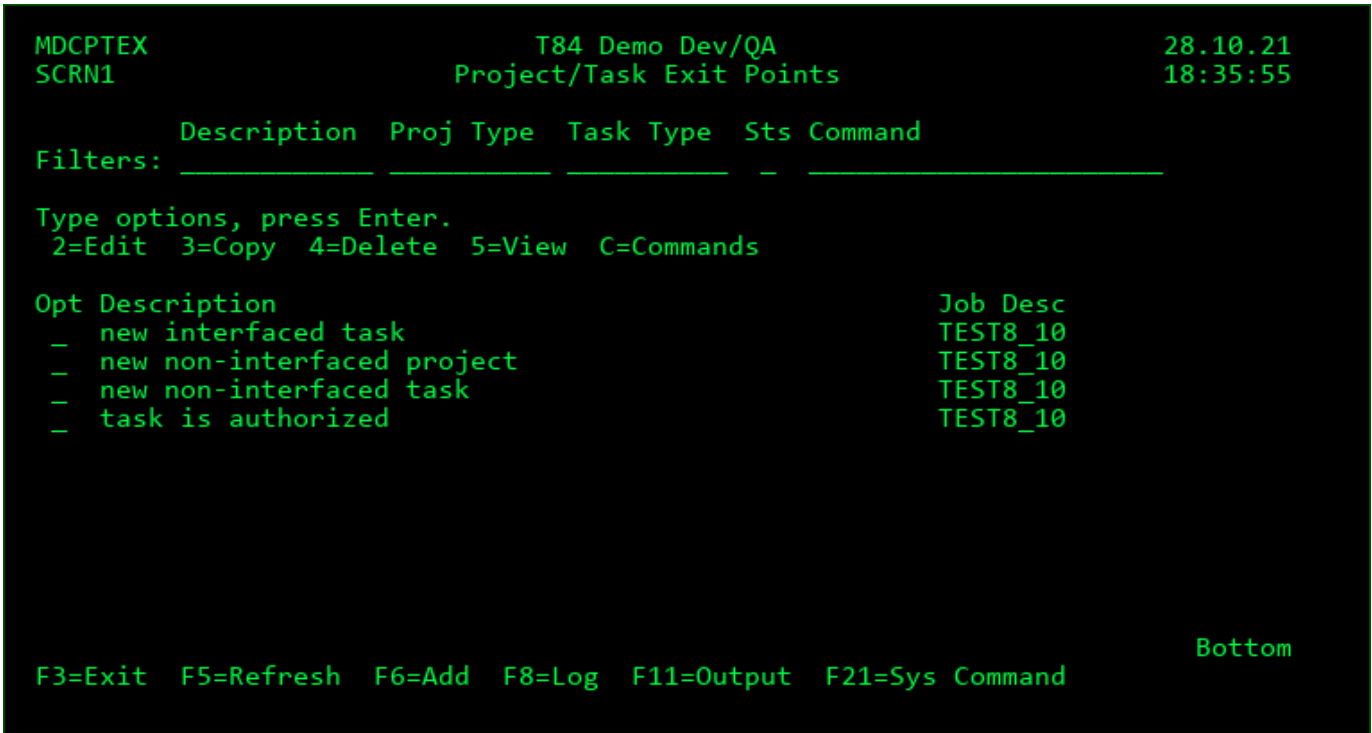
F5=Refresh - Reset the definition back to the initial settings

F7=Load Def - Load a definition from the list of saved definitions

F9=Save Def - Save the entered configuration as a report definition. The saved definition may then be reused at anytime in the future from within MDCMS or from a command line. See the chapter on MDRUNRPT for more information about running reports from a command line.

F11=View Output - Display the MD Output panel and other spool files.

1.6.9 Project/Task Exit Points



If a valid MDWorkflow Base license exists for the partition, F13 can be used from Project Listing to view/manage all exit points for a projects and tasks. A potential exit point is any time a Project, Task or Subtask is created or when the status transitions to a new status.

Description

A description of the exit point

Project Types

The list of Project Types to be considered for the exit point. Any project of the allowed type will then be a candidate if the status conditions are also met.

*NONE - the exit point is not relevant for any project types

*ANY - the exit point is relevant for all project types

Otherwise, you may enter a single value in the prompt when editable or press F4 to select 0-n project types to be included. If multiple project types are defined for the Exit Point, the field will be protected and F4 should be used while the cursor is positioned on the field to add/remove types.

Task Types

The list of Task Types to be considered for the exit point. Any task or subtask of the allowed type will then be a candidate if the status conditions are also met.

*NONE - the exit point is not relevant for any task types

*ANY - the exit point is relevant for all task types

Otherwise, you may enter a single value in the prompt when editable or press F4 to select 0-n task types to be included. If multiple task types are defined for the Exit Point, the field will be protected and F4 should be used while the cursor is positioned on the field to add/remove types.

Transition From

The list of Status Codes that are transitioned from to be considered for the exit point.

*NEW - the project, task or subtask has been created

*ANY - the exit point is relevant for when transitioning from any status

Otherwise, you may enter a single value in the prompt when editable or press F4 to select 0-n status codes to be included. If multiple status codes are defined for the Exit Point, the field will be protected and F4 should be used while the cursor is positioned on the field to add/remove codes.

Transition To

The list of Status Codes that are transitioned to to be considered for the exit point.

*ANY - the exit point is relevant for when transitioning to any status

Otherwise, you may enter a single value in the prompt when editable or press F4 to select 0-n status codes to be included. If multiple status codes are defined for the Exit Point, the field will be protected and F4 should be used while the cursor is positioned on the field to add/remove codes.

Job Desc/Library

The name and library of the job description to use to determine the default user, library list, job queue and other job run attributes when the exit point is submitted to batch. Press F4 while the cursor is on the field to select/manage a job queue.

Options

2=Edit - change the exit point conditions or job description

3=Copy - make a copy of the exit point definition

4=Delete - delete the exit point definition

5=View - view the exit point conditions or job description

C=Commands - View/Edit the commands to be executed when the exit point is triggered for a project, task or subtask

Function Keys:

F3=Exit

F5=Refresh

F6=Add - Add a new exit point definition

F8=Log - View the log of all triggered exit points for auditing or troubleshooting purposes. The log is stored in file MDCMS/MDDPTL and is accessible from the Log Manager or using any file tool such as SQL.

F11=View Output - Display the MD Output panel or spool files.

F21=Sys Command - Save the current list of groups and users to your profile. When you create a new project, the list will automatically be applied to that project.

Project/Task Exit Point Commands

For each exit point an unlimited number of commands can be defined to be executed in a specific sort sequence.

MDCPTCM	T84 Demo Dev/QA	28.10.21
SCRN2	Project/Task Exit Point Command	18:58:00

Sort Sequence	1	
Keep MD Libs in Libl .	Y	Y/N
Run as User Profile .	*JOB	*JOB, user

Command

MDMAILF USER(##TSKREQ##) SUBJ('Task ##PROJID##-##TASKID## is now authorized') BODY('/MDCMS/MAIL/taskAuthorized.htm') BTYP(HTML) PROJID('##PROJID##') TASKID('##TASKID##')

Enter=Confirm F4=Browse F7=Insert Placeholder F12=Cancel F21=Sys Command

Screen Definitions:

Sort Sequence

The sort sequence of the command at run time, in case multiple commands are defined.

Keep MD Libs in Libl

N - The MD Libraries (MDCMS and MDXREF) are removed from the library list before the command is invoked. This assures that any MD Objects with the same name as your objects are not used.

Y - The MD Libraries are left in the library list. This is necessary when MD Objects, such as interface programs, MDMAIL or MDMAILF, are needed to process the command.

Run as User Profile

By default, commands executed during an RFP run under the profile of the user profile defined on the job description of the exit point. If a specific command should run under the authorities of a different user, that user ID can be entered here. As a safety precaution, the user placing a value in this field must have authority to use that entered user profile in order to save the command definition.

Command

The IBM i or user-defined command to be performed. Enter the name of the command and then press F4 to fill in the keywords.

Some placeholder parameter values may be used and are substituted by MDCMS at run-time. The placeholder value may be typed directly into the command or the cursor may be positioned in the command and F7 pressed to insert the value from a list.

Function Keys:

F4=Browse - Browse for values.

F7=Insert Placeholder - Insert placeholder value into command string at the location of the cursor. A list of all fixed placeholder values followed by all placeholders for custom fields will displayed to select from.

1.6.10 MDUPDPROJ - Create/Update Project command

MDCMS is delivered with a command-based API that allows external tools or applications to create and update Projects within MDCMS. This allows a business to continue using its existing Project Management tool, while being able to synchronize the data in the tool with the Project Manager that is embedded in MDCMS.

The MDCMS command is named **MDUPDPROJ** and is located in library MDCMS. It is not necessary to have the MD libraries in the library list prior to using this command. If you are unable to invoke a command from your Project Management tool, you can also directly call program **MDUPDPROJ** in library MDCMS. In this case, be certain that the parameters sent to the program exactly match the parameters in command MDUPDPROJ.

All MDUPDPROJ API transactions are logged to file MDCMS/MDDUPRJ.

NOTE: If Location Synchronization is used (MDCMS Settings option 6), the API will only need to be invoked for 1 system. The other partitions or physical systems will automatically be synchronized.

If a parameter value is not provided and the Project already exists, the existing value for the parameter will remain in place.

MDUPDPROJ Parameter Table

Name	Type	Length	Description
Name	Type	Length	Valid Values and Format
Project ID	CHAR	12	unique ID
Project Type	CHAR	10	The Project Type to categorize the Project
Primary Appl	CHAR	6	The primary Application referenced by this Project
Assigned to Group	CHAR	10	Valid User Group
Assigned to User	CHAR	10	Specific User in Group or Valid user in MDSEC when group left blank
Priority	INTEGER	1	1 - 5
Expected Completion	INTEGER	8	YYYYMMDD
Status	CHAR	1	Unique ID
Project Title	CHAR	80	free format
Expected Hours	DEC	9,2	Number of hours expected to complete project
Expected Cost	DEC	11,2	Cost expected to complete project
Modification User	CHAR	10	IBMi USRPRF
MDCMS Instance	CHAR	5	Specifies the MDCMS environment that should be used for the API. The ID correlates to the suffix of the MDCMS library name. Special values: *DFT - default instance (no suffix) *SAME - the current instance based on the library list
Extended Description	CHAR	4000	

1.6.11 MDUPDPRJG - Update Project Group command

MDCMS is delivered with a command-based API that allows external tools or applications to add or remove an involved User Group from an existing Project in MDCMS.

The MDCMS command is named **MDUPDPRJG** and is located in library MDCMS. It is not necessary to have the MD libraries in the library list prior to using this command. If you are unable to invoke a command from your Project Management tool, you can also directly call program **MDUPDPRJG** in library MDCMS. In this case, be certain that the parameters sent to the program exactly match the parameters in command MDUPDPRJG.

Successful MDUPDPRJG transactions are logged in file MDCMS(ENV)/MDDTHST and visible from the Full History listing in the MDWorkflow web application.

NOTE: If Location Synchronization is used (MDCMS Settings option 6), the API will only need to be invoked for 1 system. The other partitions or physical systems will automatically be synchronized.

If the target Project is closed or if the Group or User aren't defined in MDCMS, the entry will not be processed.

MDUPDPRJG Parameter Table

Name	Type	Length	Description
Name	Type	Length	Valid Values and Format
Project ID	CHAR	12	unique ID - Required
Group ID	CHAR	10	Valid User Group - Required
User ID	CHAR	10	A specific user that is a member of the group that will be involved with this project. Leave this parameter blank if any user that is a member of the group may be involved.
Role	CHAR	1	A - The role of Acceptance/Test will be applied. This indicates that the group/user will be responsible for accepting RFPs that have been installed in a level requiring acceptance before being allowed to migrate to the next level. T - The role of Technical will be applied. This indicates that the group/user will be responsible for carrying out work on behalf of the project.
Option	CHAR	7	*ADD - Add the provided Group/User combination for the given Role to the Project. If the combination already exists, execution will be ignored. *REMOVE - Remove the provided Group/User combination for the given Role from the Project. If the combination doesn't exist, execution will be ignored.
MDCMS Instance	CHAR	5	Specifies the MDCMS environment that should be used for the API. The ID correlates to the suffix of the MDCMS library name. Special values: *DFT - default instance (no suffix) *SAME - the current instance based on the library list

1.6.12 MDUPDTASK - Create/Update Task command

MDCMS is delivered with a command-based API that allows external tools or applications to create and update Tasks within MDCMS. This allows a business to continue using its existing Project Management tool, while being able to synchronize the data in the tool with the Project Manager that is embedded in MDCMS.

