

**Route Management Tool
(RMT)
Version 1.50**

User's Guide

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Introduction

What is RMT?

Metron Aviation, Inc. developed the Route Management Tool (RMT) to facilitate increased information exchange between Air Route Traffic Control Centers (ARTCC), the Air Traffic Control System Command Center (ATCSCC), and the airline user community. RMT is a database query tool that allows users to view the centralized Coded Departure Routes (CDR) and National Playbook databases, related reference tables from the National Flight Data Center (NFDC) and user-defined ad hoc reroutes.

RMT is available in two formats: web RMT and RMT version 1.50.

Web RMT

Web RMT, as the name implies, is a web-based query tool that allows users to view the *Operational* CDR databases, as well as preferred route (PrefRoute), location identifier (LocID) and airway intersection (AwyIntxn) information. Web RMT is available through the FAA Air Traffic Control System Command Center's web site: <http://www.fly.faa.gov>. Anyone can access the web RMT program in this way to search the databases and download the information to a file.

Note that the National Playbook Routes are also available through the Operational Information System (OIS) on the ATCSCC web site.

RMT Version 1.50

Metron Aviation, Inc. greatly enhanced the web version of RMT to create the RMT client (RMT version 1.50). RMT 1.50 is a software application that can be installed on most computers (Windows, Linux and UNIX versions are currently supported). With RMT version 1.50, you can search for, modify and view coded departure routes, Playbook Plays, and nine reference tables from the NFDC. A new feature that was introduced in RMT 1.40 is Route Options Generation (ROG). The ROG flight-centric view allows you to find pre-coordinated reroute options (e.g., CDRs and Plays) for flights that avoid a constraint (Flow Evaluation Area (FEA) or Flow Constrained Area (FCA)). The ROG constraint-centric view allows you to characterize the constraint and provides decision support for traffic managers for developing route guidance and reroute plans using Playbook Plays. The ROG Tool was initially developed by the CDM Future Concept for Flow Management Sub-Team (FCT) as part of the Integrated Collaborative Rerouting (ICR) Concept. RMT 1.50 allows customers to submit Early Intent (EI) messages for their flights to the Enhanced Traffic Management System (ETMS). RMT 1.50 also allows data exchange between the ROG Reroute Planner and the Traffic Situation Display (TSD) Create Reroute Dialog.

RMT contains six Tool windows for its users:

- (1) CDR Tool
- (2) Playbook Tool
- (3) NFDC Tool
- (4) Route Options Generation (ROG) Tool

(5) Ad Hoc Reroutes (AD HOC) Tool

(6) RMT Map

The CDR Tool

The CDR Tool is a query window that allows users to access the coded departure routes (CDR) database. Coded departure routes are alternate air traffic routings and refined coordination procedures designed to allow flights to depart as efficiently as possible when severe weather or air traffic congestion prevents using normal routes.

The CDR *Operational* database contains CDRs that are valid for the current 56-day chart cycle. CDR administrators at each ARTCC are responsible for updating the CDR *Staging* database with the coded departure routes that originate from their center. The ATCSCC administrator can modify any coded departure route in this database if necessary. Airline users have view-only access to the staging database; they can view and download the routes for the next update in time to publish them internally. On the published chart date, the staging database becomes the operational database for the next 56-day cycle.

The Playbook Tool

The Playbook Tool is a query window that allows users to access the National Playbook database. The National Playbook is a collection of Severe Weather Avoidance Plan (SWAP) routes. These routes are organized into groupings called 'Plays'. National Playbook routes are modified by the Playbook administrator at the ATCSCC in the Playbook staging database. The Playbook database is updated every 56 days on the same cycle as the CDRs.

The NFDC Tool

The NFDC Tool is a query window that allows users to access nine NFDC reference tables including preferred routes, location identifiers, airway intersections, fixes, navaids, airways, airports, Departure Procedures (DPs), and Standard Terminal Arrival Procedures (STARs). The NFDC table information in the database is updated every 56 days with information provided by the NFDC. The NFDC Tool is provided strictly for your reference; information found in the NFDC Tool cannot be modified using RMT.

The Route Options Generation (ROG) Tool

ROG allows users to view information from both a flight-specific and a broader system-level constraint perspective. The ROG flight-centric workspace provides users with the capability to identify pre-coordinated reroute options for specific flights that avoid an FEA or FCA and to send out Early Intent (EI) messages to ETMS for flights that do not have a filed flight plan. The constraint-centric workspace allows users to characterize the constraint by providing enhanced flight list grouping and mapping capabilities. ROG also provides decision-support to traffic managers through the Reroute Planner including the ability to exchange information with the TSD Create Reroute dialog.

The Ad Hoc Reroutes Tool

The Ad Hoc Reroutes Tool is a query window that allows users to access the ad hoc reroutes database. Users (both FAA and Customers) can create and edit ad hoc reroutes in the database. Note that users can only view the ad hoc reroutes that they have created. These routes can be used with ROG to find reroute options that avoid a constrained area.

The RMT Map

The RMT Map displays routes and other information queried in the five RMT Tools listed above. The RMT Map contains a variety of optional overlays and customization tools for users.

Text Conventions

This document uses several conventions that you should be aware of while reading. The following table explains the most common abbreviations and symbols used in this document.

Abbreviations	
AD HOC Tool	The specific Tool within RMT that searches the ad hoc reroutes database.
AFP	Airspace Flow Program
AwyIntxn	Airway Intersection
ARTCC	A United States Air Route Traffic Control Center. Each ARTCC is responsible for controlling air traffic within a specific section of airspace. There are 22 U.S. ARTCCs.
ATCSCC	The Federal Aviation Administration's Air Traffic Control System Command Center located in Herndon, Virginia.
CCSD	Common Constraint Situation Display
CDR Database	This refers to the centralized coded departure routes database (staging or operational). Users search for coded departure routes through the RMT CDR Tool. The RMT Map uses the CDR Database to display coded departure routes.
CDR Tool	The specific Tool within RMT that searches the coded departure routes database.
CDR	Coded Departure Route
CoordReq	Coordination Required Flag
DP	Departure Procedure
EI	Early Intent
ETMS	Enhanced Traffic Management System
FAA	Federal Aviation Administration
FCA	Flow Constrained Area
FCT	Future Concepts of Flow Management Sub-Team
FEA	Flow Evaluation Area
ICR	Integrated Collaborative Rerouting
LocID	Location Identifier
NavEqp	Navigation Equipment Designator
NFDC Tables	The set of database tables provided by the NFDC and used by the RMT NFDC Tool as a reference utility for its users.
NFDC Tool	The specific Tool within RMT that searches the NFDC reference tables. The NFDC tables currently available include preferred routes, location identifiers airway intersections, fixes, airways, navaids, airports, DPs, and STARS.
NFDC	National Flight Data Center
OIS	Operational Information System
Playbook Database	This refers to the centralized National Playbook database. Users search for National Playbook routes through the RMT Playbook Tool. The RMT Map uses the Playbook Database to display Playbook routes.

Playbook Tool	The specific Tool within RMT that searches the Playbook database.
Plays	National Playbook Plays
PrefRoute	Preferred Route
RMT	Metron Aviation, Inc.'s Route Management Tool software, which contains the CDR Tool, Playbook Tool, NFDC Tool, ROG Tool, AD HOC Tool and the RMT Map.
RMT Database	This refers to the collection of databases available for query through the RMT Tool. Databases include CDR, NFDC and Ad Hoc Reroutes information. The Playbook database is maintained separately, but can be accessed through the RMT Playbook Tool.
ROG	Route Options Generation
ROG Tool	The specific Tool within RMT that finds route options around constrained areas.
RMT Map	The map Tool within RMT that displays various types of routing data on a U.S. map.
STAR	Standard Terminal Arrival Procedure
SUA	Special Use Airspace
SWAP	Severe Weather Avoidance Plan
TSD	Traffic Situation Display
UserFile	User File Flag (note that this field has been renamed Coordination Required or CoordReq)
Symbols Used	
Ctrl	The Ctrl (control) key on your computer keyboard
+	When the '+' symbol appears, you need to perform two actions at once to complete a function. For example, Shift + S indicates that you should press the Shift key and the S on your computer keyboard to perform a function.
>	The > is used to indicate a menu option. For example, File > Print indicates that Print is an option under the RMT File menu.
Ctrl-click	Press the Ctrl (control) key on your keyboard while clicking on an item with your mouse.
Shift-click	Press the Shift key on your keyboard while clicking on an item with your mouse.
&	"And." An operator used in searches to include results with more than one parameter.
	"Or." An operator used in searches to include results with more than one parameter.
!	"Not." An operator used in searches to exclude results with certain parameters.
*	Wildcard character replacing multiple characters in a search parameter.
?	Wildcard character replacing one character in a search parameter.

Technical Support

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Herndon, Virginia 20170

Getting Started

At the time of installation, RMT users should receive a user name and password from Metron Aviation technical support. At present, there are eight different types of RMT users with varying permissions:

- The *ATCSCC Administrator* is the overall RMT administrator. The administrator is permitted to modify the CDR and Playbook operational and staging databases at any time. The administrator enters global modification information and loads the NFDC tables every 56 days on the chart date.
- *ARTCC Administrators* modify the ARTCCs routes in the staging databases during the Active Period (CDRs from their center only).
- The *Playbook Administrator* is permitted to modify the Playbook Plays in the Playbook staging database.
- *ATA-100 verifier users* assist the ATCSCC administrator with CDR verification during the 5-day Verification Period.
- *ATCSCC users* have view-only access to all routes and modifications in the staging and operational databases.
- *ARTCC users* have view-only access to all routes and modifications in the staging and operational databases.
- *Airline users* have view-only access to both the staging and operational databases.
- *Internet users* have view-only access to the operational databases (RMT web version).

Deleting Previous Versions of RMT

Prior to installing RMT version 1.50, you should delete any instances of RMT that are currently on your machine. An uninstall program was included as a part of the RMT 1.40 installation packages. Navigate to the main RMT directory (by default, C:\Program Files\RMT1.40. Double-click on the **uninstall.exe** file. This will remove any references in the registry and the RMT listing in the Start Panel. Note that any files created after the initial installation, e.g. log files, will remain in the RMT 1.40 directory. Remove these files by deleting the RMT 1.40 directory. Remember that if you have saved any query results or reports to the RMT directory, you should copy them to another directory at this time.

Your local RMT 1.40 user configuration files should also be deleted. The RMT 1.40 local configuration file is saved as **rmt140_user_config.ini** within the user home directory on Windows XP systems. It is also called **rmt140_user_config.ini** in the home directory on UNIX systems.

Another way to remove the program for Windows users is through the **Control Panel – Add or Remove Programs** option.

Installing RMT on Windows/Windows XP

Users can install RMT from the secure CDM Products Distribution download page on the Internet. To install RMT from the Internet, contact RMT Support for the site address, username, and password.

Once connected to the RMT download site, enter the provided username and password to begin the RMT setup. Airline users and ARTCC users each have their own installation packages. The only difference is with the connections to the RMT server.

1. Download the appropriate setup file to a temporary directory or the desktop. Airlines should download **setup_RMT150_airline_windows.exe**. Centers should download **setup_RMT150_center_windows.exe**.
2. In the temporary directory, double-click on the setup file to begin the installation process.
3. Follow the setup instructions.
4. The default installation directory is C:\Program Files\RMT1.50_Airline or C:\Program Files\RMT1.50_Center. You can use the default setting or specify another directory.
5. Depending on your user type, double-click either the **RMT150_Client_airline.exe** or **RMT150_Client_center.exe** file to start RMT.
6. To create a shortcut on your desktop, right-click on the **RMT150_Client_airline.exe** or **RMT150_Client_center.exe** files and select **Create Shortcut** from the pop-up menu. Then click and drag the shortcut to a location on your desktop. Once the shortcut is created, you can right-click on the shortcut, go to **Properties**, and select **Change Icon** to use the icon provided in the RMT installation directory.

Installing RMT on Linux/Unix

Linux/Unix users can install RMT from the Internet. To install RMT from the Internet, contact RMT Support for the site address, username, and password.

Once connected to the RMT download site, enter the provided username and password to begin the installation process.

For Linux users:

1. Download the appropriate setup file to a temporary directory. Airlines should download **setup_RMT150_airline_linux.sh**. Centers should download **setup_RMT150_center_linux.sh**.
2. In the temporary directory, type **./setup_RMT150_airline_linux.sh** or **./setup_RMT150_center_linux.sh** to begin the installation process.
3. Follow the setup instructions.
4. Change to the installation directory.
5. Type **./RMT150_Client_airline** or **./RMT150_Client_center** to run the program.

For Other Unix users:

1. Download the appropriate setup file to a temporary directory. Airlines should download **setup_RMT150_airline_unix.sh**. Centers should download **setup_RMT150_center_unix.sh**.
2. In the temporary directory, type **./setup_RMT150_airline_unix.sh** or **./setup_RMT150_center_unix.sh** to begin the installation process.
3. Follow the setup instructions.
4. Change to the installation directory.
5. Install the JRE into a directory called 'jre' inside the installation directory.
6. Type **./RMT150_Client_airline** or **./RMT150_Client_center** to run the program.

Updating RMT Software

As new data files and new versions of RMT are released, you will want to update the software to ensure that you have all the current files. An auto update program is included in the RMT installation package. If you log in to RMT after new files have been made available, a window will prompt you to update RMT. We recommend that you complete the process at that time. Click **Yes** to start the processing or **No** to continue your session without updating. Note that the overlays for the RMT Map are updated with the latest NFDC data every 56 days on the chart date. You will be prompted to perform the auto update at that time. While the auto update program is running, you should see a DOS window and a progress window that shows the number of files being downloaded. When the processing has finished, you will get a message stating that your auto update has completed successfully.

To manually run the auto update program, double-click on the **autoupdate.bat** program in the main RMT directory (This may be necessary for trouble-shooting purposes).

Logging onto RMT

Your user name and password determine the level of access to the information contained in the RMT database(s). Please note that all user names and passwords are case-sensitive.

Once you start RMT, the **RMT 1.50 Login** window appears. In the login window, enter your user name and password. To save your user name and password information between RMT sessions, click **Save**. This will save your login information to your local configuration file so that you do not have to type in the information every time you log in to the system.

Click the **Reset** button to return to a previously saved user name and password. You can remove incorrect information typed into the user name and password fields by clicking **Clear**.



Figure 1: RMT Login Window

After you have entered your log-in information, click **OK**. The RMT program display should appear on your screen. To close the login screen without logging on to RMT, click **Cancel**.

Close RMT

To close the RMT program, select **File > Quit**, click the **X** button in the upper right corner of the main RMT program window (Windows/NT/UNIX platforms), or type **Ctrl + Q**. Note that the **X** button in the upper right corner of the RMT Map (TabFrame display mode) also closes the application.

System Information

You can view specific system information at any time during your RMT session. For example, you can view log files of your session, database registration information, and the software version. This information is provided for your reference and to aid you in troubleshooting software problems.

RMT Server Information

When you first open the RMT program, a message box appears with database registration and status information. You can access this window at any time by selecting **Help > Show Server Information** (Figure 2).



Figure 2: RMT Server Message Window

The **RMT Server Message** window gives you status information about the RMT databases to which you are connected. This information is updated every time you open the window. RMT database information includes:

- **Database Availability** – The current status of the RMT database. If the message states "ALL Available," then your connection to the database should be up and running. The databases are updated every 56 days on the chart date. During the database upload, RMT indicates that the staging to operational copy is in progress or the NFDC database is being loaded. If logged into the system, you should close RMT and resume the application after the completion of the chart date processing.
- **Current Date** - The current date when you are logging in to RMT.
- **Current Period** - The CDR and Playbook databases are updated according to the 56-day chart cycle. Within the chart cycle, there are three different periods: Active, Verification and Quiet. See further explanation of the chart cycle in "View Chart Dates" on page 6.
- **Staging Database Status** - Verification flags indicate whether the routes in the CDR and Playbook staging databases have been verified or not verified. The flags are set by the RMT ATCSCC administrator after the CDR/Playbook validation processing has been

completed by the ATCSCC administrator and the NFDC. Once routes are verified, they do not change and will be copied to the operational database on the next chart date.

- **Time Status, Sub-Carrier EI Submission Status, FEA/FCA File Status, Registered Users (FAA Admin Users Only)** - Administrator users have additional sections in the RMT Server Message window that provides server status information, EI sub-carrier submission status, FEA/FCA and flight list file status and a list of RMT users that are currently logged on to the system.

Log Files

Log files are created in the RMT log directory every time you open the software. As you work in RMT, information about the session is saved to your system in Log Files. For example, log files contain database connection data and data about the RMT session start and end. Viewing log files of your session can be especially useful when troubleshooting problems.

To view your log files, select **Help > View Log Files**. The **Log File Viewer** window opens. The Log File Viewer is divided into two panes. In the left pane, you can view all the available RMTClient log files. In the right pane, you can view the contents of the file.

In the left pane, double-click any folder to view the log files within that folder. Clicking a log file will highlight the file so that you can perform an action on that file. You can use shift-click or Ctrl-click to select multiple files.

- To view the contents of the log file, click the **Open** button. The log file appears in the right-hand pane of the Log File Viewer.
- To delete a file, select the file(s) to be deleted. Once you select the desired files, click the **Delete** button.

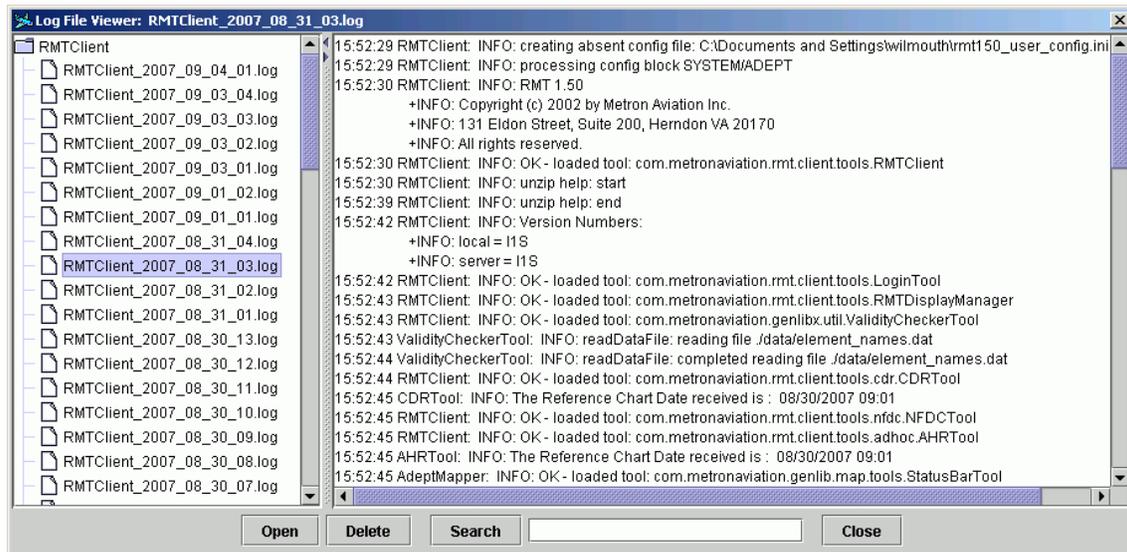


Figure 3: Log File Viewer

Use the **Search** field to look for specific words or phrases within the file. This can aid in quick troubleshooting. To search the log file, type in the text you are looking for in the text field to the right of the search button and click **Search**.

To close the log file text window, click **Close**.

About the Software

Use **Help > About** to view basic information about the RMT software, including the current version number and user name.



Figure 4: Help > About RMT

View Chart Dates

CDRs and Playbook Plays are stored in two separate databases: the *operational* database and the *staging* database. The operational database remains valid and unchanged for a 56-day cycle and is updated on the scheduled *chart date*.

ARTCC administrators use the staging databases to make changes for the next cycle. The staging database begins as a replica of the operational database, but changes as route records are updated. Every 56 days, the staging database is copied over by the ATCSCC administrator and becomes the operational database.

Within the 56-day chart cycle, the staging databases go through 3 periods: **Active**, **Verification**, and **Quiet**. The *Active* period lasts 21 days and is the time during which center administrators actively make changes to the CDRs and the Playbook Administrator updates the Plays. Once the route records are modified, FAA ATA-100 and the ATCSCC administrator must verify all records for accuracy during the 5-day *Verification* period. Once the verification process is complete, the staging database remains frozen during a 30-day *Quiet* period. The Quiet period gives airline users a chance to preview the new route records and meet any publication deadlines they have.

You can view the 56-day cycle dates, including the chart dates on which a new operational database becomes effective and date ranges for the 3 periods of the staging database. Select **Help > Show Chart Dates** to open the **Chart Dates** window (Figure 5).