The MDCMS command is named **MDUPDTASK** and is located in library MDCMS. It is not necessary to have the MD libraries in the library list prior to using this command. If you are unable to invoke a command from your Project Management tool, you can also directly call program **MDUPDTASK** in library MDCMS. In this case, be certain that the parameters sent to the program exactly match the parameters in command MDUPDTASK.

All MDUPDTASK API transactions are logged to file MDCMS/MDDUTSK.

NOTE: If Project Synchronization is used (MDCMS Settings option 8), the API will only need to be invoked for 1 system. The other partitions or physical systems will automatically be synchronized.

If a parameter value is not provided and the Task or Subtask already exists, the existing value for the parameter will remain in place.

MDUPDTASK Parameter Table

Name	Type	Length	Description
Name	Type	Length	Valid Values and Format
Project ID (PROJ)	CHAR	12	A valid, active Project ID
Task Number (TASK)	INTEGER	7	Specifies an existing Task number, or 0 if information is for a new Task Number or the task number will be retrieved based on the IREF value.
Subtask Number (STSK)	INTEGER	7	Specifies an existing Subtask number. Or, if TASK > 0 and NSTS = *YES, a new Subtask will be created.
New Subtask (NSTS)	CHAR	4	Specifies if the values should be saved to a new Task or Subtask. *NO - If parameter TASK = 0, then a new task will be created. If TASK > 0 and STSK = 0, then the existing task will be updated. If TASK > 0 and STSK > 0, then the existing subtask will be updated. *YES - If parameter TASK = 0, then a new task will be created. If TASK > 0, then a new subtask will be created. *REF - If the value of IREF is found in the database for the given project, then the referenced task or subtask will be updated. If parameter task = 0, and the value of IREF isn't found in the database for the given project, then a new task will be created. If parameter task > 0, and the value of IREF isn't found in the database for the given project, then a new subtask will be created for the task. *NOREF - If the value of IREF is found in the database for the given project, then the referenced task or subtask will be updated. If the value of IREF isn't found in the database for the given project, then nothing will occur.
Task Type (TSKT)	CHAR	10	The Task Type to categorize the Task/Subtask. If blank for a new task/subtask, the default task type for the project's Project Type will be used.
Task Summary (SUM)	CHAR	240	A brief description of the task
Primary Appl (AGP)	CHAR	6	MDCMS Appl used only for informational and filtering purposes.
Internal Ref Code (IREF)	CHAR	20	Internal Reference Code
Priority (PRI)	INTEGER	1	1 - 5
Status (STS)	CHAR	1	Valid Task Status
Due Date (DUED)	INTEGER	8	YYYYMMDD
Due Time (DUET)	INTEGER	6	HHMMSS
Assigned to Group (AGRP)	CHAR	10	Valid User Group
Assigned to User (AUSR)	CHAR	10	Specific User in Group or Valid user in MDSEC when group left blank
Test Group (TSTG)	CHAR	10	Valid User Group
Test User (TSTU)	CHAR	10	Specific User in Group or Valid user in MDSEC when group left blank

Name	Type	Length	Description
Estimated Hours (HRSE)	DEC	9,2	Number of hours expected to complete task
Estimated Cost (CSTE)	DEC	11,2	Cost expected to complete task
Modification User (MUSR)	CHAR	10	A valid user profile defined in MDSEC to be attributed to the creation or update of the Task or Subtask.
MDCMS Instance (ENV)	CHAR	5	Unique ID *DFT - default instance (no suffix) *SAME - the current instance based on the library list
Extended Description (EDSC)	CHAR	4000	Extended description of the task/subtask

1.6.13 MDUPDCFLD - Update Project/Task Custom Field command

MDCMS is delivered with a command-based API that allows external tools or applications to add, update or remove a Custom Field value from an existing Project, Task or Subtask in MDCMS.

The MDCMS command is named **MDUPDCFLD** and is located in library MDCMS. It is not necessary to have the MD libraries in the library list prior to using this command. If you are unable to invoke a command from your Project Management tool, you can also directly call program **MDUPDCFLD** in library MDCMS. In this case, be certain that the parameters sent to the program exactly match the parameters in command MDUPDCFLD.

Successful MDUPDCFLD transactions are logged in file MDCMS(ENV)/MDDTHST and visible from the Full History listing in the MDWorkflow web application.

NOTE: If Location Synchronization is used (MDCMS Settings option 6), the API will only need to be invoked for 1 system. The other partitions or physical systems will automatically be synchronized.

If the target Project is closed or if the custom field isn't defined in MDCMS, the entry will not be processed.

MDUPDCFLD Parameter Table

Name	Type	Length	Description
Name	Type	Length	Valid Values and Format
Project	CHAR	12	*RFP - the custom field value for all projects, tasks and/or subtasks impacted by the Application Code/RFP number defined in parameters AGP and RFP should be updated, as long as the project type of the project or task type of the task/subtask allow use of that field. unique ID - update only for a specific project, task or subtask
Task	DEC	7	Task Number - Leave as 0 if Custom Field is to be applied directly to the Project.
Subtask	DEC	7	Subtask Number - Leave as 0 if Custom Field is to be applied directly to the Project or Task.
Field Name	CHAR	10	The Name of the Field to add, update or remove for this Project/Task
Option	CHAR	7	*UPDADD - If a value already exists for the given field, it will be updated with the field provided. Otherwise, the value will be added for the field. *ADD - If a value is already defined for the field, the existing value will be retained. *REMOVE - Remove any exiting value from the Field for the given Project/Task. If a field value doesn't exist, execution will be ignored.
Alphanumeric Value	CHAR	160	The value to apply for the given field in character format. The maximum length of an alphanumeric field is 160 characters or the defined length of the field, whichever is shorter. Use this for fields of type: String Checkbox (Y or N) DropDownList (the code value, not the description) URL
Numeric Value	DEC	26,9	The value to apply for the given field in decimal format. The maximum length of a numeric field before the decimal point is 15 digits. The maximum length after the decimal point is 9 digits. The actual maximum depends on the definition of the field. Use this for fields of type: Number Date (format YYYYMMDD) Time (format HHMMSS)
Application of RFP	CHAR	6	The application of the RFP that contains the Projects, Tasks and Subtasks that require an update to the field value. If PROJ = *RFP, this parameter is required.
RFP Number	DEC	7	The RFP (Request for Promotion) number that contains the Projects, Tasks and Subtasks that require an update to the field value. If PROJ = *RFP, this parameter is required.
Apply to RFP Projects	CHAR	4	*YES - MDCMS will attempt to update the value for the field for each project impacted by the RFP, even if development work is done against a task or subtask within the Project. *NO - Any Project level field will be ignored
Apply to RFP Tasks	CHAR	4	*YES - MDCMS will attempt to update the value for the field for each task impacted by the RFP, even if development work is done against a subtask within the Task. *NO - Any Task level field will be ignored
Apply to RFP Subtasks	CHAR	4	*YES - MDCMS will attempt to update the value for the field for each subtask impacted by the RFP. *NO - Any Subtask level field will be ignored

Name	Type	Length	Description
MDCMS Instance	CHAR	5	Specifies the MDCMS environment that should be used for the API. The ID correlates to the suffix of the MDCMS library name. Special values: *DFT - default instance (no suffix) *SAME - the current instance based on the library list

1.6.14 MDUPDATT - Update Project/Task Attachment command

MDCMS is delivered with a command-based API that allows external tools or applications to add, update or remove an attachment from an existing Project, Task or Subtask in MDCMS.

The MDCMS command is named **MDUPDATT** and is located in library MDCMS. It is not necessary to have the MD libraries in the library list prior to using this command. If you are unable to invoke a command from your Project Management tool, you can also directly call program **MDUPDATT** in library MDCMS. In this case, be certain that the parameters sent to the program exactly match the parameters in command MDUPDATT.

Every MDUPDATT transaction is logged in file MDCMS(ENV)/MDDUATT and visible from the Logging settings in the MDCMS Setup Menu.

MDUPDATT Parameter Table

Name	Type	Length	Description
Name	Type	Length	Valid Values and Format
Project	CHAR	12	unique ID - Required
Task	DEC	7	Task Number - Leave as 0 if the attachment is to be applied directly to the Project.
Subtask	DEC	7	Subtask Number - Leave as 0 if the attachment is to be applied directly to the Project or Task.
IFS File Name	CHAR	80	The Name of the File to add, update or remove for this Project/Task
Option	CHAR	7	*UPDADD - If an attachment already exists for the given file name, it will be replaced with the file provided. Otherwise, the file will be added as a new attachment. *ADD - If an attachment already exists for the given file name, the existing file will be retained. *REMOVE - Remove the attachment of the entered name from the Project/Task.
IFS Folder containing File	CHAR	240	The full path name in the IFS where the file is located. This parameter is ignored if removing an attachment.
MDCMS Instance	CHAR	5	Specifies the MDCMS environment that should be used for the API. The ID correlates to the suffix of the MDCMS library name. Special values: *DFT - default instance (no suffix) *SAME - the current instance based on the library list

1.6.15 MDUPDSTS - Update Status for RFP Projects/Tasks command

It is often useful, that the status for a Project or Task automatically updates to a new value when an RFP reaches a certain point in the migration path. To facilitate this, command MDUPDSTS is provided to use as an exit point (such as a Post-Installation command) to update any Projects or tasks that were impacted by the RFP.

All MDUPDSTS transactions are logged to file MDCMS/MDDUSTS.

MDUPDSTS Parameter Table

Option / Field	Description
Application (AGP)	The Application targeted by the RFP
RFP Number (RFP)	The RFP Number whose activity requires a status change to projects and tasks assigned to object requests in the RFP.
New Status Code (STS)	The new project/task status code to be applied The status code must be defined and be allowed for automatic updates. If the status code is marked as a closing status, no open object requests may remain in the Object Manager for a given Project or Task.
Apply to Projects (PROJ)	Specifies if projects in the RFP should be updated with the new status. *YES - the status will be updated for Projects *NO - the status will not be updated for Projects
Apply to Tasks (TASK)	Specifies if Tasks in the RFP should be updated with the new status. *YES - the status will be updated for Tasks *NO - the status will not be updated for Tasks
Apply to Subtasks (STSK)	Specifies if Subtasks in the RFP should be updated with the new status. *YES - the status will be updated for Subtasks *NO - the status will not be updated for Subtasks
Include for Current Status (CSTI)	Specifies a list of status codes to compare to the current status of a project, task or subtask. If the current status matches one of the codes in the list, the status for the project, task or subtask will be updated to the new status. If the list is empty, then any current status is permitted. You can specify 50 values for this parameter.
Exclude for Current Status (CSTE)	Specifies a list of status codes to compare to the current status of a project, task or subtask. If the current status matches one of the codes in the list, the status for the project, task or subtask will NOT be updated to the new status. If the list is empty, then any current status is permitted. You can specify 50 values for this parameter.
Environment ID (ENV)	Specifies the MDCMS environment that should be used for the API. The ID correlates to the suffix of the MDCMS library name. *DFT - the default environment will be used. This correlates to library MDCMS. *SAME - the environment of the current library list will be used

1.7 MDXREF

MDXREF is a tool used to view the inter-relationship between objects. This includes what and how programs use files, what and how files relate to one another, the complete process flow of applications, etc. See the MDXREF User Manual for instructions and more information.

1.8 Send Promotion to Remote System

1.8.1 Send Promotion to Remote System

```
MDRLWSD                      COMPANY NAME                      11/20/11
SCRN1                        Send Promotion to Remote System    10:37:41
Filters:
Appl: TEST   Rcvd: _   Project: _____   Object: _____
Lvl.: 10     Inst: _   Task...: _____   User...: _____
Stat:       Prob: _   Subtask: _____   Loc ID: _____
RFP.:       Cmd/Scr: _ / _   Desc.: _____
Type options, press Enter.
1=Send  2=Edit  3=Copy  7=Reset  9=Close  C=Cmd/Scrp  H=History
         L=Log   M=Merge  O=Objects P=Proj/Tasks S=Spools  T=Target Locs
   Appl  RFP  Lvl User      Installed St R I P Description
- ACCT  20594  90  MMORGAN   3/16/97 02 P  W Euro Currency preparation
- ACCT  20643  90  BTERRELL  3/16/97 01      Decimal data problem
- ACCT  20653  90  MMORGAN   4/09/06 03      Load workfiles with info

F3=Exit  F4=Browse  F5=Refresh  F6=Add  F8=Sort by Date  F10=History  Bottom
```

It is possible to control applications across IBMi systems or logical partitions via MDCMS, as long as a licensed copy of MDCMS exists on each of the systems involved.