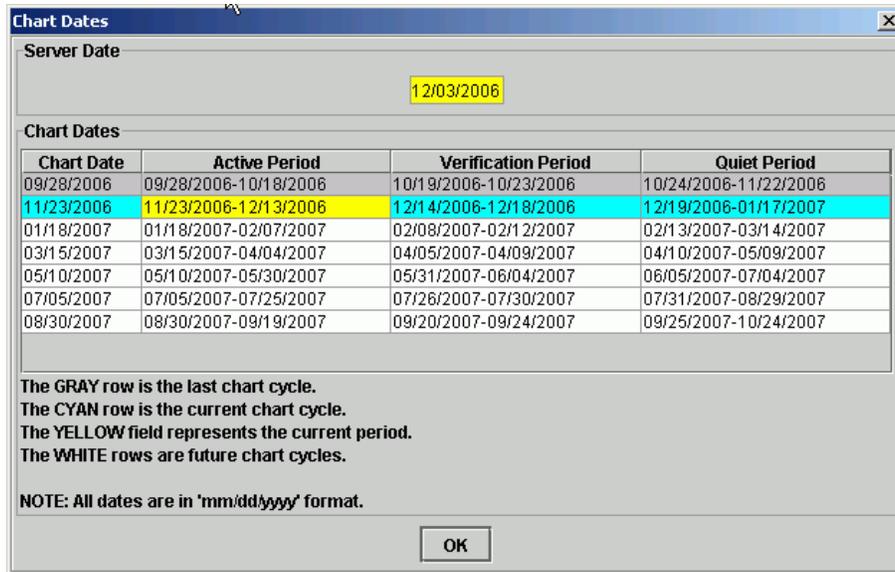


Figure 5: Show Chart Dates

Dates in gray are those cycles that have already occurred. Dates highlighted in yellow indicate the current chart period. Dates in cyan indicate the current 56-day chart cycle. Dates in white indicate future chart cycles.

Database Summary

You can obtain record counts from the various RMT database tables through the CDR, NFDC, Playbook and Ad Hoc Reroutes Tools.

CDR Tool Database Summary

You can easily get a count of the records in either the CDR staging or operational databases. Select **Help > Database Summary** from the CDR Tool. The number of CDRs is listed along with their status: new, modified, deleted or unchanged. The number of active records, history records and global modifications is also provided.

Database Summary

CDR Staging Database Summary

Unchanged	20,357
New	384
Modified	814
Deleted	222
Active Records	21,777
History Records	129,316
Total Records	151,093
Global Modifications	22

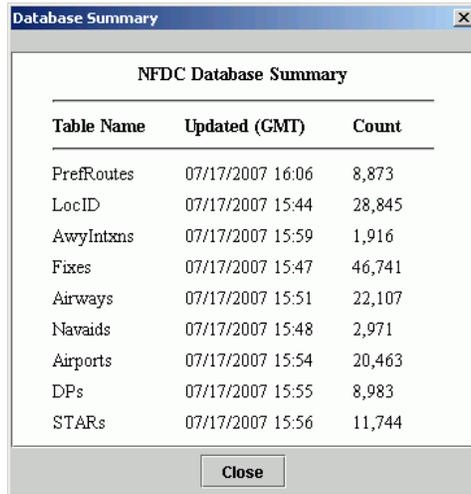
Close

Figure 6: CDR Staging Database Summary Window

To close the summary window click **Close**.

NFDC Database Summary

You can easily get a count of the records in the NFDC reference tables. Select **Help > Database Summary** from the NFDC Tool. The number of records in each table appears along with date and time the table was updated.



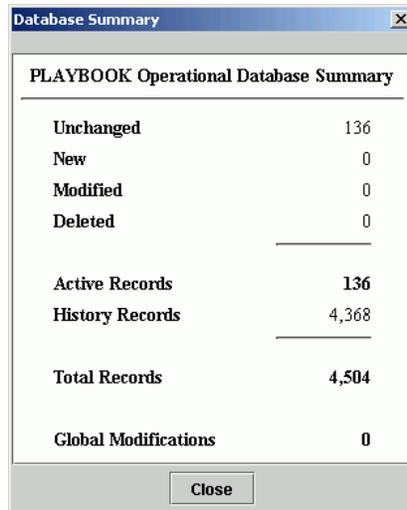
The screenshot shows a window titled "Database Summary" with a close button in the top right corner. The main content area is titled "NFDC Database Summary" and contains a table with three columns: "Table Name", "Updated (GMT)", and "Count". The table lists ten different tables with their respective update times and record counts. At the bottom of the window is a "Close" button.

Table Name	Updated (GMT)	Count
PrefRoutes	07/17/2007 16:06	8,873
LocID	07/17/2007 15:44	28,845
AwyIntxms	07/17/2007 15:59	1,916
Fixes	07/17/2007 15:47	46,741
Airways	07/17/2007 15:51	22,107
Nav aids	07/17/2007 15:48	2,971
Airports	07/17/2007 15:54	20,463
DPs	07/17/2007 15:55	8,983
STARs	07/17/2007 15:56	11,744

Figure 7: NFDC Database Summary Window

Playbook Tool Database Summary

You can easily get a count of the records in either the Playbook staging or operational databases. Select **Help > Database Summary**. The number of active routes is listed along with their status: new, modified, deleted or unchanged. The number of active records, history records and global modifications is also provided.



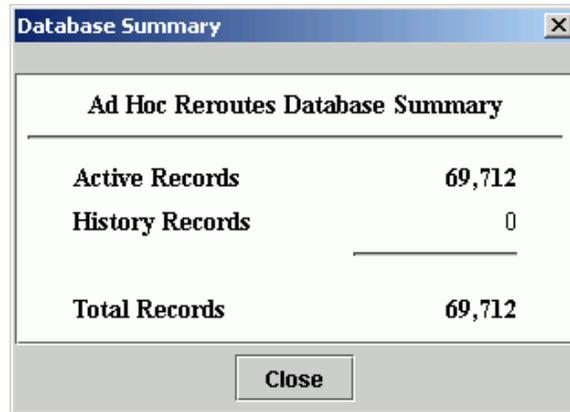
The screenshot shows a window titled "Database Summary" with a close button in the top right corner. The main content area is titled "PLAYBOOK Operational Database Summary" and contains a list of record counts. The items are listed on the left and their corresponding counts are on the right. At the bottom of the window is a "Close" button.

Unchanged	136
New	0
Modified	0
Deleted	0
Active Records	136
History Records	4,368
Total Records	4,504
Global Modifications	0

Figure 8: Playbook Operational Database Summary Window

Ad Hoc Reroutes Database Summary

You can easily get a count of the records in the ad hoc reroutes table. Select **Help > Database Summary**. The number of active and history records is listed. Note that you can only see the count of the ad hoc reroutes created by your Ad Hoc Group.



Ad Hoc Reroutes Database Summary	
Active Records	69,712
History Records	0
Total Records	69,712

Figure 9: Ad Hoc Reroutes Database Summary Window

Online Help

While working in RMT you can access online help. The online help allows you to search through the RMT User's Guide using your computer. To access online help, select **Help > User's Guide**. A pop-up window displays folders that contain information for each chapter of the User's Guide. Double-click a folder to access the topics in that chapter or heading. Click a page to view the page online.

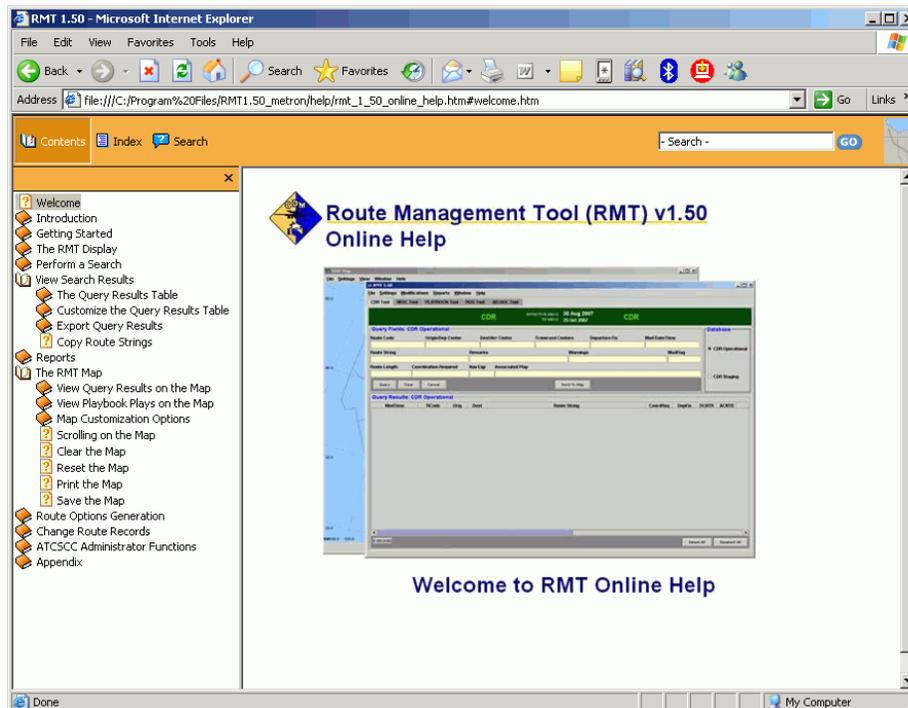


Figure 10: Online Help Display

The RMT Display

Each RMT Tool appears in a different tab or window, with Tool-specific menus and unique, customizable displays. An overview of the RMT display is given in this chapter. The individual Tool displays are described in their own chapters.

RMT Fonts

When you open RMT, the default font size is Medium. To change the font size, select **Settings > Fonts** and click Small Font, Medium Font, or Large Font.

Arranging Windows in RMT

There are two ways to display the RMT Tools: TabFrame Display and Tab Display.

TabFrame Display Layout

The five RMT query Tools (CDR, NFDC, PLAYBOOK, ROG and AD HOC) are always shown as Tool tabs. When you are in the TabFrame Display mode, the RMT Map appears in its own separate window. You can resize and move the RMT Map separately from the main RMT window. Select **Window > TabFrame Display Layout** to arrange the windows in this manner (TabFrame is the default display setting). The TabFrame display replaced the MDI display mode from previous versions of RMT and allows for better window management with the additional tool windows now available in RMT 1.50. Clicking anywhere on the main RMT window or the RMT Map brings the selected window to the foreground.

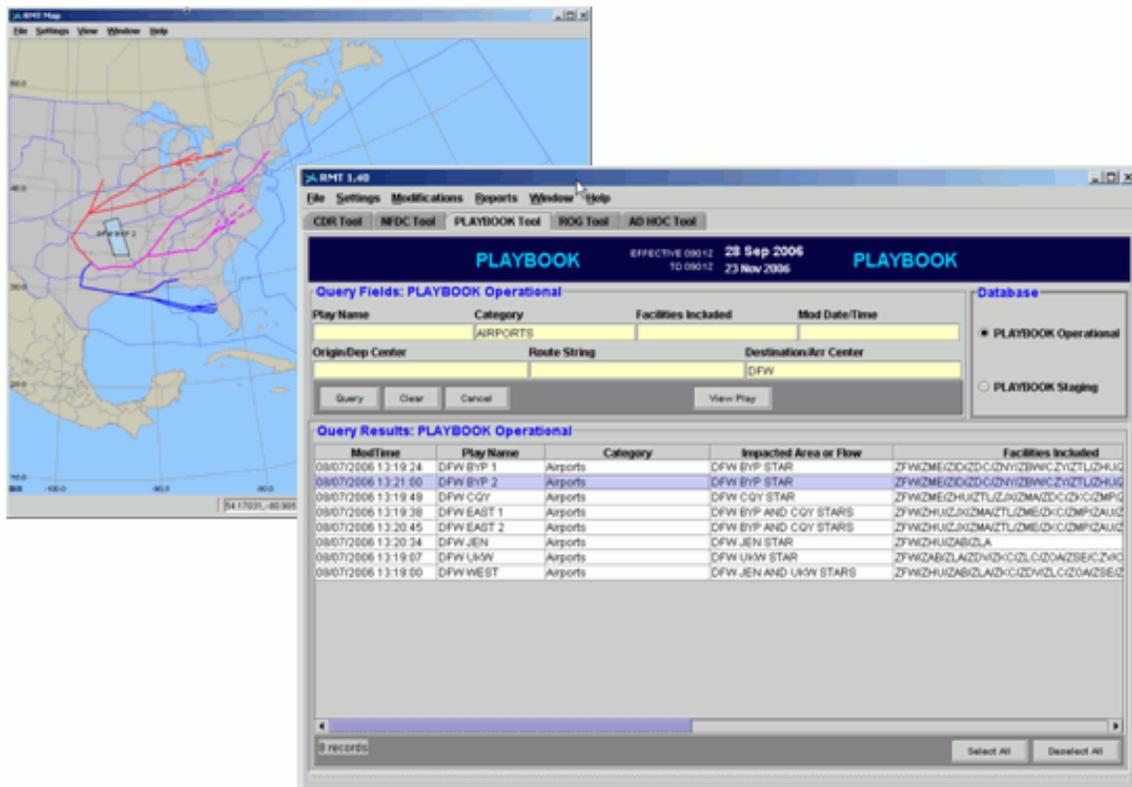


Figure 11: TabFrame Display Layout

Tab Display Layout

Choosing the Tab Display option causes the RMT Map window to appear as a tab alongside the query tool tabs in RMT. Labeled tabs along the top of the windows facilitate movement between tools. Select **Window > Tab Display Layout** to arrange the windows in this manner.

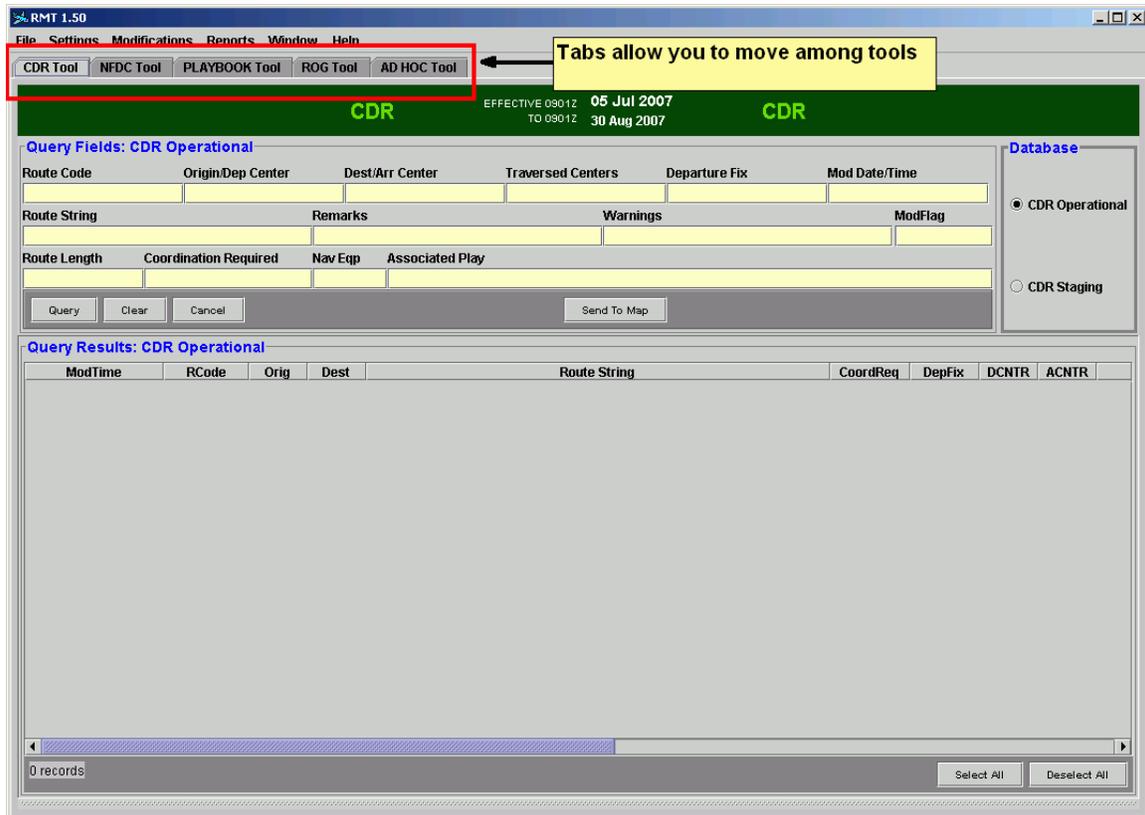


Figure 12: Tab Display Layout

Resizing Windows in RMT

The icons for resizing the main RMT window and the RMT Map are located in the top right-hand corner of the main RMT program window or the RMT Map (TabFrame display mode) for both Windows and Linux users.

Minimize

To minimize the main RMT window or the RMT Map, you can click the minimize icon on the RMT program window.



Figure 13: Minimize RMT (Windows)

Maximize

To maximize RMT or the RMT Map, you can click the maximize icon on the RMT window. Click the same icon to return the RMT window or RMT Map window to its original size.

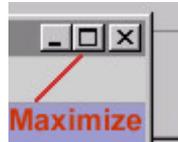


Figure 14: Maximize RMT (Windows)

Custom Size

You can *size* the main RMT window and the RMT Map (TabFrame display mode), by placing the cursor on a window border. When the cursor changes to a double arrow, click and drag the window border to the desired size.

Saving the RMT Display

Any changes you make to the Tool window arrangement will be saved between sessions. So when you open RMT, the Tool windows will be arranged in the same manner as when you quit your most recent RMT session. Also, any directory you define for saving searches or reports will be saved as the default directory for saving these files.

If you make changes to the display in an individual Tool, the changes are not automatically saved. You may save your Tool changes to your local configuration file. For example, you can save the column order in the Query Results tables, map overlays and colors, and default databases (staging or operational). However, these changes must be made manually and individually for each Tool because you may want to save your settings for one Tool window but not another. For more information on saving Tool window settings, see "Save Query Results Settings" on page 46.

By default, the user configuration file is saved as **rmt150_user_config.ini** in your home directory on Windows XP systems. Linux users can find their user configuration file in their home directory.

To use the default user configuration settings, find the user configuration file with your personal settings. Either delete this file or change its name. Once this is done, the system will revert to using the default settings in the default user configuration file.

To let others use your settings, simply copy your personal user configuration file and paste it into the home directory on another computer.

Perform a Search

To view the information in RMT, you must first conduct a search in the appropriate RMT Tool window.

Choose a Tool

To begin a search, first select the appropriate Tool by clicking on the tab or use the **Window** menu to activate the tool window of interest and bring it to the foreground.

- **CDR Tool** - The *CDR Tool* allows the user to query the centralized coded departure routes database. Coded departure routes are alternate air traffic routings and refined coordination procedures designed to allow flights to depart as efficiently as possible when severe weather or air traffic congestion prevents using normal routes.
- **Playbook Tool** - The *Playbook Tool* allows the user to query the National Playbook database. The National Playbook is a collection of Severe Weather Avoidance Plan (SWAP) routes. These routes are organized into groupings called 'Plays'.
- **NFDC Tool** - The *NFDC Tool* contains a collection of tables with preferred routes, location identifiers, airway intersections, fixes, airways, nav aids, airports, DPs, and STARs. The tables are updated every 56 days with the information provided by the National Flight Data Center (NFDC).
- **Ad Hoc Reroutes Tool** – The *Ad Hoc Reroutes Tool* allows the user to query on a centralized database of ad hoc reroutes entered by RMT users (both FAA and Customers). Note that users can only see ad hoc reroutes that they have created.

Searching the Operational or Staging Databases

When you begin a search in the CDR or Playbook Tool, you must select either the *Staging* or *Operational* database by clicking the appropriate radio button in the top right **Database** Section of the screen. The operational databases contain routing information that is valid for the current 56-day chart cycle and generally does not change. Users may view any upcoming changes made by the ARTCC or Playbook administrators for the next cycle in the staging databases.

Note that when you search for routes in either of the staging databases, sections are outlined in red. When you are in the operational databases, the tools are outlined in gray with blue text.



Figure 15: Tool Windows are Outlined in Red When Searching in the Staging Databases

Searching in the Playbook Tool

Several different types of information are associated with each Playbook Play; therefore two-levels are required to display all the pertinent data. General information about each Playbook Play is visible in the top-level Query Results table, e.g. Play Name, Play Category, Modification Date and Time, Origin (center names or airports), Destination (center names or airports), Facilities Included, Modification Flag and Route String.

ModTime	Play Name	Category	Impacted Area or Flow	Facilities Included	Instructions	Remarks
02/19/2004 15:35:44	SLM	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZOBZKZC		
02/19/2004 15:36:31	CAN 1 WEST	East to West Trans.	XXXXXXXX	ZBNWZNYZCZVZMP		THIS ROUTING REQUIRES AREA NAVII
02/19/2004 15:36:22	CAN 6 WEST	East to West Trans.	XXXXXXXX	ZBNWZNYCZVZMP		THIS ROUTING REQUIRES AREA NAVII
02/19/2004 15:25:48	CAN 7 WEST	East to West Trans.	XXXXXXXX	ZBNWZLUCZVZMP		THIS ROUTING REQUIRES AREA NAVII
02/19/2004 15:36:45	ELP	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZTLZDMEZDZUZAB		
02/19/2004 15:24:24	EWM 1	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZTLZDMEZDZVZAB		
02/19/2004 15:24:26	EWM 2	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZTLZDMEZDZVZAB		
02/19/2004 15:24:27	FAM	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZBZDZDZKZC		
02/19/2004 15:24:28	OTH 1	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZDZMEZDZVZAB		
02/19/2004 15:24:29	OTH 2	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZDZMEZDZVZAB		
02/19/2004 15:24:30	HLC	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZBZLZDZMP		
02/19/2004 15:24:31	LNK	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZBZLZDZMP		
02/19/2004 15:24:32	MCI WEST	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZBZDZDZKZC		
02/19/2004 15:24:33	PHH 1	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZDZMEZDZVZAB		
02/19/2004 15:24:35	PHH 2	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZDZMEZDZVZAB		
02/19/2004 15:24:36	PHH 3	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZDZMEZDZVZAB		
02/19/2004 15:24:37	TUL 1	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZDZMEZDZKZC		
02/19/2004 15:24:38	TUL 2	East to West Trans.	WESTBOUND TRANSCON FLIGHTS	ZBNWZNYZDCZLZDZDZMEZDZKZC		

Figure 16: Playbook Top-Level Query Results Table

More detailed route segment information can be viewed by selecting a Play in the table and double-clicking or pressing the **View Play** button to bring up the **View Play** window. Playbook Play origin and destination segments can be shown on the RMT Map by pressing the **Send to Map** button from the **View Play** window. Plays can also be saved by pressing the **Save** button or printed using the **Print** button.

Orig	Filters	Route	Remarks	End	Color
ZBY		BAF J27 PTT J48 MOL J22 VUZ J52 S08 EIC J4 ABI			
ZNY	-PHL	EMI J48 MOL J22 VUZ J52 S08 EIC J4 ABI J66 EWM			
PHL		MOE MOE 278 PENNY J48 MOL J22 VUZ J52 S08 EIC			
HFD		MOL J22 VUZ J52 S08 EIC J4 ABI J66 EWM			
ZTL		VUZ J52 S08 EIC J4 ABI J66 EWM			
CAE C		ATL J14 VUZ J52 S08 EIC J4 ABI J66 EWM			
ZLK		SEW CEW MEI EIC J4 ABI J66 EWM			
ZNA		LAL SDW CEW MEI EIC J4 ABI J66 EWM			

Figure 17: View Play Window – Detailed Segment-Level Query Results

Searching in the NFDC Tool

The NFDC Tool contains several reference tables created from data provided by the National Flight Data Center. It is important to note that the information in these tables is not updated through the RMT Tool.

- **Preferred Routes (PrefRoutes)** - Preferred IFR Routes
- **Location Identifier (LocID)** - Abbreviations or acronyms used to refer to airports, nav aids, centers and other locations.
- **Airway Intersections (AwyIntxn)** - Intersection points where airways cross each other. Note that this table includes only the unnamed, numbered fixes. Named fixes (e.g. PETTY, WISKE) are not included in the table.
- **Fixes** - Named and numbered fixes
- **Airways** - Airway codes
- **Nav aids** - Navigational Aids
- **Airports** - Airport codes
- **DPs** - Departure Procedures
- **STARs** - Standard Terminal Arrival Routes

To start your search, make sure you have chosen the correct NFDC table to search by clicking the appropriate table name in the **NFDC Tables** section of the NFDC Tool. For example, if you want to search Location Identifiers, make sure you click LocID in the NFDC Tables section. This will bring up the appropriate query fields for you to use in your search.



Figure 18: NFDC Table Selection

RMT replaces the DP and STAR names listed in the NFDC preferred route text file with the current DP and STAR name and number in the NFDC Tool display as part of the 56-day Chart Date processing. For example, CINCE-STAR is replaced by CINCE6 and GATEWAY-DP is replaced by GATWY4 on all preferred routes.

RMT also expands airport aliases and adds preferred routes to the database for all origin and destination airports defined by alias names. For example, WAS is an alias for IAD, DCA and BWI airports. For preferred routes with WAS listed in the origin field, three records are added to the database (one for IAD, DCA and BWI). Another airport alias expanded into multiple records is CHI (ORD, MDW).

Searching in the Ad Hoc Reroutes Tool

The AD HOC Tool contains a centralized database of ad hoc reroutes entered by RMT users (both FAA and Customers). It is important to note that you can only see ad hoc reroutes create by your Ad Hoc Group, e.g. US Airways users can view ad hoc reroutes created by US Airways or

US Airways Express but not by United. The ad hoc reroutes may be helpful when used with the ROG capabilities to find reroute options for flights between city pairs that do not have pre-coordinated reroute options (CDRs or Play segments). Note there is only one ad hoc database and there is no differentiation between staging and operational ad hoc reroutes. Each user is responsible for maintaining their set of routes. A Warning Report updated every 56-day Chart Cycle is available to help with maintenance and route verification.

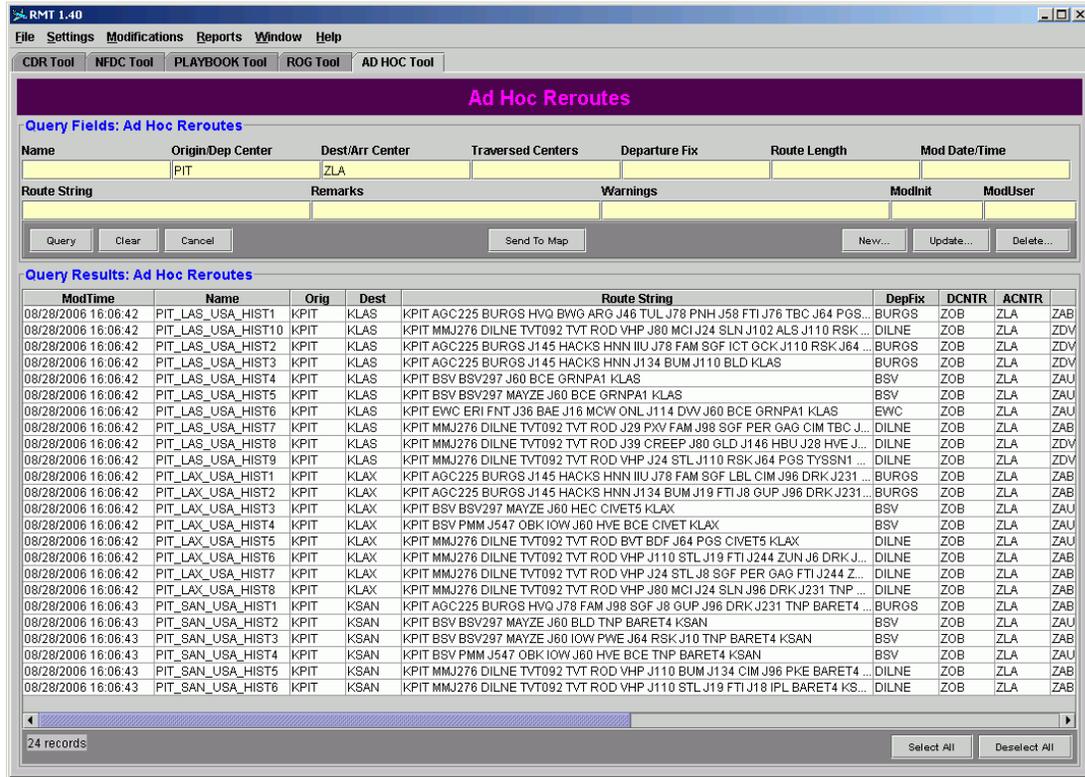


Figure 19: Ad Hoc Reroutes Tool

Enter Search Parameters

In each Tool, there are several specific *query fields*. Use the query fields to type in the *parameters* for your search. A search parameter could be one of the elements along a route string (for example, an airport, airway, navaid or jet route) or information related to the record (e.g., the date the record was created or modified or any remarks associated with the record).

If you do not enter any search parameters and select the Query button or press Enter, your search results will include every record in the database you are searching. This can be a time-consuming process, as there are sometimes thousands of routes in a database.

You must enter parameters in the query fields to perform a more specific search. The query fields in each Tool are provided for your convenience. You do not have to fill in every input field to perform a search. You may find that there are some query fields that you rarely or never use when searching. How general or specific the search is directly relates to the number of parameters you enter in the query fields. The fewer query fields you fill in, the more general your search and vice versa.

Query Fields

Each Tool has query fields specific to the type of search you are conducting. To access information about the fields, place and hold your cursor over the text box of a particular field. Tool tips with information about the query field and the format to use when filling in that field will appear on your screen.

Query Fields in the CDR Tool

Route Code	Origin/Dep Center	Dest/Arr Center	Traversed Centers	Departure Fix	Mod Date/Time
Route String	Remarks	Warnings	ModFlag		
Route Length	Coordination Required	Nav Eqp	Associated Play	PlayModFlag	

Buttons: Query, Clear, Cancel, Send To Map

Figure 20: CDR Tool Query Fields

The available query fields in the CDR Tool are:

- **Route Code** - Enter the CDR route code: an 8-character route designator made up of the 3-character departure airport code, 3-character arrival airport code, and a 2-character facility-designated code.
- **Origin/Dep Center (Origin or Departure Center)** – Enter either the 3 or 4-character airport or center code to identify the route’s point of origin (Canadian airports require the 4-character ICAO codes. Anchorage, AK and Honolulu, HI require PANC and PHNL, respectively).
- **Destination/Arr Center (Destination or Arrival Center)** - Enter either the 3 or 4-character code for the destination airport or the 3-character code for the arrival center.
- **Traversed Centers** - Enter the 3-character code for a center through which the flight path traverses. Note that multiple centers can be entered in this field.
- **Departure Fix** - Enter a departure fix.
- **Mod Date/Time** - Enter the date/time of the record's creation or last modification. For example, enter ‘5/27/2006’ to display all routes created or modified on that date. You may search for routes created during a range of dates using the greater than (>) and less than (<) symbols. To include the date you have entered in your search, use "greater/less than or equal to" logic (>= or <=). Dates must be entered in MM/DD/YYYY format (2-character month - 2-character date - 4-character year). Entering a time is optional, but must be entered in HH:MM:SS format (2-character hour: 2-character minute: 2-character seconds).
- **Route String** - Enter an element of the route string (i.e. a fix, navaid or airport code).
- **Remarks** - Use this field to perform a search based on any remarks entered about route changes or new record additions.
- **Warnings** - Use this field to find any warning messages generated by RMT as the routes were entered into the tool by the ARTCC administrators. These messages are provided to help with the route verification and to identify potential problems on the map. Examples of different warning messages include WARNING_UNKNOWN_ELEMENT and WARNING_NO_COORDINATES.
- **ModFlag (Modification Flag)** - A modification flag is used to indicate any changes made to the route record since the last chart date. To view a route according to its modified status you can type **D** (Deleted record), **M** (Modified record), **N** (New record), or a hyphen (-) to see existing, unchanged records.

- **Route Length** - Use this field to query on the distance (in nautical miles) of the CDR route. The route length is calculated by the RMT trajectory maker and is provided as a reference, but should not be used for flight planning purposes. Note that the distance is not shown if any information is missing or unknown along the route string. This is a numeric field, so you can use the following logical operators <, >, <=, >=.
- **Coordination Required** - This field was designed to allow the FAA to designate whether the CDR requires coordination when filed. The possible values are “Y” meaning Yes – coordination is required or “N” meaning No – coordination is not required. This field was called “UserFile” in previous versions of RMT. Note that this name change affects the underlying meaning of the data contained in the database. All CDRs with UserFile=”Y” have been reset to CoordReq=”N” in conjunction with the RMT 1.50 release.
- **Nav Eqp** – Use the navigation equipment designator field to quickly identify CDRs that require advanced navigation capabilities. Values include 1- basic navigational routes, 2 – routes which begin and/or end with RNAV DPs and STARs, 3 - routes which contain Q-route segments and/or pitch and catch points. This field became effective on the Aug 3, 2006 Chart Date.
- **Associated Play** - RMT users may also query on the “Associated Play” query field. If a CDR was designed to match a Playbook Play, the Play name will be listed in this field. The CDR administrators at each ARTCC fill in the Associated Play names.
- **PlayModFlag** – Use this field to search for the “Associated Play’s” modification flag from the Playbook table (M, N, D, -). This will help ARTCC administrators identify CDR routes that may need to be changed because the Associated Playbook Play has changed. This field will be updated by RMT as the Playbook database is modified. Note that this field is only populated for CDRs with Associated Play information.
- **ModInit (Modifier's Initials)** - This column is specific to FAA administrators and will appear as a blank field to any other user types. To view routes modified by a particular person, type in their FAA-assigned initials. These differ from the actual initials of the person's name.
- **ModUser (Modifier's User Type)** - This column is specific to FAA administrators and will appear as a blank field to any other user types. To view routes modified by a specific user type, type in the login name (i.e. admin_atcsc) that corresponds to that user type. Note that different people can be logged in under the same user type.

Query Fields in the Playbook Tool

Query Fields: PLAYBOOK Staging			
Play Name	Category	Facilities Included	Mod Date/Time
Origin/Dep Center	Route String	Destination/Arr Center	ModFlag

Figure 23: Playbook Tool Query Fields

The following query fields are available in the Playbook Tool:

- **Play Name** – Enter the Playbook Play Name.
- **Category** – Enter a Playbook category, e.g. Airports, Airway Closures, East to West Transcon Routes, Regional Routes, and West to East Transcon Routes.
- **Facilities Included** – Enter a 3-character center code for facilities/included or traversed.
- **Mod Date/Time** - Enter the date/time of the Playbook Play's creation or last modification. For example, enter '1/19/2007' to display all Plays created or modified on that date. You may search for Plays created during a range of dates using the greater than (>) and less than (<) symbols. To include the date you have entered in your search, use "greater/less than or equal to" logic (>= or <=). Dates must be entered in MM/DD/YYYY format (2-character month - 2-character date - 4-character year). Entering a time is optional, but must be entered in HH:MM:SS format (2-character hour: 2-character minute: 2-character seconds).
- **Origin/Dep Center (Origin or Departure Center)** – Enter either the 3-character origin airport code or the 3-character code for the departure center. (Note that the 4-character ICAO codes are not used for airports in this Tool).
- **Route String** – Enter an element of a Playbook segment route string (i.e. a fix, navaid, or jet route).
- **Destination/Arr Center (Destination or Arrival Center)** – Enter the 3-character destination airport code or the 3-character code for the arrival center (Note that the 4-character ICAO codes are not used for airports in this Tool).
- **ModFlag** – The Playbook modification flag is used to indicate any changes made to the Play since the last chart date. To view a Play according to its modification status, you can type **M** (Modified record), **N** (New record), **D** (Deleted record), or a hyphen (-) to see existing, unchanged Plays.

Query Fields in the NFDC Tool

Nine reference tables are currently provided in the NFDC Tool. The specific query fields for each table are provided in the following paragraphs.

Preferred Routes Database

To search for FAA Preferred IFR Routes, choose the PrefRoutes table. The available query fields for the PrefRoutes table are:

- **Origin/Dep Center (Origin or Departure Center)** - Enter either the 3-character origin airport code or the 3-character code for the departure center. (Note that the 4-character ICAO codes are not used for airports in this Tool).
- **Destination/Arr Center (Destination or Arrival Center)** - Enter the 3-character destination airport code or the 3-character code for the arrival center. (Note that the 4-character ICAO codes are not used for airports in this Tool).
- **Route Type** - Enter the type of route. The following codes are valid in the Type field: **L** (low altitude), **H** (high altitude), **LSD** (low altitude single direction), **HSD** (high altitude single direction), **SLD** (special low altitude directional), **SHD** (special high altitude directional), and **TEC** (tower en route control).
- **Area** - RMT lists routes according to city pairs; however, not all preferred routes are limited to a particular city pair. Many routes are valid for several origin and/or destination airports. To find routes that are valid in a geographic area, you can enter information in this field. Note that the data contained in this field may vary between records, so your search results may actually be broader than what appears in the Query Results table. Useful entries for this field include city names and "metro" areas. For example, entering "Cleveland Metro" should bring up routes that are valid at CLE, CGF, BKL, LNN, LPR, and possibly other nearby airports.
- **Route String** - Enter an element of the route string (i.e. a fix, navaid, or airport code). Note that the current DP and STAR numbers are now being used in the Route String field.
- **Altitude** - Enter an altitude for the preferred route. Altitudes are assumed to be in hundreds of feet. For example, to find routes that utilize an altitude of 30,000 feet, you only need to enter "300."
- **Aircraft Types** - Enter the type of aircraft that will utilize the route: prop, jet, or turbo.
- **Direction** - This field denotes the direction in which the route is valid. For example, some routes are only useable for northbound flights. Note that the data contained in this field may vary between records. For example, southbound routes may be denoted by "Southbound" or "Sbound." It is probably more useful to include entire words in this field, such as "east" or "northeast." You can also use the abbreviation for the direction (N, E, S, W) in conjunction with the word "bound" to find routes for a particular direction. However, if you enter a single letter (i.e. "S"), all routes with the letter "S" in the "Direction" field will appear. This includes routes that go south, west, and east.

Query Fields: PrefRoutes			
Origin/Dep Center	Destination/Arr Center	Route Type	Area
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Route String	Altitude	Aircraft Types	Direction
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Figure 21: PrefRoutes Query Fields

Location Identifier Database

In the NAS, airports, centers, and geographical locations are often referred to with abbreviations or acronyms. The abbreviation is called a location identifier. To search for a location identifier, choose the LocID table in the NFDC Tool. The available query fields for the LocID table are:

- **Location ID** - Enter the location identifier code.
- **Facility Name & Type** - You can specify the name and/or type of location identifier for which you are searching. For example, to search for vortacs, type "vortac" into this field.
- **City, State** - Enter a city and/or state name to view all the facilities in that region.
- **FLTWO** - Search for facilities with a flight watch station. Type a "Y" into the field to find all facilities with a flight watch station. Leave the field blank to search for facilities regardless of their association with a flight watch station.
- **Tie-in Facility** - Enter the 3-character code for the tie-in flight service station associated with the location identifier for which you are searching.
- **Controlling Center** - Enter the 3-character code for the controlling center of the location identifier.

Query Fields: LocID		
Location ID	Facility Name & Type	City, State
<input type="text"/>	<input type="text"/>	<input type="text"/>
FLTWO	Tie-in Facility	Controlling Center
<input type="text"/>	<input type="text"/>	<input type="text"/>

Figure 22: Location Identifier Query Fields

Airway Intersections Database

The Airway Intersections table includes only the unnamed, numbered fixes designated as "AWY INTXN" in the NFDC fix and airway tables. The available query fields in the Airway Intersections table are:

- **Airways** - Enter one or more airway codes (i.e. J66 & J15) to search for intersection points along the airway(s).
- **Center** - Enter the 3-character code of the numbered fix's controlling center.

Note that there could be more than two airways that intersect at a specified fix because the airways occur at different altitudes, etc.

Query Fields: AwyIntxns	
Airways	Center
<input type="text"/>	<input type="text"/>

Figure 23: Airway Intersections Query Fields

Fixes Database

To search for Fixes, choose the Fixes table. The available query fields for the Fixes table are:

- **Fix Name** - Enter the fix identifier.
- **State** – Enter the state where the fix is located.
- **Category** - Enter the fix category, values are military (mil) or civil fix (fix).
- **Center** - Enter the 3-character code of the fix's controlling center.
- **Fix Use** - Enter the fix use, e.g., ARTCC-BDRY, AWY-INTXN, COORDN-FIX, MIL-REP-PT, MIL-WAYPOINT, REP-PT, TURN-PT, or WAYPOINT.
- **Pitch** – Pitch flag, enter Y or N.
- **Catch** – Catch flag, enter Y or N.
- **SUA** - Special Use Airspace(SUA)/ATCAA flag, enter Y or N.
- **Extended Name** – Enter the fix name.

Query Fields: Fixes				
Fix Name	State	Category	Center	Fix Use
Pitch	Catch	SUA	Extended Name	

Figure 24: Fixes Query Fields

Airways Database

To search for Airways, choose the Airways table. The available query fields for the Airways table are:

- **Airway** - Enter the Airway name.
- **Minimum Altitude** - Enter the minimum en route altitude.
- **Fix Name** - Enter the airway point description or fix name.
- **Type** - Enter the airway type (A-Alaska, H-Hawaii, or blank).
- **RNAV** – RNAV indicator, enter R or blank.

Query Fields: Airways		
Airway	Minimum Altitude	Fix Name
Type	RNAV	

Figure 25: Airways Query Fields

Nav aids Database

To search for Nav aids, choose the Nav aids table. The available query fields for the Nav aids table are:

- **Nav aid Name** - Enter the nav aid name.
- **Type** - Enter the nav aid Facility Type. For information on the available codes for this field, select **Help > Show NFDC Codes** and scroll to the *Nav aids - Type Codes* section.
- **Center** - Enter the 3-character code of the nav aid's controlling center.
- **Class** - Enter the Class code. For information on the available codes for this field, select **Help > Show NFDC Codes** and scroll to the *Nav aids - Class Codes* section.
- **Pitch** - Pitch flag, enter Y or N.
- **Catch** - Catch flag, enter Y or N.
- **SUA** - Special Use Airspace(SUA)/ATCAA flag, enter Y or N

Query Fields: NavAids			
Navaid Name	Type	Center	Class
Pitch	Catch	SUA	

Figure 26: NavAids Query Fields

Airports Database

To search for Airports, choose the Airports table. The available query fields for the Airports table are:

- **Airport** - Enter the airport identifier.
- **Facility Name** - Enter the airport facility name.
- **City** - Enter the city where the airport is located.
- **State** - Enter the state where the airport is located.
- **Center** - Enter the 3-character code of the airport's controlling center.