The first step for specifying what is to be sent where is to define the distribution levels (see the sections for OS/400 Locations and Distribution Levels for instructions).

If a promotion is installed into an Application/level, the RFP with all of its installed objects and commands will appear in the list as long as:

the application/level has at least 1 defined distribution level

the flag, Place RFP in Send Promotion List, is set to Y for the RFP

For each entry, the application, RFP number, application level, RFP Manager, date installed, and description of promotion are listed.

The following additional columns are shown:

St

The send status of the RFP across all target levels.

RP - The installed RFP is pending MDWorkflow acceptance. Until acceptance occurs, none of the objects in the RFP can be sent to other locations.

00 - The RFP is empty - no objects assigned to RFP

01 - The RFP is ready, but not yet sent to any locations

02 - The RFP has been sent to some of the defined locations

03 - The RFP has been sent to all defined locations that normally expect to be sent to

04 - The send process is currently running for the RFP

05 - The RFP is closed in the Send List

R

If the receipt of the sent RFP has occurred for some or all of the locations. There must be a defined DDM push or pull connection defined between this location and a target location for this information to be available.

Blank - Receipt of RFP hasn't occurred or isn't known

P - the RFP has been received on a portion of the locations that it has been sent to

C - the RFP has been received on every location that it has been sent to

I

If the installation of the sent RFP has occurred for some or all of the locations. There must be a defined DDM push or pull connection defined between this location and a target location for this information to be available.

Blank - Installation of RFP hasn't occurred or isn't known

P - the RFP has been installed on a portion of the locations that it has been sent to

C - the RFP has been installed on every location that it has been sent to

E

If warnings or errors occurs during processing of the RFP on the target systems. There must be a defined DDM push or pull connection defined between this location and a target location for this information to be available.

Blank - problems haven't occurred or isn't known

W - warnings have occurred

E - errors have occurred

The entries may be filtered by a large number of criteria. For most of the filters, F4 can be used to list and select a filter value.

The following options are available for each entry in the list:

1=Send - send the promotion package to remote systems. Any default send locations that haven't been ignored or already sent to will be pre-selected to send

7=Reset - reset the status from 04=running back to 01 or 02. This can only be used if a send job ended abnormally or hasn't been processed in the send queue yet.

9=Close - remove RFP from list.

A confirmation screen will be displayed before the promotion would actually be removed.

Closed RFPs can be reopened in the Send History screen.

If default target levels haven't been processed yet for the RFP, the user must be authorized to MDSEC function code 54 in order to be able to close the RFP.

C=Cmd/Scrp - add or edit RFP-Level commands and scripts for the promotion package.

H=History - View the Send History for the RFP

L=Log - view all steps that have occurred during the most recent Send Batch for the RFP. For each step, the job log entries can be viewed for additional information. The steps, the job log, or a combination of both can be exported to an excel report. To view the log entries for older batches, use the Log option from Send History (F10 from Send Listing). The job log entries are applied to the RFP using the MDLOG service. If the entries are missing, ensure that the MDLOG service is running.

M=Merge - Merge 2 or more RFP Packages into 1 RFP. Enter an M for at least 2 RFP packages of the same application and level and then press Enter. A confirmation screen is shown where the target RFP number can be selected and the description of the merged package can be edited. All objects (and commands) of the selected RFPs will be merged into the target RFP. The other specified Packages will be emptied and closed once the merge is complete. Duplicate objects and commands will be eliminated automatically.

O=Objects - View/edit the objects contained in the promotion package. Specific objects (and commands) may be added or removed.

P=Proj/Tasks - view list of all Projects, Tasks and Subtasks impacted by object requests on the Send RFP

S=Spools - View any spool files from the most recent attempt to send the RFP.

T=Target Locs - view the send status for the target locations and individually send the promotion package if the status allows it.

Function Keys:

F3=Exit

F4=Browse - Browse list of valid values for a field (place cursor on appropriate field)

F5=Refresh - Refresh listing display

F6=Add - Manually add a promotion package to send

F8=Sort by Date/Appl - toggle the sort sequence for the listing between Appl/RFP ascending and Install Date descending

F10=History - View the Send History for all promotions

1.8.2 Promotion Objects Display

```

MDRLWSO                                COMPANY NAME                                10/19/11
SCRN1                                  Promotion Objects                            10:37:03

App1: TEST Lvl: 30 RFP:                4 Desc: Load workfiles with info

Type options, press Enter.
  2=Edit 3=Copy 4=Delete 5=View C=Cmd/Scrp P=Projects

Opt Object      Attribute  Type    C/S  Project  User      Rsn
-  CALCAC1      CBL        *PGM   VAT   VAT      MMORGAN   M
-  CALCAC2      CBL        *PGM   Y    VAT      MMORGAN   D

F3=Exit  F5=Refresh  F6=Add  F17=Top  F18=Bottom
Bottom

```

This display, which is accessed by taking option O=Objects against an RFP on Send Promotion to Remote System panel, lists all source or objects within a promotion package that would be sent to a remote system. The reason for the promotion is listed with each entry. The reason may be M for a modification, R for a recompile, U for an Update or D for a deletion.

The following options are available for each entry in the list:

2=Edit - Edit the request parameters for the object. The parameters are equivalent to those that can be changed in the Object Manager - see Section 2 - Edit Request Details in the Object Manager chapter for more information.

3=Copy - add an object request to the RFP using the parameters for selected object as initial values

4=Delete - Remove the object from the promotion package

5=View - View the details of the object

C=Cmd/Scrp - Display and edit the commands and scripts to be sent with the object

P=Projects - Display and edit the projects that the object is assigned to

F3=Exit

F5=Refresh - refresh the list

F6=Add - add an additional object to the promotion package

F17=Top - position cursor to the top of the list

F18=Bottom - position cursor to the bottom of the list

1.8.3 Send Promotion Display

```

MDCLWSD                                COMPANY NAME                                10/19/15
SCRN3                                Send Promotion to Remote System                10:37:38

App1: ACCT  RFP: 20653  Lvl: 30  Desc: Load workfiles with info

Install Date: *CURRENT TimeZone  Loc.: _____  Lvl: ____  Desc: _____
Install Time: *IMMED__  T      User: _____  Fmt: ____  Addr: _____
Stat: _____  Prb: _  Group: _____

Type options, press Enter.
1=Send  F=FTP  Log  H=History  I=Ignore  L=Log  P=Problems  T=Target RFP
Send / Ignore

Opt Location  Description  Lvl Stat Prb  Date  User  Fmt
1  MD71      MD 7.1      20  SERR  Y
1  SFO      Clean Save file  10  NONE
_  SFF      Full Save file  10  INST      10/18/15  MMORGAN  GOA

Bottom
F3=Exit  F4=Browse  F5=Refresh  F8=Settings  F9=View Addr  F13=Unselect All

```

This is the confirmation screen for sending a promotion to one or more remote systems. This panel appears when option 1=Send or T=Target Locs is selected for an RFP on the Send Promotion to Remote System panel or from RFP History.

Install Date

The date that the install should take place on the target systems.

Set this value prior to using option 1 to process the send to the systems that should be installed at that time.

If the target level is set to automatic, it will be received, submitted and approved for installation immediately on the target system. Then a 2nd batch job will be submitted to batch that will be scheduled for the date/time provided.

If the target level is set to manual, then a user will need to carry out the manual steps, but the install date/time will default to the value provided in this screen.

*CURRENT - the installation will be scheduled for the same day that the submission completes on the target system.

Install Time

The time that the install should take place on the target systems.

*IMMED - the installation will begin as soon as installation approval is complete on the target system.

TimeZone

Indication of which location the entered Install Date/Time refers to.

L - schedule the date/time based on the time zone of the local (sending) system. If the target system is in a different time zone, the scheduled date/time will be adjusted accordingly. So, if the RFP is scheduled to install at 9pm EST because the local system is in New York, it will be installed at 6pm PST if the target system is in Los Angeles.

T - schedule the date/time based on the time zone of the target system. The scheduled date/time used on the SBMJOB command will match the value entered exactly. So, if the RFP is sent to 3 different locations and scheduled for 9pm, it will install at 9pm of the time zone of each of those systems.

Loc

Filter by the Location ID of the target system. Press F4 to select from a list.

User

Filter by the User ID that sent the RFP or Ignored a Location. Press F4 to select from a list.

Stat

Filter by the Status of the distribution for a Location. Press F4 to select from a list. The full description of possible status codes is available in section Send Status Values.

Lvl

Filter by the Level on the target system

Emt

Filter by the Distribution Method. Press F4 to select from a list.

Prb

Whether or not problems have occurred during the send, receive or install of the RFP for the target level. Use Y to filter to only targets where problems occurred. Use N to filter to only targets where problems haven't occurred.

Desc

Filter by the Location Description. Any row will be displayed that contains the value anywhere within the description for its location.

Addr

Filter by the Location Address. Any row will be displayed that contains the value anywhere within the target address for its location.

Group

Filter by a Location Group. Press F4 when cursor is on the Group field to select and manage the Location Groups. Location Groups are used to provide a means of filtering a list of Locations by any definition necessary for the organization. Multiple locations can belong to a location group and multiple location groups can contain the same location.

Options

1 - Send the RFP to one or more target locations

F - View the FTP Log for the most recent attempt of sending by FTP to the selected location

H - View the Send History for the selected location

I - Ignore the target level for this RFP. If ignored, the auto-close function won't consider this level and will proceed with closing the RFP once the other default levels have been processed or ignored. The authority to ignore a target level is based on MDSEC function code 54.

L - view all steps that have occurred during the most recent Send Batch for the RFP and specific target level. For each step, the job log entries can be viewed for additional information. The steps, the job log, or a combination of both can be exported to an excel report. To view the log entries for older batches, use the Log option from Send History (F10 from Send Listing). The job log entries are applied to the RFP using the MDLOG service. If the entries are missing, ensure that the MDLOG service is running.

P - View a list of any problems that have occurred during the send, receive or install of the RFP

T - Once the RFP has been received on the target system, option T can be used to view details about the target RFP. If authorized on the target system, the target RFP can also be approved for installation or installed from this screen. A pre-requisite to use this option is that a DDM connection is defined in MDCMS and MDPUSH or MDPULL is used to sync data between locations. In order to approve or install remotely, the sending location must be defined as a MDWorkflow Repository both locally and on the target location.

Special Function Keys

F8 - View/Manage the Distribution Level settings

F9 - toggle the listing between viewing the location description and the target address

F13 - select or unselect all rows with option 1=Send

1.8.4 Create Send Package

Manually Create Empty Send Package for Specific Object Requests

MDRLWS3
SCRN1

COMPANY NAME
Create Send Package

10/15/20
10:37:03

Application/Level . . . ____ _
Description _____

Empty RFP _ Y=Yes, N=Fill with Install History based on Filters

Filters:
Install Date Range . . . _____ to _____
RFP Number Range . . . _____ to _____
Project _____ *generic*
Task / Subtask . . . _____
Object Requester . . . _____ *generic*
Object Library . . . _____ *generic*
MDCMS Attribute . . . _____ *generic*

Include RFP Cmd/Scr . N N=No, Y=Yes
Split DB and Non-DB . N N=No, Y=DB Objects on diff RFP than non-DB Objects
Non-DB Objs per RFP . _____ 0=all non-DB Objects on same RFP

Enter=Confirm F4=Browse F12=Cancel

One or more objects may be manually added to a new send package without the prerequisite that the objects are first promoted. This panel is accessed by pressing **F6=Add** from the Send Promotion to Remote System display.

Application

The local application code of the application to send from

Level

The local application level of the promotion level to send from

Description

The description to apply to the new RFP.

Empty RFP

Y - A new send RFP will be created without any objects in it.

Ignore the remaining parameters on the screen for the use case of a new, empty Send RFP, which will then have specific, individual objects added to it.