Query Fields: Airports		
Airport	Facility Name	City
State	Center	

Figure 27: Airports Query Fields

Departure Procedures Database

To search for Departure Procedures (DPs), choose the DPs table. The available query fields for the DPs table are:

- **DP** - Enter the DP identifier.
- **Transition Number** - Enter a transition number (assigned by RMT).
- **Transition Name** - Enter the name assigned to the DP/transition you want to find.
- **Fix/Facility Type Code** - Enter the Fix/Facility Type code. For information on the available codes for this field, select **Help > Show NFDC Codes** and scroll to the *DPs and STARs - Fix/Facility Type Codes* section.
- **Fix Name** - Enter the DP point description or fix name.
- **Extended Name** - Enter the DP/transition name.

Query Fields: DPs		
DP	Transition Number	Transition Name
Fix/Facility Type Code	Fix Name	Extended Name

Figure 28: DPs Query Fields

Standard Terminal Arrival Routes Database

To search for Standard Terminal Arrival Routes (STARs), choose the STARs table. The available query fields for the STARs table are:

- **STAR** - Enter the STAR identifier
- **Transition Number** - Enter a transition number (assigned by RMT).
- **Transition Name** - Enter the name assigned to the STAR/transition you want to find.

- **Fix/Facility Type Code** - Enter the Fix/Facility Type code. For information on the available codes for this field, select **Help > Show NFDC Codes** and scroll to the *DPs and STARs - Fix/Facility Type Codes* section.
- **Fix Name** - Enter the STAR point description or fix name.
- **Extended Name** - Enter the STAR/Transition name.

Query Fields: STARs		
STAR	Transition Number	Transition Name
Fix/Facility Type Code	Fix Name	Extended Name

Figure 29: STARs Query Fields

Query Fields in the Ad Hoc Reroutes Tool

Query Fields: Ad Hoc Reroutes						
Name	Origin/Dep Center	Dest/Arr Center	Traversed Centers	Departure Fix	Route Length	Mod Date/Time
Route String	Remarks	Warnings	ModInit	ModUser		

Figure 30: Ad Hoc Reroutes Tool Query Fields

The available query fields in the AD HOC Tool are:

- **Name** – Enter the ad hoc reroute name: unique name assigned by the creator of the route (30 characters maximum, spaces are not allowed).
- **Origin/Dep Center** - Enter either the 3 or 4-character origin airport code or the 3-character code for the departure center.
- **Dest/Arr Center** - Enter the 3 or 4-character destination airport code or the 3-character code for the arrival center.
- **Traversed Centers** - Enter the 3-character code for a center through which the flight path traverses. Note that multiple centers can be entered in this field.
- **Departure Fix** - Enter a departure fix.
- **Route Length** - Use this field to query on the distance (in nautical miles) of the ad hoc reroute. The route length is calculated by the RMT trajectory maker and is provided as a reference, but should not be used for flight planning purposes. Note that the distance is not shown if any information is missing or unknown along the route string. This is a numeric field, so you can use the following logical operators <, >, <=, >=.
- **Mod Date/Time** - Enter the date/time of the ad hoc reroute's creation or last modification. For example, enter '10/19/2006' to display all routes created or modified on that date. You may search for routes created during a range of dates using the greater than (>) and less than (<) symbols. To include the date you have entered in your search, use "greater/less than or equal to" logic (>= or <=). Dates must be entered in MM/DD/YYYY format (2-character month - 2-character date - 4-character year). Entering a time is optional, but must be entered in HH:MM:SS format (2-character hour: 2-character minute: 2-character seconds).
- **Route String** - Enter an element of the route string (i.e. a fix, navaid, or airport code).
- **Remarks** - Use this field to perform a search based on any remarks entered about route changes or new record additions.
- **Warnings** - Use this field to find any warning messages generated by RMT as the routes were entered into the tool by users. These messages are provided to help with the route

verification and to identify potential problems on the map. Examples of different warning messages include WARNING_UNKNOWN_ELEMENT and WARNING_NO_COORDINATES.

- **Modlinit (Modifier's Initials)** - To view routes modified by a particular person, type in their initials. These may differ from the actual initials of the person's name.
- **ModUser (Modifier's User Type)** – This query field is designed primarily for RMT administrators; other users will only see ad hoc reroutes that they have created. To view routes modified by a specific user type, type in the login name (i.e. nwa, zny) that corresponds to that user. Note that different people can be logged in under the same user name.
- **Ad Hoc Group** – This query field is for RMT administrators only. To view routes modified by a specific Ad Hoc Group, type in the login name (i.e. nwa, zny) that corresponds to that Ad Hoc Group.

Wildcard Characters

A wildcard character is used to take the place of a specific character in a search parameter. Wildcards are good to use when you have only partial information or want to view routes whose parameters may share some characters in common. Please note that wildcards *do not* work when entering center codes (i.e. ZDC). You must always type the specific 3-character center code in your search parameters. RMT recognizes the asterisk (*) and the question mark (?) as wildcard characters.

Using the Asterisk as a Wildcard

You can use the asterisk in a search field to broaden or narrow your search results, depending on the field.

Many search fields require you to enter a specific code in order to obtain search results. For example, you cannot simply enter "O" into the Origin or Destination fields because "O" is not recognized as an airport or center code. You must type in the three-character code in order to conduct a search based on origin or destination. In these types of fields, a single asterisk replaces an *unlimited amount* of characters in a search parameter. When you use an asterisk in a search parameter, the search results include routes whose elements match the specific characters in the parameter plus any additional characters either before or after, depending on where you place the asterisk. For example, to search for routes that arrive at any airport whose abbreviation begins with "O," type "O*" into the Dest/Arr Center search field. The search will yield routes whose destination begins with an "O" (Figure 31).

However, you can enter partial information in other search fields to achieve search results that contain any or all of the information you entered. For example, if you enter "J1" in the Route String field, your search results will include any route records that include the element J1. This would include not only route records with J1, but also J15, J18, J110, etc. In these types of fields, you can use the asterisk to filter parameters. For example, if you enter WISKE in the route string field, your search will yield all route records with an element matching WISKE, including WISKE2 if these elements exist. To limit your search results to those route records with only WISKE in the route string, you can place asterisks on either end of the element name and put a blank space between the asterisk and any element characters (* WISKE *). This tells the database that there should be no characters on either end of WISKE in any search results (Figure 32). Note that when searching for a specific element in Playbook route strings, additional queries may be necessary to find the element name in the beginning, middle and end of the Play segments, (WISKE * | * WISKE * | * WISKE) see Figure 33.

NFDC Tool EFFECTIVE 0901Z 15 May 2003 TO 0901Z 10 Jul 2003

NFDC **NFDC**

Query Fields: PrefRoutes

Origin/Dep Center	Destination/Arr Center	Route Type	Area
	O*		
Route String	Altitude	Aircraft Types	Direction

Buttons: Query, Clear, Cancel, Send To Map

NFDC Tables

- PrefRoutes
- LocID
- AWY INTXN

Query Results: PrefRoutes

Orig	Route String	Dest	Hours1	Hours2	Hours3	Type	Area	Altitude	Aircraft
ABQ	ABQ J18 GCK J96 IRK BRADFORD-STAR ORD	ORD	1100-0400			H			
ACK	ACK V146 PUT ORH	ORH				TEC		10000	
ACK	ACK FREDO OWD	OWD				TEC		10000	
ACY	ACY V1 JFK V229 BDR MAD V475 V188 TMU OGU	OGU				TEC	SINGLE ENGIN...		
ACY	ACY V1 JFK V229 HFD V1 GRAYM ORH	ORH				TEC		5000	SINGLE E...
AJO	AJO PDZ V186 V458 OCN OKB	OKB				TEC	(CCB CNO EMT...		JM110PQ70
AJO	AJO PDZ V186 FIM OXR	OXR				TEC	(CCB CNO EMT...		JM80PQ60
ALB	ALB SYR J63 EHMAN YXU J547 PMM PULLMAN-STAR ORD	ORD	1100-0300			H			
ALB	ALB V130 MOLDS ORH	ORH				TEC		10000	
ALB	ALB GDM V431 LOBBY OWD	OWD				TEC		10000	
ATL	ATL NOONE J89 KURTZ VHP OKK KOKOMO-STAR ORD	ORD	1100-0300			H			
ATL	ATL V97 NELLO V311 HCH V51 CGT V7 BEBEE ORD	ORD	1200-0300			L		6000'-170...	
AUG	AUG LABEL V39 GDM V229 SPENO ORH	ORH				TEC		10000	
AUG	AUG CLOWN WITNY HFD OXC	OXC				TEC	FROM PORTLA...	10000	/E, /F, /G O...
AUG	AUG ENE LWM OWD	OWD				TEC		10000	
AVX	AVX SXC V208 OCN OKB	OKB				TEC	AVX TO (CRQ N...		JMP050
AVX	AVX SXC SXC295 VTU160 VTU KWANG OXR	OXR				TEC	AVX TO (SBA O...		JM80PQ60
BDL	BDL CTR CAM SYR J63 EHMAN YXU J547 PMM PULLMAN-STAR ORD	ORD	1100-0300			H			
BDL	BDL COASTAL (HI)-DP GEDIC J174 DIW ATAR014 METTA ATAR1 HOBBE ...	ORL	1100-0300			H	WATER		

459 records Select All Deselect All

Figure 31: Search Using O* in the NFDC PrefRoutes Destination/Arr Center Field

CDR EFFECTIVE 0901Z 30 Aug 2007 TO 0901Z 25 Oct 2007 **CDR**

Query Fields: CDR Staging

Route Code	Origin/Dep Center	Dest/Arr Center	Traversed Centers	Departure Fix	Mod Date/Time
Route String	Remarks	Warnings	ModFlag		
* WISKE *					
Route Length	Coordination Required	Nav Eqp	Associated Play	PlayModFlag	

Buttons: Query, Clear, Cancel, Send To Map

Database

- CDR Operational
- CDR Staging

Query Results: CDR Staging

ModTime	RCode	Orig	Dest	Route String	CoordReq	DepFix	DCNTR	ACNTR
07/19/2007 15:48:48	BWIPIT51	KBWI	KPIT	KBWI FLUKY DCA246 PAUKI MOL J24 HVQ JPU V117 WISKE KPIT	N	FLUKY	ZDC	ZOB
07/19/2007 15:48:48	BWIPIT61	KBWI	KPIT	KBWI AML J149 HACKS JPU V117 WISKE KPIT	N	AML	ZDC	ZOB
07/05/2007 09:58:38	CLEPIT81	KCLE	KPIT	KCLE DJB DJB173 HERAK APE CTW V443 WISKE WISKE3 KPIT	Y	DJB	ZOB	ZOB
07/05/2007 09:58:12	CLTPITAP	KCLT	KPIT	KCLT HOR2 NALEY HVQ JPU V117 WISKE WISKE3 KPIT	N	NALEY	ZTL	ZOB
07/05/2007 09:58:12	CLTPITRP	KCLT	KPIT	KCLT JACAL1 NALEY HVQ JPU V117 WISKE WISKE3 KPIT	N	NALEY	ZTL	ZOB
07/05/2007 09:57:01	CVGPITPR	KCVG	KPIT	KCVG RHOMM1 YRK V44 JPU V117 AIR WISKE WISKE3 KPIT	Y	YRK	ZID	ZOB
07/19/2007 15:48:47	DCAPIT51	KDCA	KPIT	KDCA FLUKY DCA246 PAUKI MOL J24 HVQ JPU V117 WISKE KPIT	N	FLUKY	ZDC	ZOB
07/19/2007 15:48:48	DCAPIT61	KDCA	KPIT	KDCA AML J149 HACKS JPU V117 WISKE KPIT	N	AML	ZDC	ZOB
07/26/2007 16:38:33	EWRAGCJ6	KEWR	KAGC	KEWR PARKE J6 HVQ JPU V117 WISKE KAGC	Y	PARKE	ZNY	ZOB
07/26/2007 16:38:25	EWRPITJ6	KEWR	KPIT	KEWR PARKE J6 HVQ JPU V117 WISKE KPIT	Y	PARKE	ZNY	ZOB
07/26/2007 16:43:32	HPNAGCJ6	KHPN	KAGC	KHPN PARKE J6 HVQ JPU V117 WISKE KAGC	Y	PARKE	ZNY	ZOB
07/26/2007 16:43:19	HPNPITJ6	KHPN	KPIT	KHPN PARKE J6 HVQ JPU V117 WISKE KPIT	Y	PARKE	ZNY	ZOB
07/19/2007 15:48:47	IADPIT51	KIAD	KPIT	KIAD FLUKY DCA246 PAUKI MOL J24 HVQ JPU V117 WISKE KPIT	N	FLUKY	ZDC	ZOB
07/19/2007 15:48:47	IADPIT61	KIAD	KPIT	KIAD AML J149 HACKS JPU V117 WISKE KPIT	N	AML	ZDC	ZOB
07/05/2007 09:45:36	IADPIT1C	KIAH	KPIT	KIAH LFK4 LFK J29 ELD J29 ROD J152 TRAKK J30 J110 AIR WISKE WISKE3...	N	LFK	ZHU	ZOB
07/26/2007 16:40:55	JFKAGCJ6	KJFK	KAGC	KJFK RBV J230 SAAME J6 HVQ JPU V117 WISKE KAGC	Y	RBV	ZNY	ZOB
07/26/2007 16:40:31	JFKPITJ6	KJFK	KPIT	KJFK RBV J230 SAAME J6 HVQ JPU V117 WISKE KPIT	Y	RBV	ZNY	ZOB
07/26/2007 16:39:32	LGAAAGCJ6	KLGA	KAGC	KLGA PARKE J6 HVQ JPU V117 WISKE KAGC	Y	PARKE	ZNY	ZOB
07/26/2007 16:39:23	LGAPITJ6	KLGA	KPIT	KLGA PARKE J6 HVQ JPU V117 WISKE KPIT	Y	PARKE	ZNY	ZOB
07/05/2007 09:39:12	MCIPITLA	KMCI	KPIT	KMCI LAKES5 COU STL BIB SHB APE CTW V443 WISKE WISKE3 KPIT	N	COU	ZKC	ZOB
07/05/2007 09:39:12	MCIPITRA	KMCI	KPIT	KMCI RACER3 BUM J112 IIU FLM APE CTW V443 WISKE WISKE3 KPIT	N	BUM	ZKC	ZOB

25 records Select All Deselect All

Figure 32: Search Using "* WISKE *" in the CDR Route String Field



Figure 33: Search Using * in the Playbook Route String Field

You can also use an asterisk to show records with information in the specified field, e.g. CDR Associated Play, NFDC Preferred Routes Area, Altitude and Aircraft Type. This may be useful for searching in fields that are not always filled in (Figure 34).

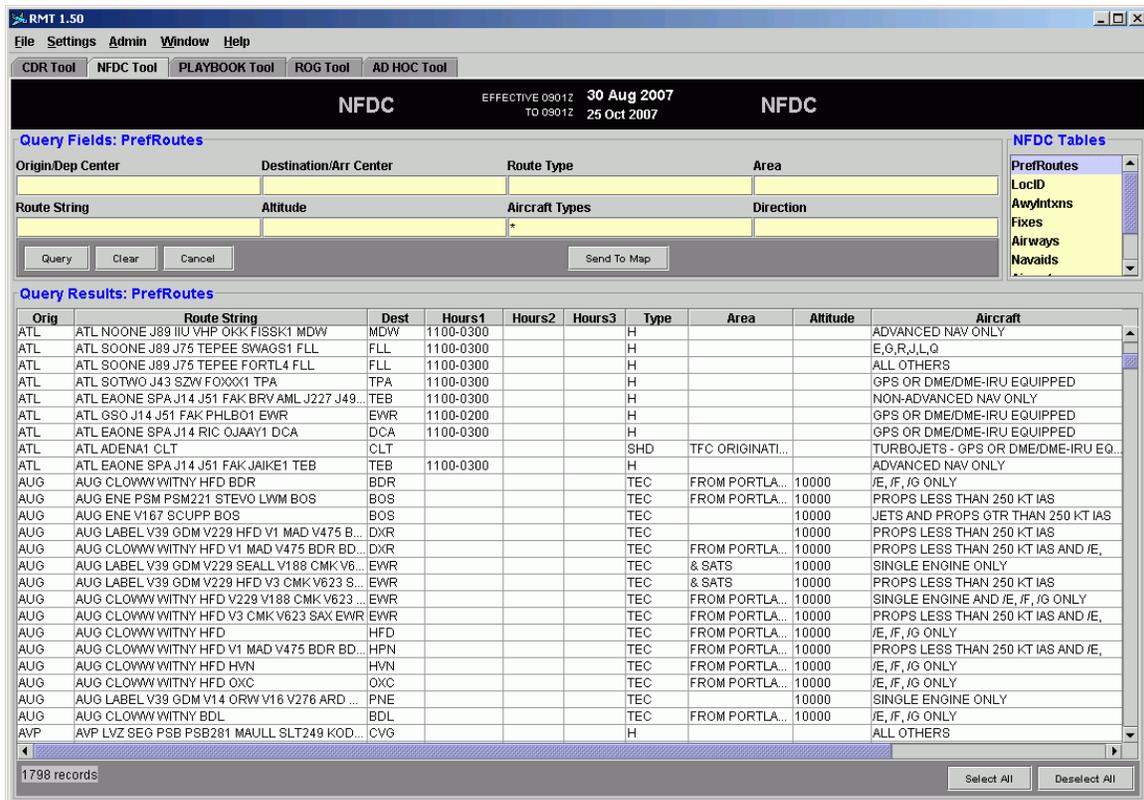


Figure 34: Search Using * in the NFDC PrefRoutes Aircraft Types Field

Using the Question Mark as a Wildcard

A single question mark (?) replaces *only one* character in a search parameter. If you do not know a letter in a parameter, you can replace it with a single question mark. The search will yield those routes with parameters that match the specific characters you type in and have an additional character where the question mark appears. If you want to replace more than one character in a parameter, you must type a single question mark for *each* character you are replacing. For example, if you want to search for routes originating from ORD and arriving at BOS using a single field, use the route code field and insert "???" for the 2-character route designator at the end of the code (Figure 35). The question mark works best in specific code-based fields (i.e. Route Code, Origin/Dep Center, Destination/Arr Center, etc.).

Query Fields: CDR Staging

Route Code	Origin/Dep Center	Dest/Arr Center	Traversed Centers	Departure Fix	Mod Date/Time
ORDBOS??					

Database

CDR Operational

CDR Staging

Query Results: CDR Staging

ModTime	RCode	Orig	Dest	Route String	CoordReq	DepFix	DCNTR	ACNTR
03/15/2007 08:30:47	ORDBOS0E	KORD	KBOS	KORD EBAKE WISMO POSTS SVM DKK ALB GDM GDM3 KBOS	N	EBAKE	ZAU	ZBW
05/10/2007 12:13:39	ORDBOS1E	KORD	KBOS	KORD MOBLE ADIME SEWTO FWA J64 J29 JHW J82 ALB GDM3 KBOS	Y	MOBLE	ZAU	ZBW
08/07/2002 19:11:44	ORDBOS1N	KORD	KBOS	KORD PETTY MKG ECK J16 ALB GDM3 KBOS	Y	PETTY	ZAU	ZBW
07/05/2007 14:41:28	ORDBOS1S	KORD	KBOS	KORD EON WORDY BVT FWA J64 J29 JHW J82 ALB GDM3 KBOS	Y	EON	ZAU	ZBW
07/05/2007 14:41:49	ORDBOS2S	KORD	KBOS	KORD EON DNV TTH IIU J528 BKW J42 RBV J222 JFK ORW3 KBOS	Y	EON	ZAU	ZBW
07/05/2007 14:41:53	ORDBOS3S	KORD	KBOS	KORD EON DNV TTH IIU J528 BKW J42 RBV J222 JFK ORW3 KBOS	Y	EON	ZAU	ZBW
07/05/2007 09:29:50	ORDBOSC1	KORD	KBOS	KORD PETTY TVC ASP VIXIS PENDO SIBKI TULEG ENE SCUPP KBOS	Y	PETTY	ZAU	ZBW
07/05/2007 09:29:49	ORDBOSC2	KORD	KBOS	KORD PETTY TVC ASP VIXIS YYZ GOPEV TULEG ENE SCUPP KBOS	Y	PETTY	ZAU	ZBW
07/26/2007 17:28:46	ORDBOSC3	KORD	KBOS	KORD PETTY TVC ASP VIXIS YYZ GOPEV TULEG ENE SCUPP KBOS	Y	PETTY	ZAU	ZBW
07/05/2007 09:29:49	ORDBOSC6	KORD	KBOS	KORD PETTY GRB SAW SSM YCF TULEG ENE SCUPP KBOS	Y	PETTY	ZAU	ZBW
07/05/2007 09:29:48	ORDBOSC6	KORD	KBOS	KORD PETTY GRB SAW SSM BURWA TULEG ENE SCUPP KBOS	Y	PETTY	ZAU	ZBW
07/05/2007 09:29:48	ORDBOSC7	KORD	KBOS	KORD PETTY GRB SAW SSM YVB POLTY MSS ENE SCUPP KBOS	Y	PETTY	ZAU	ZBW

12 records

Select All Deselect All

Figure 35: Search Using "ORDBOS??" in the Route Code Field

“And”, “Or” and “Not” Logical Operators

RMT uses the symbols &, |, and ! to represent the “and”, “or”, and “not” logical operators. These symbols work in all five RMT search windows: CDR, NFDC, Playbook, ROG and AD HOC. Please note that the logical operators can be used in conjunction with one another and/or multiple times in a query field. The logical operators are processed in order from left to right as they are listed in the query field.