Manually Create Send Package from Installed Object Requests

```

MDRLWS3                                COMPANY NAME                10/15/20
SCRN1                                  Create Send Package          10:37:03

Application/Level . . . ____ _
Description . . . . . _____

Empty RFP . . . . . _ Y=Yes, N=Fill with Install History based on Filters

Filters:
Install Date Range . . . ____ to ____
RFP Number Range . . . ____ to ____
Project . . . . . ____ *generic*
Task / Subtask . . . ____
Object Requester . . . ____ *generic*
Object Library . . . ____ *generic*
MDCMS Attribute . . . ____ *generic*

Include RFP Cmd/Scr . N N=No, Y=Yes
Split DB and Non-DB . N N=No, Y=DB Objects on diff RFP than non-DB Objects
Non-DB Objs per RFP . ____ 0=all non-DB Objects on same RFP

Enter=Confirm F4=Browse F12=Cancel

```

Any amount of installation activity can be combined into a new send package. This panel is accessed by pressing **F6=Add** from the Send Promotion to Remote System display.

Application

The local application code of the application to send from

Level

The local application level of the promotion level to send from

Description

The description to apply to the new RFP.

If filtering to a specific RFP number, the description can be left blank to automatically use the description from the installed RFP. If splitting into multiple RFPs, the description will be applied + a suffix appended stating the part of the RFP, such as DB or non-DB Part 3.

Empty RFP

N - The new send RFP will be populated with all objects in installation history that match the values of the filter fields.

Install Date Range

The range of dates for installation history to include in the RFP. A blank minimum means no minimum. A blank maximum means no maximum.

RFP Number Range

The range of installed RFP numbers to include in the RFP. A blank minimum means no minimum. A blank maximum means no maximum.

Project

Only include objects that were installed for project matching the name pattern in the filter.

Task

Filter the object requests to those that were installed for a specific task number

Subtask

Filter the object requests to those that were installed for a specific subtask number

Object Requester

Only include objects that were requested by a user matching the name pattern in the filter.

Object Library

Only include objects that installed into a library matching the name pattern in the filter.

MDCMS Attribute

Only include objects that were requested for an attribute matching the name pattern in the filter.

Include RFP Cmd/Scr

Y - any commands that were defined for specific installed RFPs, that contain objects included in the send RFP, will be included in the send RFP.

N- no commands defined for specific RFPs will be added to the send RFP

Split DB and Non-DB

If multiple send RFPs should be created. 1 containing any database objects (Physical files, Logical files, data areas and SQL elements) and at least 1 containing non-database objects.

Non-DB Objs per RFP

The maximum number of non-database objects per send RFP.

For example, if the filtered values would mean there are 500 programs, and the number of non-DB Objects per RFP is 100, then there would be 5 RFPs created to contain them (plus 1 for DB objects, if there are any).

Leave this field blank to place all non-DB objects on a single RFP.

Press **Enter** once the information is entered.

Systematically Create Send Package from Installed Object Requests using MDCRTSND

Command **MDCRTSND**, which exists in library MDCMS, can be used to systematically generate a Send RFP from Installed Objects. All of the parameters in the MDCRTSND command are identical to the parameters described in the prior section for manually creating a Send RFP. You can also use F1 on the command or individual parameters in the command for detailed instructions.

1.8.5 Add Object to Promotion

MDRLWSD	COMPANY NAME	10/19/11
SCRN6	Add Object to Promotion	10:37:03

Appl: CSL RFP: 1299 Lvl: 30 Desc: ACPRPT 501000 -> 500001

Reason . . . _ D=Delete, M=Modify, R=Recompile, U=Update

Object . . . _____

Attribute . _____

Project . . _____

Task/Subtask _____

Sort Seq . . _____

Rel. Path . _____

Enter=Confirm F4=Browse F12=Cancel

An object may be selected to be sent to a remote system without the prerequisite that the object is first promoted. Press **F6=Add** from the Promotion Objects display to add an object to an existing promotion package. This display will also be shown after a promotion is manually added.

Enter the reason, object name, object (or source) attribute and Project ID. Press **F4=Browse** to browse the list of objects, attributes, or projects. If the attribute is left blank, MDCMS will assign the last used attribute for the object.

Press **Enter** once the information is entered

1.8.6 Send History

```

MDCLWSL                                COMPANY NAME                                10/19/20
Filters:                               Send History                               19:57:57
  Appl: _____
  Lvl:  _____   Object: _____   Location: _____   User: _____
  RFP:  _____   Project: _____   Tgt Lvl: _____   Stat: _____
                                      Format: _____   Prob: _____

Type options, press Enter.
  5=Details  C=Cmd/Scr  D=Dist Lvl  F=FTP Log  L=Logs  P=Problems  R=Reopen RFP

   Date      Time      Appl Lvl   RFP Distribution Queue   Lvl Trn User      Stat
  _ 5.12.07  20:24:12  ACCT 30    351 chmdyn01          50  FTP MMORGAN    OK
  _ 5.12.07  20:22:58  OPER 10   40036                MMORGAN    NONE
  _ 5.12.07  20:22:58  OPER 10   40035 chmdyn01          SNA MMORGAN    FAIL
  _ 5.12.07  20:22:58  OPER 10   40034 chmdyn01          FTP MMORGAN    OK
  _ 5.12.07  20:22:58  OPER 10   40033 chmdyn01          FTP MMORGAN    OK
  _ 5.12.07  20:22:58  OPER 10   40031 chmdyn01          FTP MMORGAN    FAIL
  _ 5.12.07  20:22:58  ACCT 10    335 chmdyn01          FTP MMORGAN    OK
  _ 5.12.07  20:22:58  ACCT 10    332                MMORGAN    NONE

                                     Bottom

F4=Browse  F5=Refresh  F9=Toggle Desc  F11=View Output  F15=Print

```

This display will list the promotion send history for all promotions that have been attempted (since the installation of MDCMS version 6.2.4 or higher) plus all promotions that have been removed from the Send List without having been sent.

Filters

Enter a value into a filter field to limit the listing to items matching the filter(s). Possible values may be selected by pressing F4=Browse while the cursor is positioned on the filter field.

Options

5=Details - View complete details of the send, including object and project information

C=Cmd/Scr - display the RFP-Level commands and scripts that were defined for the promotion

D=Dist Lvl - view/manage the settings for the Distribution Levels

F=FTP Log - If the Send was processed using FTP, the FTP log can be displayed in order to analyse and correct any connection problems.

L=Log - view all steps that have occurred during the most recent Send Batch for the RFP. For each step, the job log entries can be viewed for additional information. The steps, the job log, or a combination of both can be exported to an excel report.

P=Problems - display the list of any warnings or errors that occurred during the send or, if available, during the receipt and installation on the target system

R=Reopen RFP - Reopen the RFP so that it can be sent again

Function Keys:

F4=Browse - Browse possible values for a filter field

F5=Refresh

F9=Toggle Desc - Toggle the display between showing/hiding the RFP description

F11=View Output - Display the MD Output panel and other spool files

F15=Print - create a report in MD Output based on the currently entered filters

1.8.7 Send Status Values

The following status values are possible for a distribution of an RFP to a specific target level and is visible from the Target Location screen or from Send History.

Status Values generated on Local System prior to, or during, Send Process:

Option / Field	Description
NONE	Send not attempted
IGN	Target Ignored by user
SPND	Send has been submitted for processing and is waiting to begin
SNDB	Send Package being built. This is performed by a batch job that runs specifically for the RFP Send Batch. The build consists of packaging all necessary source, objects and metadata into a save file.
SNDQ	The save file is completely build and has is sitting on the queue for the MDSEND job assigned to the target location.
SPRG	Send in progress - the MDSEND job is transferring the save file to the target location using the method defined for the location.
SENT	RFP has been successfully sent
SERR	An error occurred while trying to send the RFP

Status Values generated for distributed RFP on Target System and logged locally using DDM:

Option / Field	Description
RCVD	RFP has been successfully received
RWRN	RFP has been received, but warnings occurred
RERR	An error occurred while trying to receive the RFP
CLOS	RFP has been manually closed without installing
MERG	Object Requests on RFP have been merged into a different RFP
SBMP	RFP has been submitted for the compile/bundle steps and is waiting to begin
SBM	RFP submission (compile/bundle steps) in progress
SBME	An error occurred while trying to bundle the RFP
APND	RFP is waiting for installation approval
APRV	RFP has been approved for installation
RAP	MDRapid data mapping in progress
IPND	RFP has been submitted for installation and is waiting to begin
IPRG	RFP Installation in progress
INST	RFP has been successfully installed
IWRN	RFP has been installed, but warnings occurred
IERR	An error occurred while trying to install the RFP

Special Filter Status Values for limiting the listings:

Option / Field	Description
*ACT	Any active status - not IGN, INST or IWRN
*SND	Any send status
*RCV	Any receive status
*SBM	Any submit status
*APR	Any approve status
*INS	Any install status

1.8.8 MDSNDRFP - Send RFPs command

Command **MDSNDRFP** in library MDCMS(env) provides the ability to schedule or programmatically send open RFPs to levels on target systems.

Restrictions:

- The RFP must be open in the send list and none of the objects in the RFP may be waiting for MDWorkflow acceptance or be blocked by a Status Boundary. The RFP will only be sent to unignored target levels where the installation hasn't completed yet.
- As a safety precaution, at least one of the following parameters must be passed with a value other than the default: APPL, FLVL, TLVL, FRFP, TRFP, LOC, LOCGRP, FTLVL, TTLVL or PROJ.

MDSNDRFP Parameters

Name	Type	Length	Description
Name	Type	Length	Description
APPL	CHAR	6	Application Code or *ALL for any application
FLVL	INTEGER	3	Minimum Application Level to consider
TLVL	INTEGER	3	Maximum Application Level to consider
FRFP	INTEGER	7	Minimum RFP Number to consider
TRFP	INTEGER	7	Maximum RFP Number to consider
LOC	CHAR	10	The Location to send the RFP to *ALLDFT = All target locations defined for the RFP's level that have the Default to Send property set to Y=Yes or M=Yes for Manual Send. *ALL = All target locations defined for the RFP's level
LOCGRP	CHAR	10	The Location Group to send the RFP to. MDCMS will only send to locations that meet the value for parameter LOC and LOCGRP. *ALL = the locations to send to aren't limited to a specific group
FTLVL	INTEGER	3	The minimum application level on the target system to send to
TTLVL	INTEGER	3	The maximum application level on the target system to send to
MERGE	CHAR	4	Specifies if, in the case of multiple RFPs for the same local level, they should be merged into a single RFP before sending. The merge will occur for each level and result in the lowest RFP number for the level being the container for all of the impacted objects. *NO = each RFP will be sent separately *YES = All RFPs for the same application level will be merged into the lowest RFP so that a single RFP is sent to the target locations for that level.
RESEND	CHAR	4	Specifies if an RFP should be sent to a target level, if it has already been sent to that level. If the installation completed for the target level, then the RFP won't be resent. *NO = a target level will be omitted, if the RFP has already been sent to it *YES = the RFP will be resent to a target level, even if it had been sent before, as long as the installation hasn't completed on the target level.
INSDT	CHAR	8	Specifies the date that the RFP should be scheduled to be installed on the target level. It will be sent immediately, and then, if the validation, compile and approval phase is ok, will be installed at the given date and time, if the target level is set to install automatically. *CURRENT = the installation of the RFP will occur on the same date as the approval is given. If the installation time is set to *IMMED, the installation will occur immediately. Otherwise, specify a date in format YYYYMMDD
INSTM	CHAR	6	Specifies the time of day that the RFP should be scheduled to be installed on the target level. It will be sent immediately, and then, if the validation, compile and approval phase is ok, will be installed at the given date and time, if the target level is set to install automatically. *IMMED = the installation of the RFP will occur as soon as approval is given for the RFP on the target. Otherwise, specify a time in format HHMMSS
TZONE	CHAR	7	

Name	Type	Length	Description
			Specifies if the scheduled install date/time is based on the time zone of the sending system or the time zone of the target system. *TARGET = the installation date/time is based on the time zone of the target system. *LOCAL = the installation date/time is based on the time zone of the local sending system.
PROJ	CHAR	12	Project Filter - only send RFP if one or more Objects in the RFP are requested for the Project
TASK	INTEGER	7	Task Filter - only send RFP if one or more Objects in the RFP are requested for the Project Task
STSK	INTEGER	7	Subtask Filter - only send RFP if one or more Objects in the RFP are requested for the Project Subtask
PIPE	CHAR	10	Pipeline Filter - Specifies the Pipeline Server ID of a Pipeline TraceKey request. This value is required if a value for TRCKEY is provided. If values for PIPE/ TRCKEY are provided, an RFP will only be included if it contains an object request of type *PIPE with the Pipeline server ID and TraceKey in the object name.
TRCKEY	CHAR	128	Pipeline TraceKey Filter - Specifies the Pipeline TraceKey of a Pipeline TraceKey request. This value is required if a value for PIPE is provided. If values for PIPE/ TRCKEY are provided, an RFP will only be included if it contains an object request of type *PIPE with the Pipeline server ID and TraceKey in the object name.
BATCH	CHAR	6	Specifies if the target levels are part of a batch send, so that a single process will send to several different targets at the same time rather than each one individually. This provides a way to avoid conflicts when trying to send to multiple targets for the same RFP using multiple calls to this command. *ONLY - The send should be invoked immediately without batching multiple calls to this command together. *FIRST - Any selected targets in this call to MDSNDRFP are to be placed in an initialized batch list per RFP. This should be the value used for the first MDSNDRFP call for a batch. *ADD - Any selected targets in this call to MDSNDRFP will be appended to an existing list per RFP. If the list for a specific RFP doesn't exist yet, it will be started. *LAST - Any selected targets in this call to MDSNDRFP will be appended to an existing list per RFP. If the list for a specific RFP doesn't exist yet, it will be started. The send for the entire batch list per RFP will then be immediately processed. This must be the value used for the last MDSNDRFP call for a batch.
ENV	CHAR	4	Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST. *DFT = The default environment will be used. This correlates to library MDCMS.
EMSG	CHAR	7	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail. *DIAG = A diagnostic message will be placed in the calling program's message queue in the following format: MDSBMRFP Exception. Object=, Reason= *ESCAPE = The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor.

Name	Type	Length	Description
			*NONE = An exception message will not be returned to the calling program's message queue.

1.8.9 MDADDSOG - Add MDCMS Send Object Group command

Command **MDADDSOG** in library MDCMS(env) provides the ability to create an RFP in the Send list containing all objects associated with an MDWorkflow Object Group based on that group's object inclusion and exclusion rules.

If successful, the RFP will be available in the Send listing ready to be sent.

Each MDADDSOG transaction is logged in MDCMS/MDDASOG. In addition to displaying the input parameters, the log also shows the generated RFP Number, and, if an exception occurs, a short description of the error.

Restrictions:

- The user entered for parameter USER must have MDSEC authority to Edit RFPs in Send List (code 48) for the entered Application Level as well as authority to use the Project (and Task/Subtask, if entered). .
- The user performing MDADDSOG must have at least *USE authority for the USER parameter profile.
- The user performing MDCRTSCO must have been granted authority to execute the command in the MDSEC Command Security listing.

MDADDSOG Parameters

Name	Type	Length	Description
Name	Type	Length	Description
APPL	CHAR	6	Application to send from
LVL	INTEGER	3	Application Level to send from
OGRP	CHAR	10	The MDWorkflow Object Group
RFPD	CHAR	160	The description to be placed on the RFP in the Send List
PROJ	CHAR	12	A valid Project ID to be applied to each object
TASK	INTEGER	7	The optional Task Number within the Project to be applied to each object
STSK	INTEGER	7	The optional Subtask Number within the Project Task to be applied to each object
USER	CHAR	10	The User ID to apply to the Send RFP and its objects *USER - the user of the job invoking the command
LOC	CHAR	10	The Location to send the RFP to by default when the send occurs *ALL = All target locations defined for the RFP's level that have the Default to Send property set to Y=Yes or M=Yes for Manual Send.
TLVL	INTEGER	3	The target level of remote locations to send to by default. 0 = all defined target levels for all default locations or the specific location in parameter LOC.
ENV	CHAR	4	Specifies the MDCMS environment that should be used when running the command. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST. *DFT = The default environment will be used. This correlates to library MDCMS.
VREF	CHAR	20	Specifies the Vendor Generated Identifier in order for an external process to easily identify the transaction record in the MDDASOG table. Any value up to 20 characters in length can be used.
EMSG	CHAR	7	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail. *DIAG = A diagnostic message will be placed in the calling program's message queue in the following format: MDSBMRFP Exception. Object=, Vendor Reference=, Reason= *ESCAPE = The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE = An exception message will not be returned to the calling program's message queue.

1.8.10 MDADDSRQ - Generate Object Request Records for Send RFP command

MDCMS is delivered with a command-based API that allows external tools or applications to create Object Requests within an RFP in the send list in MDCMS.

The MDCMS command is named **MDADDSRQ** and is located in library MDCMS. It is not necessary to have the MD libraries in the library list prior to using this command. If you are unable to invoke a command from your tool, you can also directly call program **MDADDSRQ** in library MDCMS. In this case, be certain that the parameter order and formats sent to the program exactly match the parameters in command MDADDSRQ.

All MDADDSRQ API transactions are logged to file MDCMS/MDDASRQ.

MDADDREQ Parameter Table

Name	Type	Length	Description
KEYWORD	Description	Type	Length
APPL	Application	CHAR	6
LVL	Level	INTEGER	3
OBJT	Object Type	CHAR	7
ATTR	MDCMS Attribute	CHAR	10
OBJN	Object Name	CHAR	128
RPTH	Object Relative Path	CHAR	240
SRCN	Source Name	CHAR	128
RSN	Request Reason	CHAR	10
USER	Programmer	CHAR	10
PROJ	Project	CHAR	12
TASK	Task	INTEGER	7
STSK	Subtask	INTEGER	7
ARFP	Assign RFP	CHAR	4
RFP	RFP Number	INTEGER	7
RFPD	RFP Description	CHAR	160
CREQ	Create Requests for Next Level	CHAR	4
AREQ	Assign RFP to Next Level Reqs	CHAR	7
SREQ	Place RFP in Send List	CHAR	7
CSQO	Compile Subsequence	INTEGER	5
DATA	Data Origin	CHAR	60
DMBR	Data Member to Copy	CHAR	10
RPGM	Use MDRapid	CHAR	10
RJRN	Reapply Journals	CHAR	4
RCST	Reapply Constraints	CHAR	4
RTRG	Reapply Triggers	CHAR	4
RLFM	Reapply LF Members	CHAR	4
DIR	Is IFS Directory	CHAR	4
ENV	MDCMS Environment ID	CHAR	4
VREF	Vendor Reference ID	CHAR	20
EMSG	Exception Message	CHAR	7

Detailed Description of MDADDREQ Parameters**Application (APPL)**

The target MDCMS Application code for the request

This is a required parameter.

Level (LVL)

The local MDCMS Promotion Level for the request to be sent from.

This is a required parameter.

Object Type (OBJT)

The System or MDCMS Object Type code for the Object. For example: *PGM for a program or *IFS for an IFS file.

This is a required parameter.

MDCMS Attribute (ATTR)

The MDCMS Attribute code that identifies the behaviour and target locations for the requested object.

This is a required parameter.

Object Name (OBJN)

The name of the Object to be requested.

For *SOURCE, this would be the name of the member

For *MSGD, this would be the name of the Message ID

For *DTAGRP, this would be the value of the record key(s)

This is a required parameter.

Relative Path (RPTH)

Specifies the relative portion of an IFS path, starting with /, that will be deployed with the object.

For example, if the *IFS attribute has a target fixed directory defined as /srv/dev and this object should be deployed to /srv/dev/app1/dist, then the value of RPTH should be /app1/dist.

Member/IFS File Name (SRCN)

Specifies the name of the Source Member or IFS Source File to be requested. This parameter is ignored if attribute defined as having no source.

*OBJ - The name of the source is the same as the name of the object

Request Reason (RSN)

The reason for the object request

*MIGRATE - a source and/or object will be migrated into the selected application level

*DELETE - an existing object will be deleted

*RECOMPILE - an object will be recompiled based on the currently active source for that environment without the source being modified

*UPDATE - this is intended for ILE programs to bind the current modules and service programs to the program. A U command (such as CHGPGM) must be defined for the attribute.

Programmer (USER)

Specifies the user profile to be indicated as the programmer for the request. If this command generates an RFP, the owner of the RFP will also be this user

*USER - the current user profile of the job invoking this command is the user

Project (PROJ)

Specifies the Project to assign to the Request. The project, if entered, must already exist and be in an open status. If the project is not yet authorized, then the user must have MDSEC authority to authorize the Project and then MDCMS will do so automatically.

Task (TASK)

Specifies the Project Task to attribute to the Request. The task, if entered, must already exist and be in an open status.

Subtask (STSK)

Specifies the Subtask to attribute to the Request. The Subtask, if entered, must already exist and be in an open status.

Assign Request to RFP (ARFP)

Specifies if the request should be immediately assigned to an RFP and the method of determining the RFP.

***AUTO** - MDCMS searches for an open RFP matching the Application, Level, User and Description values entered for this command. If an RFP is found the Request will be assigned to that RFP. If an RFP is not found, a new RFP will be created.

***YES** - The request will be assigned to the RFP number based on parameter RFP

***NEW** - A new RFP will be created for the Application, Level, User and Description values entered for this command.

Existing RFP Number (RFP)

Specifies the RFP to assign to the Request. Will only be used if parameter ARFP is set to ***YES**.

RFP Description (RFPD)

The description to be used for a new RFP or to search for an existing RFP. Will only be used if parameter ARFP is ***AUTO** or ***NEW**.

Compile Subsequence (CSQO)

Specifies the sequence for compiling (lowest first) for objects in same RFP that have the same primary sort sequence in order to handle potential dependency issues. This parameter is not relevant for ***IFS** Objects.

Data Origin for Physical Files or SQL Tables (DATA)

Specifies the origin of the data that should be copied into a new or modified physical file/SQL Table

***SAME** - The data is mapped from the old format of the modified file to the new format of the file of the same name/target library.

***MIGRATE** - The data is migrated with the file from the check-out location to the target library.

***NONE** - The data is not migrated. The new file format will be empty. ***NONE** is required for a logical file if it is replacing a physical file.

character-value - Specify the name of the file from which to migrate the data. The data origin file must exist in the same library as the target file at the time of installation.

Data Member to Copy (DMBR)

Specifies the member(s) to copy to the new version of a physical file/SQL Table or to migrate from the prior environment.

***ALL** - All existing members are included for the copy. If the target is an SQL Table, only the first member will be copied.

***FIRST** - The first member in the originating file is copied. Any other members are omitted.

character-value - The name of the specific member to be copied from the originating file. Any other members are omitted.

Use MDRapid (RPGM)

Specifies if MDRapid should be used to map the data from the old version of a file to the new version.

***DEF** - MDRapid will be used if the number of records in the file is at least the number in the MDRapid template for the attribute. Otherwise not.

***YES** - MDRapid will be used for the file, even if it wouldn't qualify for MDRapid processing.

*NO - MDRapid will not be used for the file, even if it would qualify for MDRapid processing.

Automatically Reapply Journaling (RJRN)

Specifies if the new version of a table or access path should have the journaling attributes applied to it that belonged to the file that it replaced.

*DEF - The default defined for the Application is used

*YES - If journaling was used on the prior version of the file, it will be applied to the new version.

*NO - Journaling will not be automatically reapplied. Commands run during the installation, or external processes, will determine the definition.

Automatically Reapply Constraints (RCST)

Specifies if the new version of a table should have the constraints applied to it that belonged to the table that it replaced.

*DEF - The default defined for the Application is used

*YES - If constraints were used for the prior version of the table, they will be applied to the new version.

*NO - Constraints will not be automatically reapplied. Commands run during the installation, or external processes, will determine the definition.

Automatically Reapply Triggers (RTRG)

Specifies if the new version of a table should have the system (non-SQL) triggers applied to it that belonged to the table that it replaced.

*DEF - The default defined for the Application is used

*YES - If SQL triggers were used for the prior version of the table, they will be applied to the new version. Any SQL triggers that should be re-applied should be requested for recompile and placed on same RFP as the file.

*NO - Triggers will not be automatically reapplied. Commands run during the installation, or external processes, will determine the definition.

Automatically Reapply Logical File Members (RLFM)

Specifies if the new version of a logical file should have the members added to it that belonged to the logical file that it replaced.

*DEF - The default defined for the Application is used

*YES - Any members that existed for the prior version of the logical file will be added to the new version.

*NO - Members will not be automatically reapplied. Commands run during the installation, or external processes, will determine the definition.