Use "Or" to Include Multiple Parameters in a Search

Including multiple search parameters in any input field instructs RMT to search for routes that meet either parameter. The search results display all routes with route information that matches either parameter typed into a single query field. RMT recognizes the pipe (|) symbol to represent the "or" search shortcut. The search results using this shortcut include only those routes that include the specified parameters.

CDR EFFECTIVE 0901Z 30 Aug 2007 **CDR**
TO 0901Z 25 Oct 2007

Query Fields: CDR Staging

Route Code	Origin/Dep Center	Dest/Arr Center	Traversed Centers	Departure Fix	Mod Date/Time
	PHL BOS				

Database: CDR Operational CDR Staging

Buttons: Query, Clear, Cancel, Send To Map

Query Results: CDR Staging

ModTime	RCode	Orig	Dest	Route String	CoordReq	DepFix	DCNTR	ACNTR
07/24/2007 17:06:59	BOSACYPJ	KBOS	KACY	KBOS LUCOS SEY067 SEY HTO J121 BRIGS KACY	N	LUCOS	ZBW	ZDC ZB
07/24/2007 17:06:59	BOSACYPP	KBOS	KACY	KBOS LUCOS SEY067 SEY V268 BRIGS KACY	N	LUCOS	ZBW	ZDC ZB
07/24/2007 17:06:59	BOSADWPF	KBOS	KADW	KBOS LUCOS SEY067 SEY HTO J174 ATR085 ATR V308 OTT KADW	N	LUCOS	ZBW	ZDC ZB
07/24/2007 17:06:59	BOSADWPM	KBOS	KADW	KBOS NELIE CMK J75 MKE V378 BAL KADW	N	NELIE	ZBW	ZDC ZB
07/24/2007 17:06:59	BOSADWPP	KBOS	KADW	KBOS LUCOS SEY067 SEY HTO V308 OTT KADW	N	LUCOS	ZBW	ZDC ZB
07/24/2007 17:06:59	BOSAGSPJ	KBOS	KAGS	KBOS NELIE CMK J75 GVE J37 SPA KAGS	N	NELIE	ZBW	ZTL ZB
07/24/2007 17:06:59	BOSAKRFJ	KBOS	KAKR	KBOS GLYDE CTR HNK J49 PSB PSB292 YNG V542 ACO KAKR	N	GLYDE	ZBW	ZOB ZB
07/24/2007 17:06:59	BOSAPFDW	KBOS	KAPF	KBOS LUCOS SEY067 SEY HTO J174 GEDIC A300 BERGH AZEZO R511 PA...	N	LUCOS	ZBW	ZMA ZB
07/24/2007 17:06:59	BOSAPFT7	KBOS	KAPF	KBOS NELIE CMK J75 GVE J75 KRNEI PIE ZEILR1 KAPF	N	NELIE	ZBW	ZMA ZB
07/24/2007 17:06:59	BOSAPFT7	KBOS	KAPF	KBOS LUCOS SEY067 SEY HTO J174 SWL KEMPR ILM AR15 HIBAC KAPF	N	LUCOS	ZBW	ZMA ZB
07/24/2007 17:09:24	BOSATLA6	KBOS	KATL	KBOS GLYDE BAF J77 SAX J6 HVQ J145 ODF FLC0N1 KATL	N	GLYDE	ZBW	ZTL ZB
07/24/2007 17:06:59	BOSATLN4	KBOS	KATL	KBOS GLYDE CTR HNK J49 PSB J78 HVQ J145 ODF FLC0N1 KATL	N	GLYDE	ZBW	ZTL ZB
07/24/2007 17:06:59	BOSATLPJ	KBOS	KATL	KBOS GLYDE BAF J77 PTV J48 ODF FLC0N1 KATL	N	GLYDE	ZBW	ZTL ZB
07/24/2007 17:06:59	BOSATLT7	KBOS	KATL	KBOS LUCOS SEY067 SEY HTO J174 ORF J121 J4 IRQ CANUK4 KATL	N	LUCOS	ZBW	ZTL ZB
07/24/2007 17:06:59	BOSATLY2	KBOS	KATL	KBOS MHT CAM J547 SYR J29 DJB J83 APE J186 ODF FLC0N1 KATL	N	MHT	ZBW	ZTL ZB
07/24/2007 17:07:01	BOSATLY6	KBOS	KATL	KBOS MHT CAM J547 SYR J59 PSB J78 HVQ J145 ODF FLC0N1 KATL	N	MHT	ZBW	ZTL ZB
07/24/2007 17:07:01	BOSAUSPJ	KBOS	KAUS	KBOS GLYDE BAF J77 SAX J6 LIT J131 TXK ACT BLEWE1 KAUS	N	GLYDE	ZBW	ZHU ZB
07/24/2007 17:07:01	BOSBCTDW	KBOS	KBCT	KBOS LUCOS SEY067 SEY HTO J174 GEDIC A300 BERGH AZEZO R511 PA...	N	LUCOS	ZBW	ZMA ZB
07/24/2007 17:07:01	BOSBCTM7	KBOS	KBCT	KBOS NELIE CMK J75 TAY J85 GNV SHDAY1 KBCT	N	NELIE	ZBW	ZMA ZB
07/24/2007 17:07:01	BOSBCTPJ	KBOS	KBCT	KBOS LUCOS SEY067 SEY HTO J174 SWL CEBEE WETRO DIW AR19 AYBI...	N	LUCOS	ZBW	ZMA ZB
07/24/2007 17:07:01	BOSBCTPL	KBOS	KBCT	KBOS LUCOS SEY067 SEY HTO J174 CHS J79 OMN CAYSL2 KBCT	N	LUCOS	ZBW	ZMA ZB

939 records Select All Deselect All

Figure 36: Search Using the "Or" Logic in the Origin/Dep Center Field

For example, in Figure 36, the user searched for routes that originated from PHL *or* BOS airports. Note that you can leave out the space between the pipe and the airport codes (PHL|BOS). The search results include only those routes that originated at PHL or BOS.

Use "And" to Combine Multiple Parameters

The "and" logic is primarily used in the route string field. Route strings are made up of the actual route elements, including nav aids, jet routes, and fixes. To search for routes that include all the multiple, different elements you specify, use RMT's "and" logic. RMT recognizes the ampersand (&) as "and" in a search.

CDR EFFECTIVE 0901Z 05 Jul 2007 **CDR**
TO 0901Z 30 Aug 2007

Query Fields: CDR Operational

Route Code	Origin/Dep Center	Dest/Arr Center	Traversed Centers	Departure Fix	Mod Date/Time
	PETTY				

Database: CDR Operational CDR Staging

Buttons: Query, Clear, Cancel, Send To Map

Query Results: CDR Operational

ModTime	RCode	Orig	Dest	Route String	CoordReq	DepFix	DCNTR	ACNTR
07/05/2007 10:02:23	ARRTEBC1	KARR	KTEB	KARR PETTY TVC ASP V005 PENDO SIB0 TULEG HNK V167 WEARD V489	N	PETTY	ZAU	ZNY CZ
07/05/2007 10:02:22	ARRTEBC2	KARR	KTEB	KARR PETTY TVC ASP V005 YZ GOPEV TULEG HNK V167 WEARD V489 C	N	PETTY	ZAU	ZNY CZ
07/05/2007 10:02:22	ARRTEBC3	KARR	KTEB	KARR PETTY TVC ASP V005 YZ ROC HNK V167 WEARD V489 COATE KTEB	N	PETTY	ZAU	ZNY CZ
07/05/2007 10:02:22	ARRTEBC5	KARR	KTEB	KARR PETTY GRB SAW SSM YCF TULEG HNK V167 WEARD V489 COATE K	N	PETTY	ZAU	ZNY CZ
07/05/2007 10:02:21	ARRTEBC6	KARR	KTEB	KARR PETTY GRB SAW SSM BURWA TULEG HNK V167 WEARD V489 COAT	N	PETTY	ZAU	ZNY CZ
07/05/2007 10:02:21	ARRTEBC7	KARR	KTEB	KARR PETTY GRB SAW SSM YIB POLTY MSB M53129 BUOSY J570 ALB V4...	N	PETTY	ZAU	ZNY CZ
07/05/2007 09:57:32	CVGGRRB2	KCVG	KORR	KCVG BLORS8 IJU TTH CMI PNT JOT OBK PETTY KQRR	Y	IJU	ZID	ZAU ZH
07/05/2007 09:57:12	CVGMKEFF	KCVG	KMKE	KCVG RIKLE FWA PMM V170 PETTY KMKE	Y	RIKLE	ZID	ZAU ZH
07/05/2007 09:57:12	CVGMKEJA	KCVG	KMKE	KCVG RHOMM1 JODUB APE FDY PMM V170 PETTY KMKE	Y	JODUB	ZID	ZAU ZH
07/05/2007 09:57:12	CVGMKEPR	KCVG	KMKE	KCVG MIE FWA PMM V170 PETTY KMKE	Y	MIE	ZID	ZAU ZH
07/05/2007 09:57:12	CVGMKEEF	KCVG	KMKE	KCVG ROCKT2 ROCKT FDY PMM V170 PETTY KMKE	Y	ROCKT	ZID	ZAU ZH
07/05/2007 09:57:11	CVGMENB	KCVG	KMKE	KCVG WHTNR5 BVT COT COT087 V170 PETTY KMKE	Y	BVT	ZID	ZAU ZH
07/05/2007 09:51:08	DPATEBC1	KDPA	KTEB	KDPA PETTY TVC ASP V005 PENDO SIB0 TULEG HNK V167 WEARD V489	N	PETTY	ZAU	ZNY CZ
07/05/2007 09:51:08	DPATEBC2	KDPA	KTEB	KDPA PETTY TVC ASP V005 YZ GOPEV TULEG HNK V167 WEARD V489 C	N	PETTY	ZAU	ZNY CZ
07/05/2007 09:51:08	DPATEBC3	KDPA	KTEB	KDPA PETTY TVC ASP V005 YZ ROC HNK V167 WEARD V489 COATE KTEB	N	PETTY	ZAU	ZNY CZ
07/05/2007 09:51:07	DPATEBC5	KDPA	KTEB	KDPA PETTY GRB SAW SSM YCF TULEG HNK V167 WEARD V489 COATE K	N	PETTY	ZAU	ZNY CZ
07/05/2007 09:51:07	DPATEBC6	KDPA	KTEB	KDPA PETTY GRB SAW SSM BURWA TULEG HNK V167 WEARD V489 COAT	N	PETTY	ZAU	ZNY CZ
07/05/2007 09:51:07	DPATEBC7	KDPA	KTEB	KDPA PETTY GRB SAW SSM YIB POLTY MSB M53129 BUOSY J570 ALB V4...	N	PETTY	ZAU	ZNY CZ
07/05/2007 09:45:10	INDMKEPR	KIND	KMKE	KIND BVT COT COT087 V170 PETTY KMKE	Y	BVT	ZID	ZAU ZH
07/05/2007 09:39:57	MDWADW2N	KMDW	KADW	KMDW PETTY TVC ASP J522 EXTOL J59 PSB J61 EM BAL KADW	N	PETTY	ZAU	ZDC CZ
07/05/2007 09:39:57	MDWALB1N	KMDW	KALB	KMDW PETTY MKG ECK J16 KALB	Y	PETTY	ZAU	ZBW CZ

421 records Select All Deselect All

Figure 37: A Search with "PETTY" in the Route String

In Figure 37 above, the user conducted a search for routes with only the fix PETTY entered in the route string. Note that a variety of routes with different origins and destinations contain PETTY in the route string.

ModTime	RCode	Orig	Dest	Route String	CoordReq	DepFix	DCNTR	ACNTR
07/05/2007 09:38:57	MDWALB1N	KMDW	KALB	KMDW PETTY MKG ECK J16 KALB	Y	PETTY	ZAU	ZBW CZ
07/05/2007 09:38:49	MDWRDL1N	KMDW	KBDL	KMDW PETTY MKG ECK J16 BUF AUDIL SWED1 KBDL	Y	PETTY	ZAU	ZBW CZ
07/05/2007 09:38:43	MDWBO51N	KMDW	KBOS	KMDW PETTY MKG ECK J16 ALB GDMJ KBOS	Y	PETTY	ZAU	ZBW CZ
07/05/2007 09:38:30	MDWBUF1N	KMDW	KBUF	KMDW PETTY MKG ECK J16 KBUF	Y	PETTY	ZAU	ZOB CZ
07/05/2007 09:38:37	MDWRW3N	KMDW	KBWI	KMDW PETTY MKG SVM DUB J162 AIR AIR111 HEMAN EM65 KBWI	Y	PETTY	ZAU	ZDC ZAI
07/05/2007 09:38:36	MDWCLEEN	KMDW	KCLE	KMDW PETTY MKG FNT SVM HMEZ1 KCLE	Y	PETTY	ZAU	ZOB ZAI
07/05/2007 09:38:33	MDWCVC4N	KMDW	KCVG	KMDW PETTY MKG SVM DUB APE CINC66 KCVG	Y	PETTY	ZAU	ZID ZAI
07/05/2007 09:38:32	MDWDCA1N	KMDW	KDCA	KMDW PETTY MKG ECK J16 BUF BFD PSB P8149 SHILO V93 BAL KDCA	Y	PETTY	ZAU	ZDC CZ
07/05/2007 09:38:31	MDWDCA4N	KMDW	KDCA	KMDW PETTY MKG SVM DUB J34 BUCKO BUCKO7 KDCA	Y	PETTY	ZAU	ZDC CZ
07/05/2007 09:38:25	MDWHEH1N	KMDW	KEWR	KMDW PETTY MKG ECK J16 HANRQ J522 HNK SHAF75 KEWR	Y	PETTY	ZAU	ZNY CZ
07/05/2007 09:38:24	MDWENWR1N	KMDW	KEWR	KMDW PETTY MKG ECK J16 HANRQ J522 HNK SHAF75 KEWR	N	PETTY	ZAU	ZNY CZ
07/05/2007 09:38:15	MDWHPN1N	KMDW	KHPN	KMDW PETTY MKG ECK J16 BUF ITH DNY VALRE2 KHPN	Y	PETTY	ZAU	ZNY CZ
07/05/2007 09:38:10	MDWAD1N	KMDW	KJAD	KMDW PETTY MKG ECK J16 BUF J61 P8B P8B1 KJAD	Y	PETTY	ZAU	ZDC CZ
07/05/2007 09:38:07	MDWSP2N	KMDW	KISP	KMDW PETTY MKG ECK JHW J82 ALB PONEE2 KISP	Y	PETTY	ZAU	ZNY CZ
07/05/2007 09:38:01	MDWJFK2N	KMDW	KJFK	KMDW PETTY MKG ECK J16 HANRQ J522 HNK ION IONB KJFK	Y	PETTY	ZAU	ZNY CZ
07/05/2007 09:37:55	MDWHLQ4N	KMDW	KLGA	KMDW PETTY MKG ECK J16 BUF OEE RW42 KLGA	Y	PETTY	ZAU	ZNY CZ
07/05/2007 09:37:46	MDWMT1N	KMDW	KMHT	KMDW PETTY MKG ECK J16 ALB KMHT	Y	PETTY	ZAU	ZBW CZ
07/05/2007 09:37:27	MDWPHL3N	KMDW	KPHL	KMDW PETTY MKG ECK CXR EWC JGT BUNTS1 KPHL	Y	PETTY	ZAU	ZNY CZ
07/05/2007 09:37:20	MDWPIT1N	KMDW	KPIT	KMDW PETTY MKG FNT CXR ACO CUTTA2 KPIT	Y	PETTY	ZAU	ZOB ZAI
07/05/2007 09:37:19	MDWPVD1N	KMDW	KPVD	KMDW PETTY MKG ECK J16 HANRQ J522 HNK TEDDY3 KPVD	Y	PETTY	ZAU	ZBW CZ
07/05/2007 09:36:52	MDWTEB1N	KMDW	KTEB	KMDW PETTY MKG ECK J16 HANRQ J522 HNK V167 WEARD COATE KTEB	Y	PETTY	ZAU	ZNY CZ

Figure 38: A Search with "PETTY & MKG" in the Route String

In Figure 38 above, the user searched for routes with PETTY and MKG to create a more specific search using the route string field. Note that this has narrowed the query results.

ModTime	RCode	Orig	Dest	Route String	CoordReq	DepFix	DCNTR	ACNTR
07/05/2007 09:57:12	CVGMKEFF	KCVG	KMKE	KCVG RIVLE FYA PMM V170 PETTY KMKE	Y	RIVLE	ZAU	ZAU Z
07/05/2007 09:57:12	CVGMKEJA	KCVG	KMKE	KCVG RHOMM1 JODUB APE FDV PMM V170 PETTY KMKE	Y	JODUB	ZAU	ZAU Z
07/05/2007 09:57:12	CVGMKEPR	KCVG	KMKE	KCVG MIE FYA PMM V170 PETTY KMKE	Y	MIE	ZID	ZAU Z
07/05/2007 09:57:12	CVGMKERF	KCVG	KMKE	KCVG ROCKT2 ROCKT FDV PMM V170 PETTY KMKE	Y	ROCKT	ZID	ZAU Z
07/05/2007 09:57:11	CVGMKEWB	KCVG	KMKE	KCVG WHWTR5 BVT COT COT007 V170 PETTY KMKE	Y	BVT	ZID	ZAU Z

Figure 39: Search Using "PETTY & MKE & CVG" in the Route String

In Figure 39 above, the user searched for route records with PETTY, MKE and CVG in the route string. This search is very specific.

You cannot use the "and" logic in all query fields. If you use "and" in a query field that does not utilize that logic, RMT will warn you that you have made an invalid entry. Click **OK** to close the warning window and return to the RMT Tool in which you were working. Remove the "&" from

the field to continue your search. Most likely you have used "and" logic when you want to use "or" logic.

For example, in Figure 40, the user wanted to search for CDRs arriving at BOS or PHL and used the "&" to indicate "and." Note the warning that RMT gives. You cannot find route records that have a destination of BOS *and* PHL because a route can only have one destination. In this case, the user would want to search for routes with a destination of BOS *or* PHL. The user would need to enter "BOS|PHL" to get the desired search results.

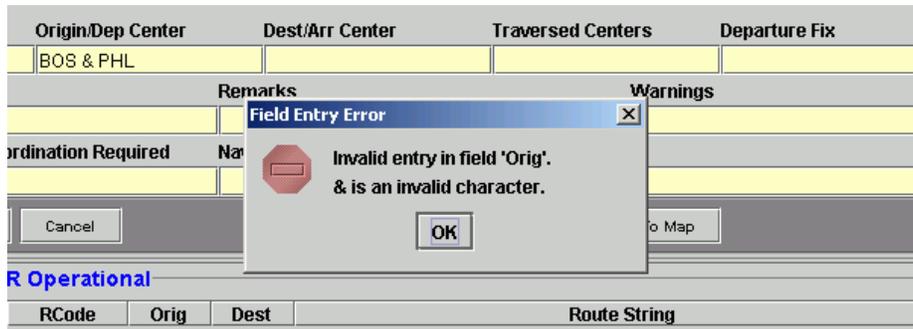


Figure 40: Warning When Using "&" Instead of "|"

Use "Not" to Exclude Routes

Use RMT's "not" logic to exclude routes that include particular parameters. RMT recognizes the exclamation mark (!) as the symbol for "not." For example, you might want to search for routes out of a particular airport and know that you cannot use a particular fix out of the airport. In this case, you would want to search for all routes out of the airport that do not use that particular fix. You can use the "not" logic multiple times in one search to narrow your search even further. Just type in the parameters you want excluded from resulting routes, using an exclamation mark in between each element code.