IFS Object is a Directory (DIR)

Specifies whether or not the Request of an object of type *IFS is a directory.

*NO - The Requested Object is not an IFS Directory

*YES - The Requested Object is an IFS Directory

Environment ID (ENV)

Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST.

*DEF - The default environment will be used. This correlates to library MDCMS.

Vendor Reference ID (VREF)

Specifies the Vendor Generated Identifier in order for an external process to easily identify the transaction record in the MDDAREQ table. Any value up to 20 characters in length can be used.

Exception Message Returned (EMSG)

Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail.

*DIAG - A diagnostic message will be placed in the calling program's message queue in the following format:

MDADDREQ Exception. Object=, Vendor Reference=, Reason=

If the Vendor Reference isn't passed to MDADDREQ, it won't be included in the diagnostic message.

*ESCAPE - The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor.

*NONE - An exception message will not be returned to the calling program's message queue.

1.8.11 MDCRTSCO - Create MDCMS Send RFP for Changed Objects command

Command **MDCRTSCO** in library MDCMS(env) provides the ability to create an RFP in the Send list containing all objects in a specific library that have been created or changed since a specified minimum date. If the date is unspecified, all objects in the library will be considered for sending. In order for an send request to be created for an object, an attribute must exist for the given level with the named library defined as the target object library for the attribute.

If successful, the RFP will be available in the Send listing ready to be sent.

Each MDCRTSCO transaction is logged in MDCMS/MDDCSCO. In addition to displaying the input parameters, the log also shows the generated RFP Number, number of requested objects and, if an exception occurs, a short description of the error.

Restrictions:

- The user entered for parameter USER must have MDSEC authority to Edit RFPs in Send List (code 48) for the entered Application Level as well as authority to use the Project (and Task/Subtask, if entered). .
- The user performing MDCRTSCO must have at least *USE authority for the USER parameter profile.
- The user performing MDCRTSCO must have been granted authority to execute the command in the MDSEC Command Security listing.

MDCRTSCO Parameters

Name	Type	Length	Description
Name	Type	Length	Description
APPL	CHAR	6	Application to send from
LVL	INTEGER	3	Application Level to send from
OLIB	CHAR	10	An Object Library defined for at least 1 attribute for the given application and level.
RFPD	CHAR	160	The description to be placed on the RFP in the Send List
PROJ	CHAR	12	A valid Project ID to be applied to each object
TASK	INTEGER	7	The optional Task Number within the Project to be applied to each object
STSK	INTEGER	7	The optional Subtask Number within the Project Task to be applied to each object
DATE	INTEGER	8	The minimum date that an object was created or changed (based on parameter DATT). Leave 0 if no minimum. If entered, the value must be in format YYYYMMDD.
DATT	CHAR	7	The types of object dates to compare to the minimum date provided in parameter DATE. <u>*CREATE</u> only the creation date for the object is considered <u>*CHANGE</u> The last change date for the object is considered. If unchanged, the create date is considered.
USER	CHAR	10	The User ID to apply to the Send RFP and its objects *USER - the user of the job invoking the command
ENV	CHAR	4	Specifies the MDCMS environment that should be used when running the command. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST. *DFT = The default environment will be used. This correlates to library MDCMS.
VREF	CHAR	20	Specifies the Vendor Generated Identifier in order for an external process to easily identify the transaction record in the MDDASOG table. Any value up to 20 characters in length can be used.
EMSG	CHAR	7	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail. *DIAG = A diagnostic message will be placed in the calling program's message queue in the following format: MDSBMRFP Exception. Object=, Vendor Reference=, Reason= *ESCAPE = The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE = An exception message will not be returned to the calling program's message queue.

1.8.12 MDTGTSUM - MD RFP Target Location Summary command

Command **MDTGTSUM** in library MDCMS(env) provides the ability to summarize the status of some or all target locations for the send of an RFP.

Each MDTGTSUM execution and result is logged in MDCMS/MDDTSUM.

Each result can also be passed to a routine of type command, java or program in JSON format for further processing.

MDTGTSUM Parameters

Name	Type	Length	Description
Name	Type	Length	Description
APPL	CHAR	6	Application Code - required value
RFP	INTEGER	7	RFP Number - required value
LOC	CHAR	10	The Target Location to include in the summary *ALLDFT = All target locations defined for the RFP's level that have the Default to Send property set to Y=Yes or M=Yes for Manual Send. *ALL = All target locations defined for the RFP's level
LOCGRP	CHAR	10	The Location Group to include in the Summary. MDCMS will only send to locations that meet the value for parameter LOC and LOCGRP. *ALL = the locations to send to aren't limited to a specific group
RTNTYP	CHAR	5	The type of routine to invoke and pass the summary result to. *NONE = A routine won't be invoked with the result. The result will only be written to a record in table MDDTSUM. *CMD = Invoke a command with the JSON result. The command must consist of 1 character parameter of length 5800 with the keyword of RESULT. *JAVA = Invoke a Java class or JAR file. The parameter type (PRMTYP) must be *FILE when using java. The file path is passed as a single argument to the java class. *PGM = Call a program. 1 character parameter of length 5800 will be passed that contains the result in JSON format.
RTNPTH	CHAR	160	The path to the routine, if the routine type isn't *NONE. When type = *CMD, the path should be the command name or library name/command name and nothing else When type = *JAVA, the path should be the full IFS path of the java class or JAR file, including the file name. When type = *PGM, the path should be the program name or library name/program name and nothing else
PRMTYP	CHAR	7	The type of parameter that is passed to the command, java class or program. *STRING = The JSON structure is passed as a string. If the routine type (RTNTYP) is java, *STRING is invalid and *FILE will be used automatically. *FILE = The JSON structure will be written to an IFS file in the directory defined in parameter File Directory (FILDIR). The file name is generated automatically with naming pattern: mdtgtsum_.txt the path of the file, including the directory and name, are passed to the routine instead of JSON string itself. The routine can then work with the file directly.
FILDIR	CHAR	160	If the Parameter Type (PRMTYP) is set to *FILE, the IFS directory where the file should be written is to be provided here. The directory must already exist when the command is invoked.
ENV	CHAR	4	Specifies the MDCMS environment that should be used to place the Request. The ID correlates to the suffix of the MDCMS library name. For example, TEST correlates to library MDCMSTEST. *CUR = the current environment - recommended when invoking this command from an MDCMS exit point. *DFT = The default environment will be used. This correlates to library MDCMS.

Name	Type	Length	Description
EMSG	CHAR	7	Specifies if and to what extent an exception message should be returned to the calling program. An exception message occurs when an input parameter value is invalid, causing the addition of the request to fail. *DIAG = A diagnostic message will be placed in the calling program's message queue in the following format: MDSBMRFP Exception. Object=, Reason= *ESCAPE = The full diagnostic message as described above will be placed in the calling program's message queue and then followed by escape message CPF0001 for which the calling program can monitor. *NONE = An exception message will not be returned to the calling program's message queue.

Example of the JSON Format of the MDTGTSUM result

```
{
  "application": "EXAM",
  "level": 50,
  "RFP": 1234567,
  "RFPDescription": "Example RFP sent to 2 locations",
  "locations": [
    {
      "id": "LOC1",
      "targetLevel": 60,
      "targetRFP": 5959,
      "severity": 10,
      "status": "INST"
    },
    {
      "id": "LOC2",
      "targetLevel": 65,
      "targetRFP": 6162,
      "severity": 20,
      "status": "IWRN"
    }
  ],
  "maximumSeverity": 20,
  "projects": [
    {
      "id": "PROJ1",
```

```
"task": 1565,  
"subtask": 0  
},  
{  
"id": "PROJ3",  
"task": 0,  
"subtask": 0  
}  
]  
}
```

Severity values:

10=Ignored or Installed without Warnings

20=Installed with Warnings

25=Still Ongoing

30=Terminated due to Error

1.9 Receive Promotion from Remote System

1.9.1 Receive Promotion from Remote System

```

MDLLWR1                               Company Name                11/19/11
SCRN1                                Receive Promotion from Remote System 10:37:31

MD Filename: _____

Job Queue: *JOB_____
Library:  _____

Transmitted via: 1      1=SNA
                        2=FTP/Other
                        3=Tape
                        4=Optical Device

Netfile User: QPGMR_____

Enter=Confirm  F4=Browse  F10=Log  F11=Output  F12=Cancel  F21=Sys Command

```

If the automatic receipt of Promotions is not used (see Promotion Level settings and API's MDRCVIFS or MDRCVSNA), then MDCMS promotions sent from remote systems are received using the above display, which is option 9 from the MDCMS Main Menu.

Promotion packages may be received here via SNA, FTP, GoAnywhere, XCOM, tape, or optical device. MDCMS remembers which method was used the last time that a promotion was received. It is best to set the Transmitted via parameter (if incorrect) before entering the other information

MD Filename

Enter the name of the file containing the promotion. MD promotion packages are always named 'MD' and the 1-character Host ID of the sending system and the 6-digit RFP number. Press **F4=Browse** to browse the list of outstanding promotion packages.

Job Queue/Library

The actual receive job is submitted to batch. The subsystem job queue/library may be specified for the receive job.

Netfile User

If the promotion package was sent via SNA, and a specific Netfile user was entered (default is QPGMR) then that same user id must be entered here to receive the promotion.

If the promotion is transmitted via tape or optical device, an additional parameter for Tape Device and Optical Device will prior to confirmation. These parameters are required for receiving the promotion or for browsing the MD promotion packages that exist on each media.

Press **Enter** to submit the receive job.

The submitted job creates a temporary library with the same name as the file. All source and objects related to the promotion are placed in this temporary library. After the objects are installed, the temporary library is deleted.

New MDCMS request records are written for the source/objects and a new RFP number is generated for the received items. The Promotion will then be ready to be installed into the lowest level for the application, unless a higher target level was specified when the Promotion was sent.

If Auto-Submit for the Promotion Level is set to Y, then the compilation portion of the installation will begin as soon as the receipt has completed.

Common Receive Exceptions

Promotion Level not defined for the sent application and target level. The Promotion Level will need to be defined (or the settings sent from another system).

The job description assigned to the level is corrupt (missing library, job queue, user, authority, etc.). Verify the parameters of the job description.

If a sent object is already requested on this system, and the object is in the process of being installed (Status 02 or higher), then a new request record will not be written for the object and report MDRCVERR is generated. Receive Error Commands, if defined for the Promotion Level, will be processed.

If the attribute for a sent object is not defined on this system, then a new request record will not be written for the object and report MDRCVERR is generated. Receive Error Commands, if defined for the Promotion Level, will be processed.

If a sent object is already requested on this system from a different RFP, and the object is only in reserved status (Status 00 or 01), then the existing request will be modified to migrate the source/object from the temporary library of this promotion at installation time and a warning will be generated. Receive Warning Commands, if defined for the Promotion Level, will be processed.

If the same RFP is resent to this location and objects from the prior send are already requested in reserved status (Status 00 or 01), then the existing RFP will be deleted entirely and replaced by the resent RFP. A warning will be generated. Receive Warning Commands, if defined for the Promotion Level, will be processed.

1.9.2 RFP Receive Log

F10 can be pressed from the Receive Promotion screen to view a log of all attempts to automatically or manually receive an RFP onto this system.

For each attempt, any warnings or exceptions can be viewed.

If an RFP was successfully sent, and should have been automatically received, but doesn't appear in the receive log, then perform DSPMSG QSYSOPR to see the reason why the receive job couldn't be submitted.

1.9.3 MDRCVIFS - Receive RFP/Settings from IFS command

When RFPs or settings are received via MDFTP (MDF), GoAnywhere™ (GOA) or a manual Save File (SFF) deployment from another system, they must be staged in IFS Folder /MDCMS/SEND/(instance).

If a DDM connection is defined in MDCMS between the sending system and the receiving system, and MDPUSH or MDPULL is also defined to run, then MDRCVIFS isn't necessary unless for SFF.

When for SFF or DDM isn't available, then Service **MDRCVIFS - MDCMS Receive RFPs in IFS** is used to check for, and process, those RFP files. MDRCVIFS can be started from the Service List in the MDCMS Setup Menu, but is recommended to be started from a scheduled job using command MDRCVIFS.

MDRCVIFS Parameters

Option / Field	Description
Environment ID	The name of the MDCMS instance (or suffix) - *DFT refers to MDCMS being used in library MDCMS. For a different library suffix, this would be entered for the environment ID.
Submit Job	*YES - a job named MDRIFS(env) will be submitted to the entered Job Queue *NO - the MDRCVIFS process will run within the current job
Job Queue	*DFT - submit to the queue defined for the MDRCVIFS service *JOBID - submit to the default queue for the running job profile The name of the job queue to submit MDRCVIFS to
Job Queue Library	The library of the job queue to submit MDRCVIFS to or *LIBL if the job queue is located in the current library list
Delay between Checks	*DFT - the default number of seconds between checking the IFS folder for candidates that is defined for the MDRCVIFS service The number of seconds to wait between checks (1-9999)
Time of Day to auto-end Job	*DFT - end at the time defined for the MDRCVIFS service *NEVER - the MDRCVIFS job shouldn't end automatically - it should run until the job is forcibly ended. A specific time to end in format HH:MM:SS

1.9.4 MDRCVRMT - Receive RFP/Settings from a Remote Location

If firewall rules are in place that don't allow in-bound communication for the transfer of files, but out-bound communication is allowed, then MDRCVRMT can be used to receive RFPs or settings that are staged on another partition.

The sending system needs to be configured so that distribution method SFF (save-file containing full MDCMS information) is used for this Location ID to place the RFP or settings in a specified IFS folder.

This partition (the receiving location) needs to be configured to listen for save files in the remote IFS folder using distribution method FTP (IBM Native FTP) or MDF (MDCMS FTP client). To do this, configure the remote location in the OS/400 Locations settings and take the following steps:

- MDCMS
- 1=MDCMS Setup Menu
- 13=Services
- Option 2=Edit for Service MDRCVRMT
- F10=More Settings
- F6=Add and then enter the Location ID of the location to pull from as well as the full path of the remote IFS folder where the save-files are staged on the location to pull from.

Service **MDRCVRMT - MDCMS Receive RFPs from Remote Locs** is then used to check for, and process, staged RFP or settings files for each location defined in the MDRCVRMT settings list.

MDRCVRMT can be started from the Service List in the MDCMS Setup Menu, but it is recommended to be started from a scheduled job using command MDRCVRMT.

MDRCVRMT Parameters

Option / Field	Description
Environment ID	The name of the MDCMS instance (or suffix) - *DFT refers to MDCMS being used in library MDCMS. For a different library suffix, this would be entered for the environment ID.
Submit Job	*YES - a job named MDRRMT(env) will be submitted to the entered Job Queue *NO - the MDRCVRMT process will run within the current job
Job Queue	*DFT - submit to the queue defined for the MDRCVRMT service *JOBQ - submit to the default queue for the running job profile The name of the job queue to submit MDRCVRMT to
Job Queue Library	The library of the job queue to submit MDRCVRMT to or *LIBL if the job queue is located in the current library list
Delay between Checks	*DFT - the default number of seconds between checking the IFS folder for candidates that is defined for the MDRCVRMT service The number of seconds to wait between checks (1-9999)
Time of Day to auto-end Job	*DFT - end at the time defined for the MDRCVRMT service *NEVER - the MDRCVRMT job shouldn't end automatically - it should run until the job is forcibly ended. A specific time to end in format HH:MM:SS

1.9.5 MDRCVSNA - Receive RFP/Settings from SNA command

If promotions are sent via SNA, or if they are sent via ObjectConnect and a DDM connection isn't defined on the sending system for use on the target system, then an external process needs to be invoked, if hands-free automatic receipt of Promotions is desired.

Service **MDRCVSNA - MDCMS Receive RFPs via SNA** is then used to check for, and process, those RFP files. MDRCVSNA can be started from the Service List in the MDCMS Setup Menu, but is recommended to be started from a scheduled job using command MDRCVSNA.

MDRCVSNA Parameters

Option / Field	Description
SNA Netfile User	*DFT - the default SNADS user queue that the RFPs were sent to that is defined for the MDRCVSNA service *SAVF - if the RFP was transferred using ObjectConnect (SAVRSTOBJ), then the save file will already be in the MDCMS library, but not known to MDCMS. User *SAVF to periodically check for save files in MDCMS. A valid SNADS user profile
Environment ID	The name of the MDCMS instance (or suffix) - *DFT refers to MDCMS being used in library MDCMS. For a different library suffix, this would be entered for the environment ID.
Submit Job	*YES - a job named MDRSNA(env) will be submitted to the entered Job Queue *NO - the MDRCVSNA process will run within the current job
Job Queue	*DFT - submit to the queue defined for the MDRCVSNA service *JOBQ - submit to the default queue for the running job profile The name of the job queue to submit MDRCVSNA to
Job Queue Library	The library of the job queue to submit MDRCVSNA to or *LIBL if the job queue is located in the current library list
Delay between Checks	*DFT - the default number of seconds between checking the SNADS queue for candidates that is defined for the MDRCVSNA service The number of seconds to wait between checks (1-9999)
Time of Day to auto-end Job	*DFT - end at the time defined for the MDRCVSNA service *NEVER - the MDRCVSNA job shouldn't end automatically - it should run until the job is forcibly ended. A specific time to end in format HH:MM:SS

1.10 Reporting

1.10.1 Reporting

Reports (MD Output) generated within MDSEC, MDXREF and MDCMS can be viewed, printed, exported or emailed by pressing **F11** from most screens.

MDCOUTF	MD Production 6.1				10.03.12	
SCRN1	MD Output				17:47:05	
	User	Report	Object			
Filter by:	MMORGAN					
Type options, press Enter.						
3=Copy to PF 4=Delete 5=Display 6=Print E=Export						
Opt	User	Date	Time	Report	Object	Library Length Width
—	MMORGAN	24.02.11	17:36:18	PGMSRCH	MDDCLWD	MDCMST 107 80
—	MMORGAN	31.03.11	9:10:05	RFPHIST		142 92
—	MMORGAN	14.04.11	21:34:18	LIBCOMP	MDCMS	MDCMST 28 120
—	MMORGAN	23.05.11	20:50:20	COMPARE	MDDCMSE	MDCMST 121 315
—	MMORGAN	23.05.11	20:53:01	JOURNAL	MDACST	MDADM 15 643
—	MMORGAN	23.05.11	21:01:39	PGMSRCH	MDDCMSD	MDCMST 200 80
—	MMORGAN	29.09.11	9:23:16	PROJECT		25 92
—	MMORGAN	15.11.11	22:27:49	FLDLIST	MDDTASK	MDCMST 56 112
—	MMORGAN	22.02.12	13:42:05	JOURNAL	MDAINV	MDADM 41 130
—	MMORGAN	5.03.12	16:03:41	RFPHIST		27 92
						Bottom
F3=Exit	F4=Browse	F5=Refresh	F7=Spooled Output	F17=Top	F18=Bottom	

Filters

Enter a value into a filter field to limit the listing to items matching the filter(s). Possible values may be selected by pressing **F4=Browse** while the cursor is positioned on the filter field.

Options

3=Copy to PF - Copy the detail contents of the report into a formatted table (DDS Physical File). This provides a simple means to extract information out of the MD database for use in SQL, Queries or programs.

4=Delete - permanently delete the report

5=Display - view the report contents directly in the screen

6=Print - print the report contents to a spooled file

E=Export - Export the report to a CSV, PDF, TXT or XLSX formatted file. The file can be placed in IFS or emailed to one or more recipients. See the parameters for command MDRUNRPT for more information.

Function Keys:

F4=Browse - Browse possible values for a filter field

F5=Refresh

F7=Spooled Output - Display and manage spooled files

F17=Top - Position Cursor to the first entry in the list

F18=Bottom - Position Cursor to the last entry in the list

1.10.2 MDRUNRPT - Run MD Report command

Certain reports within MDSEC, MDXREF and MDCMS allow for saved report definitions to be run directly from a command line. This gives the users the ability to schedule reports to be run on a periodic basis and to have the output automatically printed or exported. This is also helpful during Project testing to allow the same parameters to be quickly used after each phase of a test.

The following screen is displayed to get the report run parameters.

```

Run MD Report (MDRUNRPT)

Type choices, press Enter.

Report Name . . . . . _____ COMPARE, JOURNAL, MDSEC...
User Profile . . . . . _____ User Profile
Report Definition . . . . . _____

MDCMS Instance . . . . . *DFT      *DFT, *SAME, Instance
Print result to spooled file . . *NO      *YES, *NO
Copy result to physical file . . *NO      *YES, *NO
Export result to IFS file . . . *NO      *YES, *NO
Email result . . . . . *NO      *YES, *NO
Filename . . . . . _____

Append Timestamp to filename . . *YES      *YES, *NO
Directory . . . . . _____

Report Format . . . . . XLSX      CSV, PDF, TXT, XLSX
csv Field Delimiter . . . . . ','    Field Delimiter
Address to receive Email . . . . *NONE

User to receive Email . . . . . *NONE    User ID
Group to receive Email . . . . . *NONE    Group ID

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Report Name

COMPARE - the MDXREF Data Comparison Report

JOURNAL - the MD Journal Analysis Report

MDSEC - the MDSEC Authorization Report

NOTCMS - the MDCMS Audit Report listing object changes made outside of MDCMS

PROJECT - the MDCMS Project Report

PRJTASK - the MDCMS Project Task Report

PRJTIME - the MDCMS Project Time Entry Report

RFPHIST - the MDCMS Audit Report listing object changes made within MDCMS

User Profile

The name of the user profile that defined the report definition

Report Definition

The name of the report definition

Print result to spooled file

*NO - the resulting report will not be automatically printed to a spooled file

*YES - the resulting report will be automatically printed to a spooled file

Copy result to physical file

*NO - the resulting report will not be automatically exported to a physical file

*YES - the resulting report will be automatically exported to a physical file (table)

Export result to IFS file

*NO - the resulting report will not be automatically exported to an IFS file

*YES - the resulting report will be automatically exported to an IFS file

Email result

*NO - the resulting report will not be automatically emailed to recipients

*YES - the resulting report will be automatically emailed to recipients

Copy to Physical file

The name of the physical file (table) to contain the detail contents of the report. Each column in the report will be placed in a separate formatted field. If the file already exists, it will be replaced.

Copy to Library

The IBM i library that is to contain the Physical file

Filename

If the results are to be exported or emailed, this is the name of the IFS file to receive the results. The file type (.CSV, .PDF, .TXT or .XLSX) will be automatically appended to the end of the name.

Timestamp

*NO - a timestamp will not be appended to the file name

*YES - a timestamp in the format of YYYYMMDD_HHMMSS will be appended to the file name

Directory

If the results are to be exported, this is the name of the IFS directory to receive the results. The directory path should begin with the root character "/".

Report Format

CSV - the exported report will be placed in a comma separated value file which can then be opened in Microsoft excel or similar spreadsheet programs.

PDF - the exported report will be converted to PDF. JVM 1.5 or higher is required

TXT - the exported report will be placed in a text file with the same layout as the on-line report.

XLSX - the exported report will be converted to the excel format. JVM 1.5 or higher is required

csv Field Delimiter

The character to be used to separate fields in a csv file

Address to receive Email

A specific email address to receive the report

User to receive Email

A user id to receive the report - the address for the user will be retrieved from the MDCMS email address table.

Group to receive Email

All users for the entered group id to receive the report - this parameter requires MDWorkflow groups to be present.

1.10.3 MDEXPFILE - Export Data command

The MDEXPFILE command provides the functionality to export the contents of any physical file to an Excel file.

The following screen is displayed to get the parameters.

```

MD Export File (MDEXPFILE)

Type choices, press Enter.