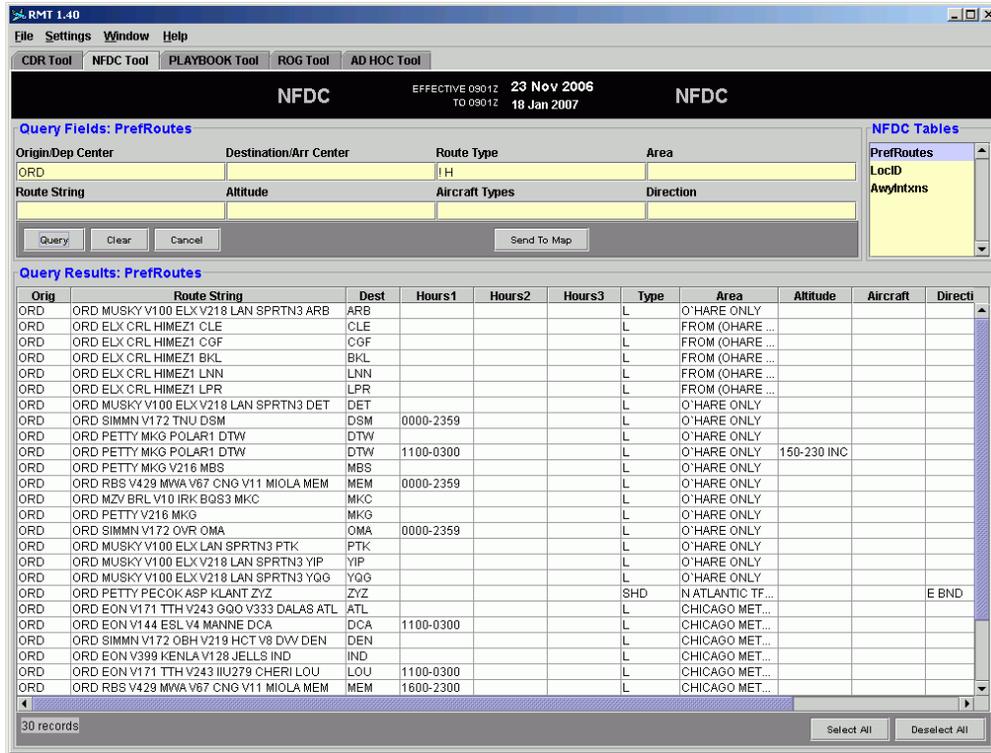


Figure 41: Search Using the "Not" Logic in the Route Type Field

In Figure 41, the user searched the NFDC Tool for all Preferred Routes that originate from ORD and are not high altitude routes (route type = H).

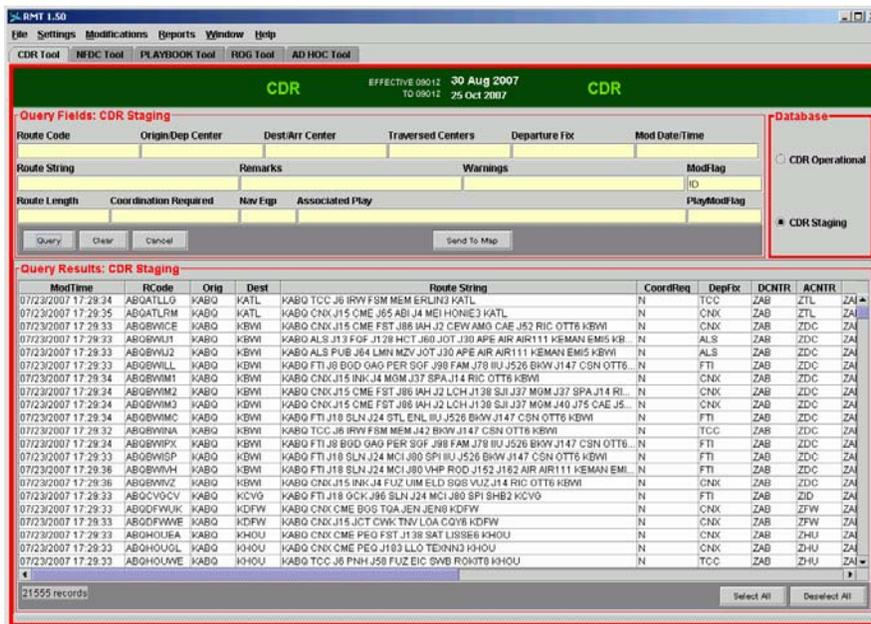


Figure 42: Search for Routes in Staging Database to be Copied to Operational

To search for routes in the staging database that will be copied to the operational database, you could perform a search using "!ID" in the ModFlag field. This would exclude routes that are marked for deletion and will not show up in the operational database in the next cycle.

Create an Alias for a Group of Airports or Route Elements

A metropolitan area is often served by more than one airport. To enable you to search for routes for all airports in a metropolitan area, RMT utilizes airport aliases, which serve as a shortcut to having to type in several airports in a search field. For example, airports that serve the New York City metropolitan area are all included in the alias "NYMetro." Currently, the "NYMetro" alias includes LGA, JFK, and EWR. The "WAS" alias includes IAD, DCA, and BWI. The "CHI" alias includes ORD and MDW.

You can still use "or" and "not" logic in conjunction with the aliases. For example, if you want to find flights departing from DCMetro airports with the exception of BWI, enter "DCMetro !BWI" in the Origin/Dep Center field. The example in Figure 43 illustrates the airport alias logic in the Origin/Dep Center field and the "OR" logic in the Dest/Arr Center field. The user is looking for routes that originate from any airport in the NY Metropolitan area and arrive at either BOS or PHL airports.

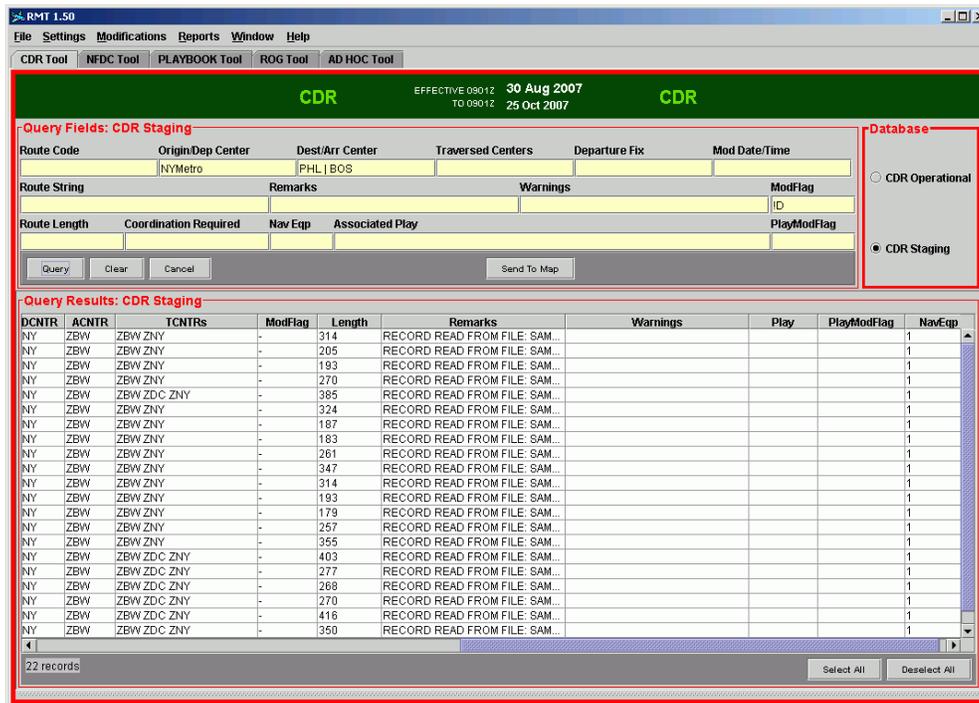


Figure 43: Example Using NYMetro in the Origin Field

Note that you may create your own set of aliases by editing the `rmt_user_aliases.ini` file in your home directory. This file is shown in the Appendix. For example, an airline user may routinely search for the subset of CDRs from their origin/destination city pairs. You can also define an alias for multiple route elements that you search for often, e.g., `GWELEMENTS: TNV LOA`. You could use the alias in the route string field in the CDR, NFDC, Playbook or AD HOC Tools to list routes containing 'TNV LOA'.

Run the Search

Once you enter your search criteria, press **Enter** on your keyboard or click the **Query** button on the appropriate RMT Tool to perform the search. The Tool will search its database for those routes that match your parameters. Once the search is completed, you will see the results in the Query Results table of the Tool.

Clear Your Search

To clear your search parameters and any query results, click the **Clear** button. This should clear any information and allow you to start a new search. You can use the Clear button before you run a search to clear all query fields. This is useful when you decide not to run a search or decide you need entirely new search parameters. However, only use the Clear button if you want to erase information in *all* your query fields. The Clear button does not work to clear individual query fields.

Cancel Your Search

If a search is taking a long time to run, you may cancel the search at any time. Click the **Cancel** button to interrupt the search and start a new search.

View Search Results

The Query Results Table

Once your search is complete, any records that match the search criteria will appear in the *Query Results* section of the RMT Tool in which you are working. The Query Results section is a table listing the records. Each record is listed on its own row, with several columns to separate specific information.

Generally, the columns that appear in the Query Results table directly correspond with the Query Fields. You can choose to show or hide specific columns, as well as change their size and the order in which they are displayed. To read about these customization options, see page 45.

Query Results in the CDR Tool

-Query Results: CDR Staging										
ModTime	RCode	Orig	Dest	Route String	CoordReq	DepFix	DCNTR	ACNTR	TCNTR	
07/26/2007 16:43:06	BDRBW175	KBDR	KBWI	KBDR BIGGY J75 MXE V378 BAL KBWI	N	BIGGY	ZNY	ZDC	ZBW	ZDC ZNY
07/26/2007 16:43:06	BDRBW1PH	KBDR	KBWI	KBDR BEADS V139 SARDI RBV J230 COPES J75 MXE V378 BAL KBWI	Y	BEADS	ZNY	ZDC	ZBW	ZDC ZNY
07/26/2007 16:43:06	BDRBW1PL	KBDR	KBWI	KBDR BEADS V139 AVALO V268 BAL KBWI	Y	BEADS	ZNY	ZDC	ZBW	ZDC ZNY
07/26/2007 16:43:06	BDRDCAPJ	KBDR	KDCA	KBDR BEADS EMJAY J174 ZIZI ATR V308 LAFLN BILIT1 KDCA	Y	BEADS	ZNY	ZDC	ZBW	ZDC ZNY
07/26/2007 16:43:06	BDRDCAPP	KBDR	KDCA	KBDR BEADS V308 LAFLN BILIT1 KDCA	Y	BEADS	ZNY	ZDC	ZBW	ZDC ZNY
07/26/2007 16:43:05	BDRPHLPJ	KBDR	KPHL	KBDR BEADS V139 BRIGS V577 VCN VCN8 KPHL	Y	BEADS	ZNY	ZNY	ZBW	ZDC ZNY
07/26/2007 16:43:05	BDRPHLPP	KBDR	KPHL	KBDR BEADS V139 DRIFT V312 OOD KPHL	Y	BEADS	ZNY	ZNY	ZBW	ZDC ZNY
07/26/2007 16:38:10	EWRABQ76	KEWR	KABQ	KEWR DIXIE V276 PREPI OWENZ LINND AZEZU R511 PAEPR A761 BAHAA...	Y	DIXIE	ZNY	ZAB	ZAB	ZBW ZDC ZNY
07/26/2007 16:38:09	EWRABQPH	KEWR	KABQ	KEWR PARKE J6 LIT ABI CME MIERA2 KABQ	Y	PARKE	ZNY	ZAB	ZAB	ZDC ZFW ZNY
07/26/2007 16:38:14	EWRACKPL	KEWR	KACK	KEWR BREZY CMK BAYYS SEALL V188 GON V374 ORW130 DEEPO V46 KA...	Y	BREZY	ZNY	ZBW	ZBW	ZNY
07/26/2007 16:38:14	EWRACKPR	KEWR	KACK	KEWR BAYYS SEALL V188 GON V374 ORW130 DEEPO V46 KACK	Y	BAYYS	ZNY	ZBW	ZBW	ZNY
07/26/2007 16:38:33	EWRAGC36	KEWR	KAGC	KEWR COATE J36 REBBL J190 SLT REC MKP KAGC	N	COATE	ZNY	ZOB	ZNY	ZOB
07/26/2007 16:38:41	EWRAGC60	KEWR	KAGC	KEWR ELIOT J60 PSB TON REC MKP KAGC	N	ELIOT	ZNY	ZOB	ZNY	ZOB
07/26/2007 16:38:33	EWRAGCCA	KEWR	KAGC	KEWR GREKI V419 JUDDS CAM J547 SYR BFD CIP MKP KAGC	N	GREKI	ZNY	ZOB	ZBW	ZNY ZOB
07/26/2007 16:38:33	EWRAGCJ6	KEWR	KAGC	KEWR PARKE J6 HVQ JPU V117 WISKE KAGC	N	PARKE	ZNY	ZOB	ZDC	ZID ZNY ZOB
07/26/2007 16:38:33	EWRAGCNE	KEWR	KAGC	KEWR NEION J223 CORDS J132 J190 SLT REC MKP KAGC	N	NEION	ZNY	ZOB	ZNY	ZOB
07/26/2007 16:38:33	EWRAGCPH	KEWR	KAGC	KEWR ELIOT J80 VINSE NESTO2 KAGC	Y	ELIOT	ZNY	ZOB	ZNY	ZOB
07/26/2007 16:38:41	EWRALBPJ	KEWR	KALB	KEWR BDR V487 CANAN V130 KALB	Y	BDR	ZNY	ZBW	ZBW	ZNY
07/26/2007 16:38:41	EWRALBPL	KEWR	KALB	KEWR BREZY V39 SOARS V487 CANAN V130 KALB	Y	BREZY	ZNY	ZBW	ZBW	ZNY
07/26/2007 16:38:41	EWRALBPT	KEWR	KALB	KEWR HAAYS V273 V449 DNY V449 KALB	Y	HAAYS	ZNY	ZBW	ZBW	ZNY
07/26/2007 16:38:14	EWRATL60	KEWR	KATL	KEWR ELIOT J60 DJB J83 APE J186 SOT FLC0N1 KATL	N	ELIOT	ZNY	ZTL	ZID	ZNY ZOB ZTL
07/26/2007 16:38:15	EWRATL75	KEWR	KATL	KEWR BIGGY J75 GVE MOL J48 ODF FLC0N1 KATL	N	BIGGY	ZNY	ZTL	ZDC	ZNY ZTL

Figure 44: Query Results in the CDR Tool

You can view the following information columns in the CDR Tool Query Results table:

- **ModTime** - The date and time the route record was created or modified.
- **RCode** - The route code for the coded departure route. The route code is an 8-character route designator that consists of the 3-character origin airport, 3-character destination airport, and 2-character facility designation code.
- **Orig** - The origin airport of the coded departure route.
- **Dest** - The destination airport of the coded departure route.
- **Route String** - The route elements (airports, nav aids, fixes, jet routes) that make up the coded departure route.
- **CoordReq** – The “Coordination Required Flag” indicating whether the CDR requires coordination when filed, values are Y for Yes - coordination is required or N for No - coordination is not required.
- **DepFix** - The departure fix.
- **DCNTR** - The departure center of the origin airport.
- **ACNTR** - The arrival center of the destination airport.
- **TCNTRs** - Any centers through which the CDR traverses. Note that centers are listed alphabetically, not geographically along the route.

- **ModFlag** - A flag used to indicate any changes made to the route record since the last chart date. 'M' indicates a modified route. 'N' indicates a new route. 'D' indicates a deleted route. '-' indicates an unchanged route.
- **Length** – The length of the CDR in nautical miles.
- **Remarks** - Any remarks associated with the route record.
- **Warnings** – Any warnings associated with the route record.
- **Play** – An "Associated Play" name from the Playbook table.
- **PlayModFlag** – The "Associated Play's" modification flag from the Playbook table (M, N, D, -).
- **NavEqp** – The navigation equipment designator, values include 1- basic navigational routes, 2 – routes which begin and/or end with RNAV DPs and STARs, 3 - routes which contain Q-route segments and/or pitch and catch points.
- **ModInit** - This field is specifically for FAA users. The FAA-assigned initials of the person who modified the route record.
- **ModUser** - This field is specifically for FAA users. The user type of the person who modified the route record.

Query Results in the Playbook Tool

You can view the following information columns in the High-Level Playbook Query Results table:

- **ModTime** - The date and time the Playbook record was created or modified.
- **Play Name** - The Playbook Play name.
- **Category** – The Playbook Category name, e.g. Airports, East to West Transcon Routes, South to Northeast Routes.
- **Impacted Area or Flow** – The impacted area or flow for this Play.
- **Facilities Included** – The facilities included or traversed by this Play.
- **Instructions** – Any special instructions associated with this Play.
- **Remarks** – Any remarks associated with this Play.
- **SPECIAL NOTE** – Any special notes associated with this Play.
- **Last Update** – The effective chart date for the last update to this Play.
- **ModFlag** - A flag used to indicate any changes made to the Play record since the last chart date. 'M' indicates a modified Play. 'N' indicates a new Play. 'D' indicates a deleted Play. '-' indicates an unchanged Play.
- **ModDescription** – Any changes that have been made to this Play since the last chart date are listed in this field, e.g. new segments added, global name changes. The Playbook administrator may also add comments further explaining any changes. This field is used to create the Playbook 'Changes for Next Cycle' Report.

Additional segment-level information for each Playbook Play can be viewed by selecting a Play in the Query Results table and double-clicking or by pressing the **View Play** button. The general Play information, Impacted Area indicator (an IA indicating there is an Impacted Area appears to the immediate right of the Impacted Area or Flow field), plus the following detailed information is available on the **View Play** window.

For Non-split Plays, there is a section for origin segments called *Play Routing* at the bottom of the View Play window that includes the following information columns.

- **Orig** – The origin (ARTCC or airport) of the Play segment.
- **Filters** – Any filters associated with the Play segment.
- **Route** – The origin segment route string.
- **Dest** – The destination airport of the Play segment.
- **Remarks** – Any remarks associated with this Play segment.
- **Start** – The starting point for any different colored Play segments.
- **Color** – The assigned color for the Play segment. Note that the default color is brick red.

For Split Plays, there is an additional *Route to Destination* Section at the bottom of the View Play window that contains similar information for the destination segments.

To view or print the detailed segment-level Playbook Play information, press the **Send to Map** or **Print** button on the **View Play** or **View Play History** window. Please note that one Play at a time can be printed in this manner.

Query Results in the NFDC Tool

Three reference tables are currently provided in the NFDC Tool. The information columns found in the Query Results table for each are provided in the following paragraphs.

Query Results for Preferred Routes

When you perform a search using the NFDC Tool's PrefRoutes table, you can view the following columns:

- **Origin** - The origin airport of the preferred route.
- **Route String** - The route elements (airports, nav aids, fixes, jet routes) that make up the preferred route. Note that the current DP and STAR numbers are now being shown in the Route String field.
- **Destination** - The destination airport of the preferred route.
- **Hours 1** - The effective times (GMT) for the route. Effective times are those hours during which the route can be flown.
- **Hours 2** - The effective times (GMT) for the route. Effective times are those hours during which the route can be flown.
- **Hours 3** - The effective times (GMT) for the route. Effective times are those hours during which the route can be flown.
- **Type** - Specifies the route type. Route types are: **L** - low altitude; **H** - high altitude; **LSD** - low altitude single direction; **HSD** - high altitude single direction; **SLD** - special low altitude directional; **SHD** - special high altitude directional; **TEC** - tower en route control.
- **Area** - The preferred route area description.
- **Altitude** - The preferred route altitude description.
- **Aircraft** - The aircraft types that can use this route are listed in this column.
- **Direction** - The route direction limitations description.
- **Seq** - Route identifier sequence number. This is the number of preferred routes between a city pair.
- **DCNTR** - The departure center for the preferred route.
- **ACNTR** - The arrival center for the preferred route.

Query Results for Location IDs

When you perform a search using the NFDC Tool's LocID table, you can view the following columns:

- **LocID** - The 3-character location identifier code. The location identifier can represent more than one facility.
- **Facility Name & Type** - The facility name and type. For example, facilities can be airports, navaids, or ILS.
- **Location** - The city and state location of the facility.
- **FLTWO** - Indicates whether the facility is a flight watch station indicator. Y indicates "yes." A blank column indicates "no."
- **Tie-in Facility** - The 3-character code for the tie-in flight service station associated with the location identifier.
- **Center** - The 3-character code for the controlling center of the location identifier.

Query Results for Airway Intersections

You can view the following information columns in the AwyIntxns table:

- **Airways** - The airways that intersect at the numbered fix.
- **Center** - The controlling center of the fix.
- **Latitude** - The latitude at which the airway intersection occurs.
- **Longitude** - The longitude at which the airway intersection occurs.
- **Fix Name** - The unnamed, numbered fix at which the airway intersection occurs.

Query Results for Fixes

When you perform a search using the NFDC Tool's Fixes table, you can view the following columns:

- **Fix Name** – Fix identifier.
- **State** - Name of the state where the fix is located.
- **Latitude** - Geographical latitude of the fix.
- **Longitude** - Geographical longitude of the fix.
- **Category** – Military (mil) or civil fix (fix).
- **Center** - The 3-character code of the fix's controlling center.
- **Fix Use** – Fix use, e.g., ARTCC-BDRY, AWY-INTXN, COORDN-FIX, MIL-REP-PT, MIL-WAYPOINT, REP-PT, TURN-PT, or WAYPOINT.
- **Pitch** - Pitch flag (Y or N).
- **Catch** - Catch flag (Y or N).
- **SUA** - SUA/ATCAA flag (Y or N).
- **Extended Name** – Fix name.

Query Results for Airways

When you perform a search using the NFDC Tool's Airways table, you can view the following columns:

- **Airway** - Airway identifier.
- **Latitude** - Navaid or fix latitude.
- **Longitude** - Navaid or fix longitude.

- **Min Alt** - Point to point minimum en route altitude.
- **Fix Name** - Navaid facility or fix name.
- **Type** – Airway type, A-Alaska, H-Hawaii, or blank.
- **RNAV** – RNAV indicator, R or blank.
- **Seq** - Sequence number.

Query Results for Navaids

When you perform a search using the NFDC Tool's Navaids table, you can view the following columns:

- **Navaid Name** - Name of the navaid.
- **Latitude** - Geographical latitude of the navaid.
- **Longitude** - Geographical longitude of the navaid.
- **Type** - Navaid facility type.
- **Center** - Name of the navaid's controlling center.
- **Class** - Alt code (H,L,T) and/or combination of class codes.
- **Pitch** - Pitch flag (Y or N).
- **Catch** - Catch flag (Y or N).
- **SUA** - SUA/ATCAA flag (Y or N).

Query Results for Airports

When you perform a search using the NFDC Tool's Airports table, you can view the following columns:

- **Airport** - Airport identifier.
- **Facility Name** - Official facility name.
- **Latitude** - Airport reference point latitude.
- **Longitude** - Airport reference point longitude.
- **Elevation** - Airport elevation (nearest foot MSL).
- **City** - City where the airport is located.
- **State** - State where the airport is located.
- **Center** - Responsible ARTCC identifier.

Query Results for Departure Procedures

When you perform a search using the NFDC Tool's DPs table, you can view the following columns:

- **DP** - Departure Procedure name.
- **Transition** - Number of transitions (assigned by RMT).
- **Transition Name** – FAA-assigned computer identifier assigned to the DP/transition displayed.
- **Latitude** - Fix/Navaid/Airport Latitude.
- **Longitude** - Fix/Navaid/Airport Longitude.
- **Type** - Fix/Facility type code.
- **Fix Name** - DP point description or fix name.
- **Extended Name** - Name assigned to the DP/transition displayed.
- **Seq** - Sequence number.

Query Results for Standard Terminal Arrival Routes

When you perform a search using the NFDC Tool's STARs table, you can view the following columns:

- **STAR** - STAR name.
- **Transition** - Number of transitions (assigned by RMT).
- **Transition Name** - FAA-assigned computer identifier assigned to the STAR/transition displayed.
- **Latitude** - Fix/Navaid/Airport Latitude.
- **Longitude** - Fix/Navaid/Airport Longitude.
- **Type** - Fix/Facility type code.
- **Fix Name** - Fix/Navaid/Airport identifier
- **Extended Name** - Name assigned to the STAR/transition displayed.
- **Seq** - Sequence number.

Query Results in the Ad Hoc Reroutes Tool

You can view the following information columns in the Ad Hoc Tool Query Results table:

- **ModTime** - The date and time the ad hoc reroute record was created or modified.
- **Name** - The ad hoc reroute name. The name is unique and assigned by the creator of the route (30 characters maximum, spaces are not allowed).
- **Orig** - The origin airport of the ad hoc reroute.
- **Dest** - The destination airport of the ad hoc reroute.
- **Route String** - The route elements (airports, nav aids, fixes, jet routes) that make up the ad hoc reroute.
- **DepFix** - The departure fix.
- **DCNTR** - The departure center of the origin airport.
- **ACNTR** - The arrival center of the destination airport.
- **TCNTRS** - Any centers through which the ad hoc reroute traverses. Note that centers are listed alphabetically, not geographically along the route.
- **Length** - The length of the ad hoc reroute in nautical miles.
- **Remarks** - Any remarks associated with the ad hoc reroute record.
- **Warnings** - Any warnings associated with the ad hoc reroute record.
- **ModInit** - The initials of the person who modified the ad hoc reroute record.
- **ModUser** - The user type of the person who modified the ad hoc reroute record.
- **Ad Hoc Group** - The Ad Hoc Group of the person who modified the ad hoc reroute record (RMT administrators only).
- **Ad Hoc ID** - The unique Ad Hoc ID number assigned by RMT.

Customize the Query Results Table

You can customize the Query Results table in any RMT Tool to suit your needs. That is, you can choose which columns to display, column size and order, and how route records are sorted.

Sort Records

Double-click any column header to sort records in ascending order according to the column selected. To view a descending sort of the same field, simply double-click on the column header again.

You can sort according to three different columns simultaneously in this manner. To sort records according to more than one column, sort from the least to most important column header. For example, if route destination is the column by which you want your routes primarily sorted, sort that column after you have sorted any other column.

Change Column Order

To rearrange column order, simply click and drag the column header you wish to move to the desired location. The moved column will drop in place and the other columns move accordingly when you release the mouse.

le	Or	Dest	
D1	KACI	KPH	KACK L
PJ	KACI	KPHL	KACK S
PJ	KALE	KPHL	KALB C
T2	KALE	KPHL	KALB E
9N	KATL	KBOS	KATL N
9S	KATL	KBOS	KATL S
PR	KATL	KBOS	KATL E
7S	KATL	KPHL	KATL S
3N	KATL	KPHL	KATL N
PR	KATL	KPHL	KATL E
D1	KBD	KPHL	KBDL C
PJ	KBD	KPHL	KBDL C
PJ	KBD	KPHL	KBDR I

Figure 45: Moving the Dest Column Left

Resize Columns

To resize a column in the Query Results table, place your cursor on the line between two columns. When the cursor becomes a double arrow, click and drag the border to the desired width.

Dest	Orig	
KPHL	KACK	k
KPHL	KACK	k
KPHL	KALB	k

Figure 46: Resizing Columns

Eliminate and Add Columns

To eliminate or add columns, select **Settings > Show/Hide Columns**. This brings up the **Show/Hide Columns** window, which lists all the columns that you can display in the selected table (Figure 47). Any column name with a checkmark in the box next to it will be displayed in the Query Results table. To eliminate a column, click the box next to the column name in the Show/Hide Columns window to remove the checkmark. Similarly, to add a column, click the box next to the column name in the Show/Hide Columns window to make a checkmark appear.

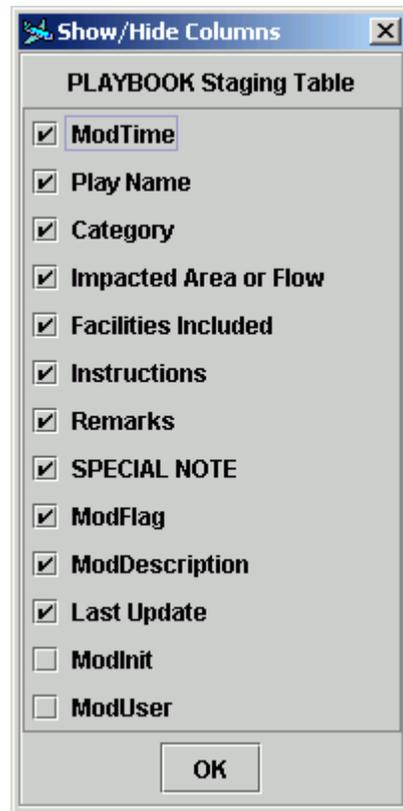


Figure 47: Playbook Show/Hide Columns Options

Save Query Results Settings

Once you customize the Query Results table of any RMT Tool, you probably want to save those display settings for your next RMT session. RMT allows you to manually save any modifications made to the Tool displays. Select **Settings > Save Settings**. This will save the display settings to your local configuration file so that the Tool will open in RMT exactly as you closed it.

Export Query Results

Query results can be exported to a number of formats. You can send query results to the map to view a graphic display of the results. You can export any records that appear in your query results table to a comma-delimited text file by either using the **Save** or **Copy to Clipboard** functions. You can also send your search results to a printer by using the **Print** function. Note that only the columns that appear in the Query Results table of an RMT Tool are saved, copied, or printed. When exported, the columns will appear in the same order as they are displayed in the Query Results table. Remember that you can customize the Query Results display so that the exported product appears as you want.

Selecting Records in the Query Results Table

To export records from the Query Results table of any RMT Tool, you must select the records you wish to export.

To select records, you can Ctrl-click on individual records, click and drag across a range of records, or click a single record and then shift-click another record to choose the entire range. If you make a mistake when selecting records, click the **Deselect All** button to clear your selections and start over. Likewise, if you decide during your selection process that you want to select all the records, click the **Select All** button in the Tool to highlight all the records. Note that by default, if you do not select any records, all records will be selected.

Any record(s) you select should be highlighted.

Send Query Results to the RMT Map

The RMT Map allows you to see graphical representations of coded departure routes, preferred routes, Playbook segments, ad hoc reroutes and NFDC reference information. Note that you cannot view location identifiers on the map. To view any records in the Query Results table of an RMT Tool on the RMT Map, you must first select the records to be displayed. Click the **Send to Map** button. Note that Playbook Play segments are sent to the map differently than CDRs. To see the records on the map, click the title bar of the RMT Map window or select **Window > RMT Map** to bring the map window forward. To learn more about the map display, see “The RMT Map” section on page 59.

Save Search Results

To save your search results as a text file, select the records you wish to save.

Any record(s) you select should be highlighted. Once you choose which records to save, select **File > Save to File**. Choose the file name and location for your text file. Because the file is simple, comma-delimited text, it is easy to export to another format, such as Microsoft Word or Excel. Note that if a comma appears in a text field, RMT converts the comma to a period when it is written to the file. This occurs in several fields in the NFDC reference tables, e.g. LocID table, “Facility Name & Type”, “City, State” fields.

Note that the top-level Playbook query results are saved in this manner. To save the detailed segment-level Playbook Play information, press the **Save** button on the **View Play, View Play History** or **Play Editor** windows.

Copy Search Results

To copy your search results and paste the results into another program select the records you wish to copy.

Any record(s) you select should be highlighted. Once you choose which records to copy, select **File > Copy to Clipboard**. The copied records can then be pasted into another program. Open the program you want to use to view the records. In the new program, click Ctrl + V (Windows or NT) or select the program's paste function. The paste function should work correctly in most text editing, word processing, or spreadsheet programs. However, you may run into a program that does not display the copied and pasted text correctly.

Print Search Results

To print your search results select the records you wish to print.

Any record(s) you select should be highlighted. Once you choose which routes to print, select **File > Print**. Note that the printed columns are sized so that they fit all the column information, regardless of the column size in your Tool display. To maximize the amount of information you print on a single page, Windows users can select the **Properties** button from the print window and select the Landscape option to print the records lengthwise on a page (Figure 48). You can also choose to show or hide columns in the Query Results table to reduce the amount of printed information. When the rows are longer than a printed page will allow, the information will continue on another page.

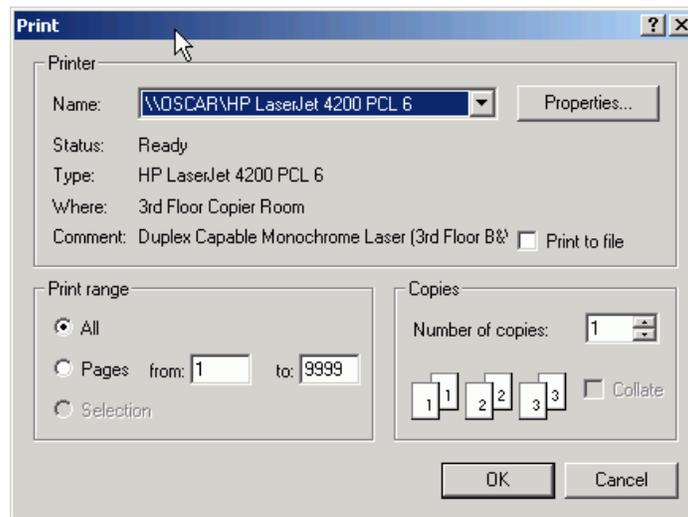


Figure 48: Print Window for Windows XP Users

Note that the top-level Playbook query results are printed in this manner. To print the detailed segment-level Playbook Play information, press the **Print** button on the **View Play**, **View Play History** or **Play Editor** windows.

Copy Route Strings

Two options are available to copy route string information to other applications; **Copy Route String**, **Copy Route String (ETMS Format)**. These options are available in CDR, AD HOC, NFDC Preferred Routes, Playbook View Play windows, and the reroute options tables in ROG Assign Reroutes. **Right-click** on the route string field in the desired route to bring up a pop-up menu. The **Copy Route String** option copies the route with spaces. **Copy Route String (ETMS Format)** copies the route string with dots between the elements.

Reports

RMT provides several types of reports for users. Note that all RMT reports have been converted to HTML format to improve readability and standardized to use GMT times.

CDR Tool Reports

Changes for Next Cycle Report

The **Changes for Next Cycle** Report compares route records that appear in the staging database with those in the operational database and checks for differences in the route string. Only those routes with changes to their route string will appear in the report. Route records with changes to other fields (for example, changes to the remarks field) will not appear in the report. You can compare all the routes in the database or just those routes associated with a particular center.

To view route record modifications since the last chart date, use the CDR Tool report function. To view the route records that have been modified since the last chart cycle, select **Reports > Changes for Next Cycle**. The **Report - Changes for Next Cycle** window appears (Figure 49).

Report - Changes for Next Cycle

This report lists all routes that have changed between the last chart date and the date specified below:

Report Date: 8/23/2007 Reset

The default report date is today's date. Using today's date will speed up report generation.

Center Info

Name: All Centers Departure Arrival

Progress:

Status: Enter a report date.

OK Cancel

Figure 49: Changes for Next Cycle Report Window

Use the Report window to specify parameters for your report. Enter information about your report using the following fields, provided in the Report window:

- **Report Date** - Enter the end date (MM/DD/YYYY) for which you want to see the changes. The report will show route record modifications beginning from the last chart date up until the Report Date you specify in the Report Changes window. The default date is the current date. Click the **Reset** button to set the date to the default value, which is the current date. Note that if you specify another date, processing the report may take longer.

- **Select Centers** - Select "All Centers" to see the route records modified by every center or select a particular center whose routes interest you. You can only select one center if you do not use the "All Centers" option. Note that route records are modified by their controlling (departure) center.
- **Center Type** - Click **Departure** or **Arrival** to view modified route records according to either the centers from which they depart or arrive.

Click **OK** to run the report. RMT generates an HTML report that opens on your screen when the processing is completed.

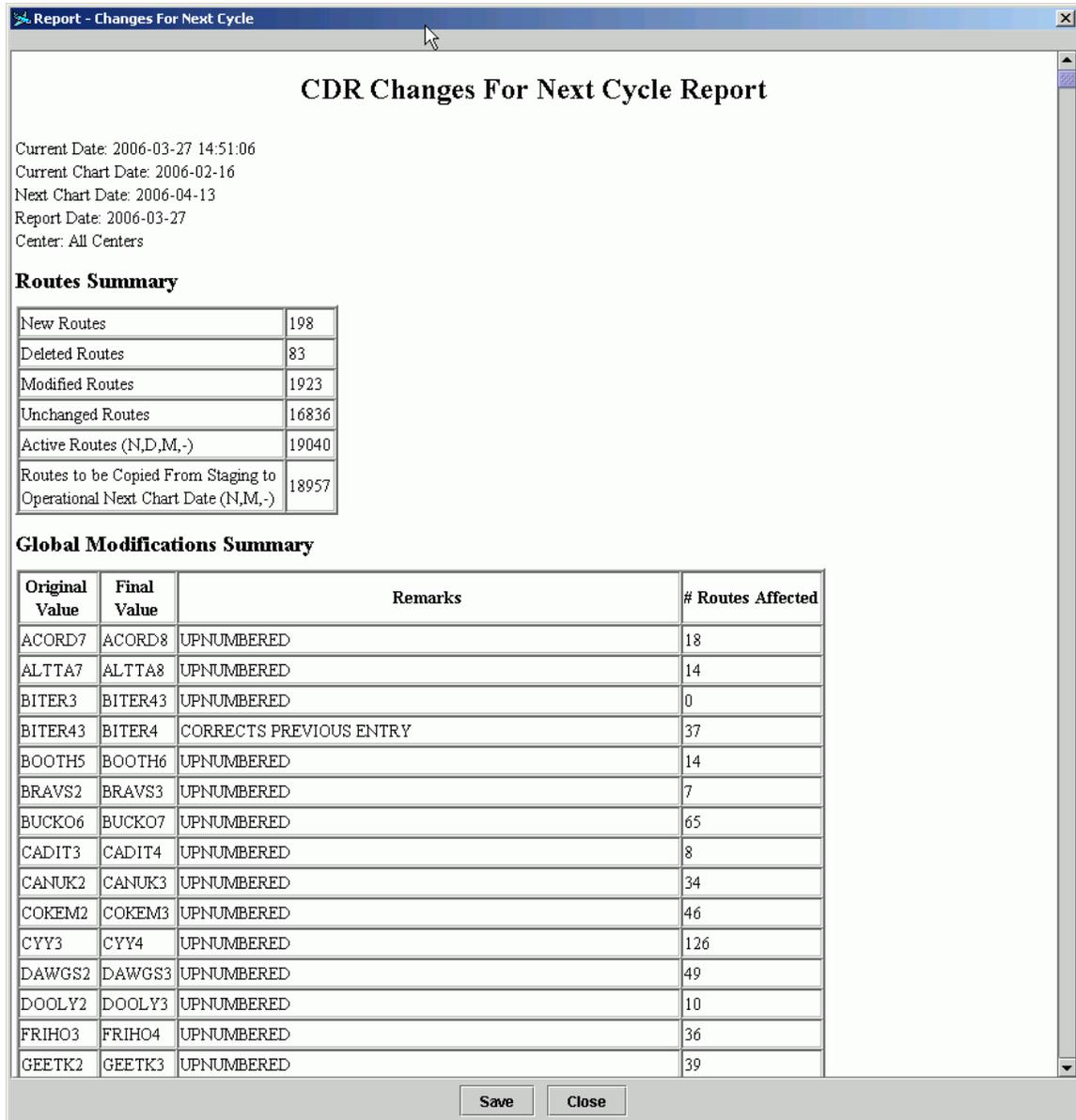


Figure 50: CDR Changes for Next Cycle Report

Header information includes the current, chart, and report date as well as the tool used to generate the report and which centers are included in the report. The report also has a **Routes Summary** section that contains statistics about the number of new, deleted, and modified routes as well as the number of routes that did not change. A **Global Modifications Summary** is provided that lists the number of routes affected by each global name change, e.g. STAR number changes.

The route records in the report are grouped according to status: New, Deleted, and Modified records, and further sorted within these groups according to route code. Four columns appear in the *New Routes* section for each record: Route Code, New Route String, Departure Center, and Arrival Center. Deleted Routes have the Route Code, Deleted Route String, Departure Center, and Arrival Center information. Modified route records will have columns listing the Route Code, Old Route String, New Route String, Departure, and Arrival Center. .

The report may be saved to a file by pressing the **Save** button, then specifying a file name. The saved report is an HTML file that can be opened in a number of applications at a later time. You can close the window without saving the report by pressing the **Close** button.

Traversed Center Changes Report

The **Traversed Center Changes for Next Cycle** Report is an extension of the **Changes for Next Cycle** Report described in the previous section. This report was created as an additional tool to facilitate the CDR coordination process. This report will be used primarily by ARTCC administrators during the CDR verification processing. This report lists changes to the route string for all routes that traverse the specified center.

To view route record modifications since the last chart date, use the CDR Tool report function. To view the route records that have been modified since the last chart cycle, select **Reports > Traversed Center Changes**. The **Report – Traversed Center Changes** window appears (Figure 49). Use the Report window to specify a Report Date and to select the center of interest.

Report - Traversed Center Changes

This report lists all routes that have changed between the last chart date and the date specified below:

Report Date: 08/13/2007 Reset

The default report date is today's date. Using today's date will speed up report generation.

Center Info

Name: Please select a center

Progress:

Status: Enter a report date.

OK Cancel

Figure 51: Traversed Center Changes for Next Cycle Report Window

Click **OK** to run the report or **Cancel** to close the window without taking any action. RMT generates an HTML report that opens on your screen when the processing is completed.