File Name . . . . . _____ File
Library . . . . . *LIBL *LIBL, Library
File Member . . . . . *FIRST *FIRST, Member
Report Header . . . . . *FILETEXT _____

Reorganize File . . . . . *YES *YES, *NO
MDCMS Instance . . . . . *DFT *DFT, Instance
Export result to IFS file . . . *NO *YES, *NO
Email result . . . . . *NO *YES, *NO
Filename . . . . . _____

Append Timestamp to filename . . *YES *YES, *NO
Directory . . . . . _____

Format . . . . . XLSX CSV, XLSX
csv Field Delimiter . . . . . ',' Field Delimiter
Address to receive Email . . . . *NONE _____

User to receive Email . . . . . *NONE User ID
Group to receive Email . . . . . *NONE Group ID

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=Hot to use this display
F24=More keys

```

Use **F9=All parameters** to see all available parameters for command.

File Name

The name of a physical file

Library

The location of the file or *LIBL to search the library list for the file

File Member

The name of the file member or *FIRST to use the first member in the file

Report Header

The title to place in the header of the excel file and in the subject line of the email. *FILETEXT will use the object description for the file.

MDCMS Instance

A 1-4 character string of the suffix for an existing instance of MDCMS or *DFT to use MDCMS

Export result to IFS file

*NO - the resulting report will not be automatically exported to an IFS file

*YES - the resulting report will be automatically exported to an IFS file

Email result

*NO - the resulting report will not be automatically emailed to recipients

*YES - the resulting report will be automatically emailed to recipients

Filename

If the results are to be exported or emailed, this is the name of the IFS file to receive the results. The file type (.csv or .xlsx) will be automatically appended to the end of the name.

Timestamp

*NO - a timestamp will not be appended to the file name

*YES - a timestamp in the format of YYYYMMDD_HHMMSS will be appended to the file name

Directory

If the results are to be exported, this is the name of the IFS directory to receive the results. The directory path should begin with the root character "/".

Report Format

CSV - the exported report will be placed in a comma separated value file which can then be opened in Microsoft Excel or similar spreadsheet programs.

XLSX - the exported report will be converted to the excel format. JVM 1.5 or higher is required

csv Field Delimiter

The character to be used to separate fields in a csv file

Address to receive Email

A specific email address to receive the report

User to receive Email

A user id to receive the report - the address for the user will be retrieved from the MDCMS email address table.

Group to receive Email

All users for the entered group id to receive the report - this parameter requires MDWorkflow groups to be present.

1.10.4 MDEXPSPLF - Export Spooled File command

The MDEXPSPLF command provides the functionality to export any spooled file to a text or PDF file.

The following screen is displayed to get the parameters.

```

MD Export Spool File (MDEXPSPLF)

Type choices, press Enter.

Spool Name . . . . . *CURRENT      Spool Name
Job Name . . . . . *CURRENT, Job Name
Job Number . . . . . Job Number
Job User . . . . . Job User
Spooled file number . . . . . *LAST      *LAST, *USRD, 1-999999
User Data . . . . . User Data
MDCMS Instance . . . . . *DFT           *DFT, Instance
Format . . . . . PDF                PDF, TXT
File Name . . . . .

Append Timestamp to filename . . *YES      *YES, *NO
Report Title . . . . .

Page Layout . . . . . *DFT           *DFT, AUTOMATIC, LANDSCAPE...
Page Size . . . . . *DFT           *DFT, A3, A4, A5, B5...
Add Page Number to each Page . . *NO      *YES, *NO
Export result to IFS file . . . *NO      *YES, *NO
Email result . . . . . *NO      *YES, *NO
Directory . . . . .

Address to receive Email . . . . *NONE

User to receive Email . . . . . *NONE      User ID
Group to receive Email . . . . . *NONE      Group ID

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display

```

Use **F9=All parameters** to see all available parameters for command.

Spool Name

The name of a spooled file

Job Name

The name of the job that generated the spooled file or *CURRENT to look for the spooled file in the current job

Job Number

The number of the job that generated the spooled file

Job User

The user profile of the job that generated the spooled file Report Header

Spooled File Number

The number of the spooled file within the job

*LAST - use the most recently generated spooled file of the given name for the given job

*USRD - use the spooled file that has the same User Data value as the value in parameter USRD

User Data

The specific User Data value for the spooled file to select. Only applicable if parameter SPLNBR = *USRD

MDCMS Instance

A 1-4 character string of the suffix for an existing instance of MDCMS or *DFT to use MDCMS

Format

PDF - the spooled file will be converted to the PDF format. JVM 1.5 or higher is required

TXT - the spooled file will be converted to a text file

File Name

If the results are to be exported or emailed, this is the name of the IFS file to receive the results. The file type (.pdf or .txt) will be automatically appended to the end of the name.

Append Timestamp

*NO - a timestamp will not be appended to the file name

*YES - a timestamp in the format of YYYYMMDD_HHMMSS will be appended to the file name

Report Title

The title to place in the header of the PDF file and in the subject line of the email

Page Layout

Values for PDF format:

*DFT - the layout defined in data area MDSEC(instance)/MDPDFLOUT

*SPLF - the layout based on the dimensions of the spooled file

AUTOMATIC - the layout is determined automatically based on the width of the spooled file

LANDSCAPE - the paper is rotated so that the wide edge is horizontal

PORTRAIT - the paper is rotated so that the wide edge is vertical

Page Size

Values for PDF format:

*DFT - the size defined in data area MDSEC(instance)/MDPDFSIZE

A3, A4, A5, B5, LEGAL, LETTER

Add Page Number to each Page

*NO - a page number will not be added to each page

*YES - a page number will be added to each page in the bottom right corner

Export result to IFS file

*NO - the resulting report will not be automatically exported to an IFS file

*YES - the resulting report will be automatically exported to an IFS file

Email result

*NO - the resulting report will not be automatically emailed to recipients

*YES - the resulting report will be automatically emailed to recipients

Directory

If the results are to be exported, this is the name of the IFS directory to receive the results. The directory path should begin with the root character "/".

Address to receive Email

A specific email address to receive the report

User to receive Email

A user id to receive the report - the address for the user will be retrieved from the MDCMS email address table.

Group to receive Email

All users for the entered group id to receive the report - this parameter requires MDWorkflow groups to be present.

1.11 MDCMS Miscellaneous Product Tools

1.11.1 MDCMS Miscellaneous Product Tools

1.11.2 MDCLEAR - Clear all MDCMS Activity

Command MDCLEAR can be used to clear all activity (object requests, installation history, project information, etc...) for an instance while leaving all settings intact. This can be useful in testing a version of MDCMS and then clearing the test results before using the version in Production.

In order to run this command, the user must have MDSEC authority to application md/code 3.

After entering the command, the following confirmation screen is displayed:

```

MDCCLRA                               Company Name                               11/19/11
SCRN1                                Clear ALL MDCMS Activity                       21:39:44

      WARNING!!! Pressing F10 will cause all of the following Files to be
                  Cleared. The included files contain all information relating
                  to Projects, RFPs, Object Requests and History.
                  Settings are not cleared.

Library   File           Description
MDCMS     MDDCLWD        MDCMS - Send objects
MDCMS     MDDCLWDM       MDCMS - Send Projects per Request
MDCMS     MDDCLWH        MDCMS - Request for Promotion header
MDCMS     MDDCLWM        MDCMS - Send Project description
MDCMS     MDDCLWO        MDCMS - Send Object commands
MDCMS     MDDCLWP        MDCMS - Manual Send Promotion number
MDCMS     MDDCMSB        MDCMS Install Bound Objects - Reqn
MDCMS     MDDCMSD        MDCMS Install Detail - Reqn
MDCMS     MDDCMSDM       MDCMS - Projects per Request
MDCMS     MDDCMSDP       MDCMS Pending Object Requests
MDCMS     MDDCMSH        MDCMS - Request for Promotion
MDCMS     MDDCMSM        MDCMS - Request for Modification

F3=Exit   F10=Clear Activity                                     More...
```

Function Keys:

F3=Exit - Leave screen without clearing the activity

F10=Clear Activity - Clear the contents of all listed files

1.11.3 MDMIGMD - Merge MDCMS Configuration and Activity Data

The MDCMS Merge Data (MDMIGMD) command copies configuration and activity data from one instance of MDCMS to another instance. This provides a quick way to merge work that was previously done across several instances into one instance.

MDCMS ensures that RFP numbers are unique. If the RFP number already exists in the target instance, a new number will be applied to the RFP details and objects in the RFP.

If active checkouts are to be copied, MDCMS verifies for locked modifications or deletes that the object isn't already locked in the target instance. If already locked, the object request is omitted.

The command should be run from a command line within the instance that is the target for the data to be copied to.

If configuration data will be copied, the application group must already be defined in the target and the level(s) to copy must NOT already be defined. Additionally, distribution levels will only be copied for OS/400 locations that are already defined in the target instance.

During the Merge process, configuration data is copied first, followed by activity data. Activity will only be copied if the level exists in the target instance, which occurs during the copy of the configuration data or if the level was already there.

It is recommended to back up the target MDCMS and MDXREF libraries prior to running this command, in case you aren't happy with the results.

Restrictions:

- You must have MDSEC authority for Application Group maintenance (md/3)
- The version of the from instance and target instance must be the same

MDMIGMD Parameter Table

Column 1	Column 2	Column 3
Title	Type	Description
From Product Instance	CHAR	the suffix of the MDCMS and MDXREF libraries containing the data to be copied from
Application	CHAR	the application to be included in the copy *ALL - all applications that are defined in both the from instance and the target instance.
Minimum Level	DEC	The lower limit of the range of levels to be copied
Maximum Level	DEC	The upper limit of the range of levels to be copied
Migrate Configuration	CHAR	*YES - for each qualifying APP that already exists in the target and each qualifying level that doesn't already exist, the following information will be copied: Levels, Attributes, Commands, Scripts, Templates used by copied attributes (if not already defined), Distribution Levels (for pre-defined OS/400 locations), Workflow Acceptance settings, MDXREF library list. *NO - Configuration Data isn't copied
Migrate Active Checkouts	CHAR	*YES - For each Application and Level in the range that exists in the from and to instances, the active checkouts will be copied. If an object is already locked on the target, it won't be copied for modifications and deletions. The copied information includes: RFP (will get a new number if prior RFP number already exists in target instance), Object information, commands for RFP or Object, scripts for RFP or Object, Project information (if doesn't already exist). *NO - Active Checkouts aren't copied
Migrate Install History	CHAR	*YES - For each Application and Level in the range that exists in the from and to instances, the installation history will be copied. This includes: RFP (will get a new number if prior RFP number already exists in target instance), Object information, commands for RFP or Object, scripts for RFP or Object, archived source, Project information (if doesn't already exist), Deployment log. Archived Objects, which are zipped and stored in the IFS, aren't migrated to the target instance. Refer to the original instance if an archived object needs to be restored. *NO - Installation History isn't copied
Migrate Active Send Info	CHAR	*YES - For each Application and Level in the range that exists in the from and to instances, the open RFPs to be sent will be copied. The copied information includes: RFP (will get a new number if prior RFP number already exists in target instance), Object information, commands for RFP or Object, scripts for RFP or Object, Project information (if doesn't already exist), Send History for targets attempted by open RFP. *NO - Open RFPs to Send aren't copied
Migrate Send History	CHAR	*YES - For each Application and Level in the range that exists in the from and to instances, the RFP Send History will be copied. The copied information includes: RFP (will get a new number if prior RFP number already exists in target instance), Object information, commands for RFP or Object, scripts for RFP or Object, Project information (if doesn't already exist), Send Log and Problem list. *NO - Send History isn't copied

1.11.4 MDSRC2IFS - Convert Source Members to IFS Files

The Convert Source Members to IFS (MDSRC2IFS) command provides the ability to copy some or all members in a source file to various IFS folders depending on the source type.

When the command is executed, you will be shown a list of each distinct source type in the source file and given the option to select or omit each type for copying as well as to specify the preferred IFS file type and a subfolder for each

type.

Restrictions:

- The command must be run interactively from a command shell within MDCMS
- The user performing the command must have authority to edit promotion levels (MDSEC code md/4)

MDSRC2IFS Parameter Table

Column 1	Column 2	Column 3
Title	Type	Description
Source Library	CHAR	The library containing the source file
Source File	CHAR	The source file containing members to copy to the IFS
Parent Path	CHAR	The full path name from the IFS root for the parent folder that the members will either be directly copied to or that will hold subfolders for the source.
CCSID of IFS file	CHAR	1208 (default) - the CCSID of the IFS file will be UTF-8. This is recommended if the source will then be imported into a Git repository. *CCSID - A CCSID in the Microsoft Windows encoding scheme character-value - any CCSID value that is accepted on the CPYTOSTMF STMFCSSID parameter
IFS Authority Template	CHAR	Specifies the MDCMS Object Authority template of type *IFS that contains the authority definitions to apply to each generated IFS file and each created folder. *DFTIFS (default) - The template of name *DFTIFS will be applied character-value - an existing Object Authority Template of type *IFS
Replace Existing	CHAR	Specifies if an existing IFS file should be overridden. *NO (default) - If the IFS file already exists, it won't be replaced by a new copy of the source member. *YES - the member will be copied to the IFS file, even if it already exists