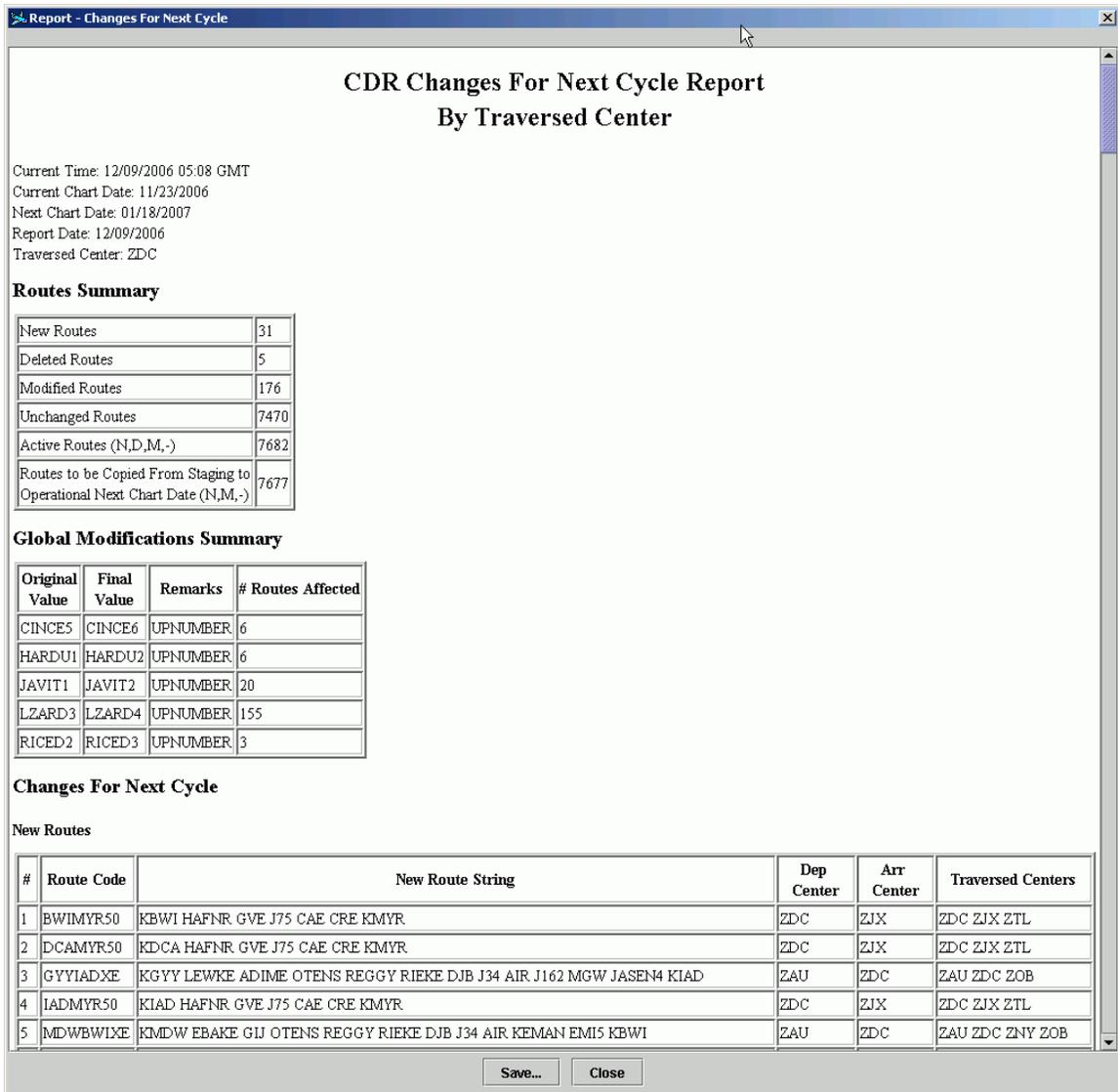


Figure 52: CDR Traversed Changes for Next Cycle Report

The format for the report is the same as described above in the “Changes for Next Cycle Report” section. The report may be saved to a file by pressing the **Save** button, then specifying a file name. The saved report is an HTML file that can be opened in a number of applications at a later time

Route Code Changes Report

The **Route Code Changes** Report lists CDRs where the route code has changed since the last cycle. Users may view the report by selecting **Reports > Route Code Changes**. Use the **Report – Route Code Changes** window to specify a Report Date and to select the center of interest.

Report - Route Code Changes

This report lists all routes where the route string remained the same but the route code has changed. The report covers changes between the last chart date and the date specified below:

Report Date: 05/31/2006

The default report date is today's date. Using today's date will speed up report generation.

Center Info

Name: All Centers

Progress:

Status: Enter a report date.

Figure 53: Route Code Changes Report Window

The report lists the old route code, new route code, and the route string for all CDR route codes that have changed. The departure center and arrival center for the modified routes is also listed. The report is first displayed on the screen and then may be saved to a file.

Report - Route Code Changes

CDR Route Code Changes Report

Current Time: 12/09/2006 05:17 GMT
 Current Chart Date: 11/23/2006
 Next Chart Date: 01/18/2007
 Report Date: 12/09/2006
 Center: All Centers

Number of Changes: 1

#	New Route Code	Old Route Code	Route String	Dep Center	Arr Center
1	PWKEGE0W	PWKEGE2W	KPWK IOW LNK HCT AKO AVVVS RLG KEGE	ZAU	ZDV

Figure 54: CDR Route Code Changes Report

Warnings Report

The **Warnings** Report allows FAA users to view warning messages associated with CDRs currently contained in the database (**Reports > Warnings**). This report will be used to help with the CDR verification process. You may view all warnings or those associated with routes from a specified departure center. This report is highly customizable. You may select the warning messages you are interested in viewing and the order of the report.

To Customize the Warnings Report, select **Reports > Warnings** from the CDR Tool window. The **Report – Warnings** window appears.

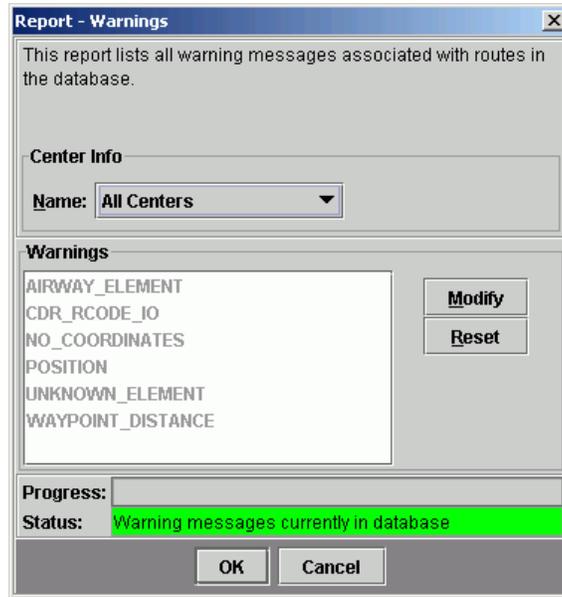


Figure 55: Warnings Report Window

Click **Modify** in the Warnings section of the Report – Warnings window. The **Customize Warnings Report** window appears.

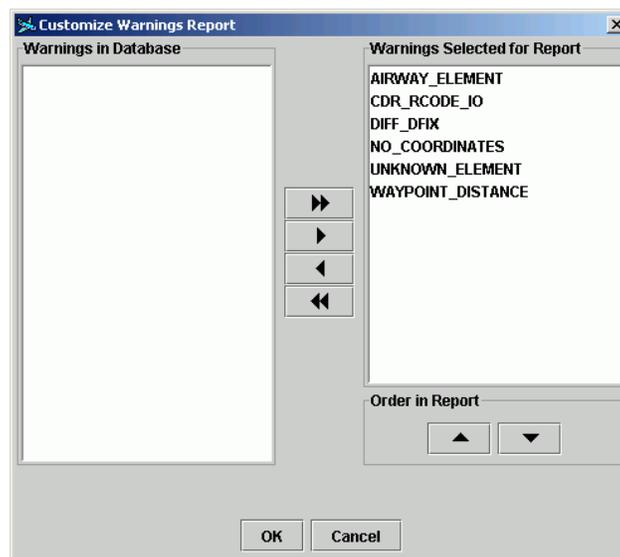


Figure 56: Customize Warnings Report Window

The warnings found in the database appear in the *Warnings in Database* section. The warnings currently displaying in the report appear in the *Warnings Selected for Report* section. The default is for all warnings to appear in the report.

Select any warnings you want to remove from the report from the *Warnings Selected for Report* section. Click the left pointing arrow button. The specified warning moves to the *Warnings in Database* section. Note that you can remove all warnings or include all warnings in the report using the double arrow buttons.

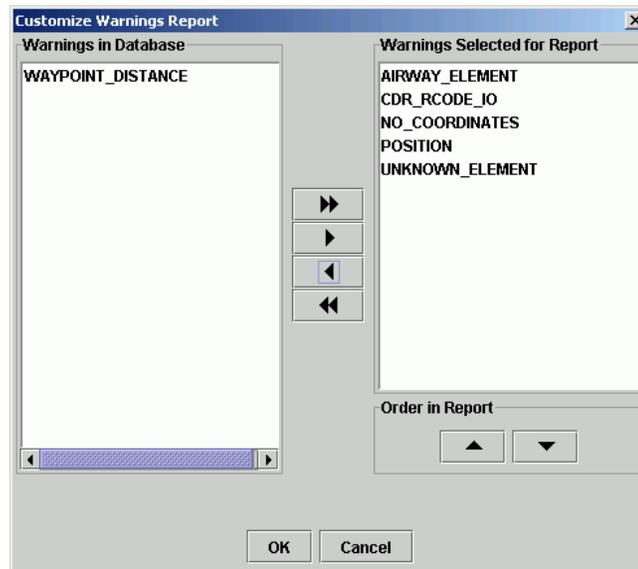


Figure 57: Removed Warning Appears in Warnings in Database Section

You can change the order in which the warnings appear in the report by selecting the warning you want to move in the *Warnings Selected for Report* section and clicking the up or down arrow in the *Order in Report* section. Once you have customized the report to fit your needs, click **OK**. The *Customize Warnings Report* window closes and you return to the *Report - Warnings* window. Click **OK** on the *Report - Warnings* window. The *Warning Report* window appears with your selections displayed.

A **Warnings Summary** section lists the total number of warnings and the number of routes with warning messages. A section is provided for each type of warning with a detailed description of the problem for each route. The report is first displayed on the screen and then may be saved to a file.

CDR Operational Database Warnings Report				
Current Time: 11/22/2006 14:16 GMT Center: All Centers				
Warnings Summary				
# Warnings	# Routes	Warning Type	Elements	
326	219	AIRWAY_ELEMENT		
204	204	CDR_RCODE_IO		
309	309	NO_COORDINATES	ACORD9, ALCMO4, BLI, BOOTH6, CAMRA6, CEDAR7, CYRIL6, FRANK5, FUDGY, GELLES, GOPEV, JEDIH8, LANR1, LILLSTRN, MANS3, MEX, MSS9, NAPEE6, PLB6, UT11, VS1, VUCAN7, WTRLO2, YMX5, YOW5, YUL6	
2	1	POSITION	DEEDS1, STAR	
21	21	UNKNOWN_ELEMENT	GLL005R, HOAG11, UJ2, WTMAN	
AIRWAY_ELEMENT				
The specified element was not found in the specified airway definition.				
#	Route Code	Route String	Fix/Airway	Dep Center
1	CLEVULE1	KCLE ACO YNG ERI V43 MYPAL V522 LINNG YYZ J594 MSS FRANK5 CYUL	LINNG/V522	ZOB
2	CLEVULP1	KCLE DJB V522 FAILS V443 DOGGS YXU V98 YYZ J594 MSS FRANK5 CYUL	YYZ/V98	ZOB
3	CLEVULW1	KCLE AMRST1 CRL J586 YYZ J594 MSS FRANK5 CYUL	YYZ/J586	ZOB
4	CLEVYZE1	KCLE ACO YNG ERI V43 MYPAL V522 LINNG CYYZ	LINNG/V522	ZOB
5	CVGYULB2	KCVG BLGRS7 HYK YRK APE DJB J545 YXU J586 YYZ J594 MSS FRANK5 CYUL	YYZ/J586	ZID
6	CVGYULJA	KCVG RHOMM1 JODUB APE DJB J545 YXU J586 YYZ J594 MSS FRANK5 CYUL	YYZ/J586	ZID
7	CVGYULME	KCVG MIE FWA CRL J586 YYZ J594 MSS FRANK5 CYUL	YYZ/J586	ZID
8	CVGYULRT	KCVG ROCKT2 TVT DJB J545 YXU J586 YYZ J594 MSS FRANK5 CYUL	YYZ/J586	ZID
9	CVGYULWV	KCVG WHWTR5 VHP FWA CRL J586 YYZ J594 MSS FRANK5 CYUL	YYZ/J586	ZID
10	CVGYVZB2	KCVG BLGRS7 HYK YRK APE DJB YXU YWT V98 CYYZ	YWT/V98	ZID
11	CVGYVZJA	KCVG RHOMM1 JODUB APE DJB YXU YWT V98 CYYZ	YWT/V98	ZID
12	CVGYVZPR	KCVG RIKLE YXU YWT V98 YYZ CYYZ	YWT/V98, YYZ/V98	ZID
13	CVGYVZRT	KCVG ROCKT2 TVT DJB YXU YWT V98 CYYZ	YWT/V98	ZID

Figure 58: CDR Warnings Report

Note that routes that are marked for deletion (ModFlag=D) are not included in the Warning Reports.

A description of the warning messages that may appear in the report can be found using **Help > Show Warning/Error Messages**.

Playbook Changes for Next Cycle Report

The Playbook **Changes for Next Cycle** Report compares staging and operational Plays and checks for differences in the origin and destination route string segments. Note that the ModDescription column in the Query Results table also contains the detailed description of any Play route segment changes. Plays with changes to other fields (for example, changes to the instructions field) will not appear in the report.

The user only needs to specify a Report Date. The report will show any Play modifications beginning on the last chart date through the specified date. The default value is the current date. The **Plays Summary** section contains statistics about the number of new, deleted, modified, and unchanged Plays. A **Global Modifications Summary** is provided that lists the Plays affected by each global name change, e.g. STAR number changes. The report is first displayed on the screen and then may be saved to a file.

The screenshot shows a window titled "Report - Changes For Next Cycle" with the following content:

Playbook Changes For Next Cycle Report

Current Date: 2006-03-27 14:57:03
 Current Chart Date: 2006-02-16
 Next Chart Date: 2006-04-13
 Report Date: 2006-03-27

Plays Summary

New Plays	10
Deleted Plays	14
Modified Plays	42
Unchanged Plays	80
Active Plays (N,D,M,-)	146
Plays to be Copied From Staging to Operational Next Chart Date (N,M,-)	132

Global Modifications Summary

Original Value	Final Value	Remarks	Plays Affected
ACORD7	ACORD8	UPNUMBERED	SIERRA NORTH
BUCKO6	BUCKO7	UPNUMBERED	BAE 1, BAE 2, FLORIDA TO NE 3, GRB, JOT 1, JOT 2, NO J42 2, OBK, ORD GIJ-GERBS, VHP
CANUK2	CANUK3	UPNUMBERED	ATL ERLIN-RMG, ATL HONIE-LGC
CYY3	CYY4	UPNUMBERED	
JOSFF1	JOSFF2	UPNUMBERED	SNOWBIRD 5
LVS	FTI		BUM, DFW UKW, FAM, GTH 1, IIU, PHX BUNTR, PNH 1, PNH 2, PXV, TUL 1
MACEY2	WHINZ1		ATL ERLIN-RMG, ATL HONIE-LGC
SRQ5	JOSFF2	SRQ5 REPLACED BY JOSFF2	SNOWBIRD 5
WOMAC2	FLCON1		NO J48 2

Changes For Next Cycle

New Plays

#	Play Name	Modification Description
1	MDW BDF	Play created.
2	MDW BVT	Play created.
3	MDW FWA_GSH	Play created.
4	MDW PIA	Play created.

Buttons: Save, Close

Figure 59: Playbook Changes for Next Cycle Report

Note that the Administrator may save the Playbook Changes Report in XML format in order to facilitate updates to the Playbook webpage.

Ad Hoc Warnings Report

The **Ad Hoc Reroutes Warnings** Report is available for all users to view warning messages associated with their ad hoc reroutes currently contained in the database (**Reports > Warnings**). Note that this report only lists warnings for routes you have created and that are associated with your user group (for example, United cannot see US Airways routes and vice versa). This report helps with the ad hoc verification process. It is important to note that users are responsible for maintaining their own ad hoc reroutes. The warning messages associated with the ad hoc reroutes will be updated as part of the 56-day chart date processing, but the users must update the DP/STAR numbers etc. on their routes.

See the CDR Warnings Report section above (page 54) for specific details on creating and customizing the report. The report contains a **Warnings Summary** section listing the total number of warnings and the number of ad hoc reroutes with warning messages. A section is provided for each type of warning with a detailed description of the problem for each route. The report is first displayed on the screen and then may be saved to a file.

A description of the warning messages that may appear in the report can be found using **Help > Show Warning/Error Messages**.

Ad Hoc Reroutes Database Warnings Report

Current Time: 11/27/2006 18:09 GMT
Center: All Centers

Warnings Summary

# Warnings	# Routes	Warning Type	Elements
68	66	AIRWAY_ELEMENT	
40	40	NO_COORDINATES	GOPEV, LILLSTRN, VS1, VS2, VS3
91	91	UNKNOWN_ELEMENT	TATOO
420	420	WAYPOINT_DISTANCE	

AIRWAY_ELEMENT

The specified element was not found in the specified airway definition.

#	Route Code	Route String	Fix/Airway	Dep Center
1	ACY_BHB_EJA_HIST1	KACY ACY ACY090 V139 HARBO J121 HTO J55 ENE J573 SEAER KBHB	HARBO/J121	ZDC
2	ACY_MVY_EJA_HIST1	KACY ACY ACY090 V139 HARBO J121 PLUME J121 SHLEP J62 RIFLE OSSER KMVY	HARBO/J121	ZDC
3	BGR_LAN_EJA_HIST1	KBGR BGR J29 PLB YCF J586 YYZ YWT ECK J94 FNT KLAN	YCF/J586, YYZ/J586	ZBW
4	BNA_BWI_EJA_HIST1	KBNA HARME J42 GHATS J42 GVE J37 BRV OTT6 KBWI	HARME/J42	ZME
5	BNA_DCA_EGF_HIST1	KBNA HARME J42 GHATS J42 BKW ELDEE1 KDCA	HARME/J42	ZME
6	BNA_DTW_NWA_HIST3	KBNA HARME J42 GHATS J42 TONIO J91 HNN WEEDA1 KDTW	HARME/J42	ZME
7	BNA_DTW_NWA_HIST4	KBNA HARME J42 GHATS LOZ FLM DQN MIZAR MIZAR3 KDTW	HARME/J42	ZME

Save... Close

Figure 60: Ad Hoc Warning Report

The RMT Map

The RMT Map is provided as a graphical reference to view NAS elements (e.g., airways, nav aids, fixes, airway intersections, airports, DPs and STARs) and to view CDRs, NFDC preferred routes, Playbook Plays, and ad hoc reroutes. The RMT Map has several customization features, including zoom options, overlays (or layers), and color preferences. Note that multiple maps are not supported in this version of RMT. The RMT Map also has a pop-up menu available when you right-click anywhere on the map. This menu allows you access to several components including Add Range Rings, Show/Hide Overlays, etc., as well as allowing you to perform several common actions (Clear Routes, Reset Map, Reset Zoom, etc.).

View Query Results on the Map

Sending query results to the map for viewing is an option available in the CDR, AD HOC and NFDC Tools (except for LocIDs, you cannot send these results to the RMT Map). When you complete a search in any of these Tools, the records that match your search criteria appear in the Query Results table of the Tool window. In the Query Results table, select the record(s) you want to view on the RMT Map (see “Selecting Records in the Query Results Table” on page 47). The record(s) should be highlighted. Click the **Send to Map** button on the Tool window. Then click to the title bar of the RMT Map window or select **Window > RMT Map** to view the records.

Note that some Canadian and Mexican data has been incorporated into the RMT Map Tool from the ETMS grid files. Routes extending into Canada or Mexico are more complete than in previous versions. Please note that a warning message will appear in the “Warnings” column in the Query Results table if any information is missing along the route string.

Remove Routes from the Map

You can remove routes from the map display either individually or all at once. To remove a single route or a specific group of routes from the map display, either click a single route or Ctrl-click multiple routes on the map display so that the desired routes are highlighted. Press **Delete** on your computer keyboard. The route(s) should disappear. This works on any route displayed on the map, including CDRs, Playbook segments, preferred routes, ad hoc reroutes and user-designed miscellaneous routes.

To remove all routes displayed on your map, select **View > Clear Routes** or **right-click** on the map and select **Clear Routes** from the pop-up menu. Your map display should clear all routes on the map, including coded departure routes, Playbook Plays, preferred routes, ad hoc reroutes, and user-designed miscellaneous routes.

Remove NAS Elements from the Map

To delete NAS elements from the RMT Map, you can choose to hide the overlay that includes the results on the map (see “Using Show/Hide Overlays” on page 68 for more information). For example, if you send nav aids to the map from the NFDC Tool you can remove them by hiding the nav aids overlay on the Show/Hide Overlays window. Note that an airway intersection is a type of “fix”. To delete the airway intersections, you can choose to hide all the fixes on the map.

Resending different elements of the same type replaces what is shown on the map. For example, if you choose to view fixes for ZAB on the RMT Map and then choose to view fixes for ZDC on the RMT Map, RMT removes the fixes for ZAB and adds the fixes for ZDC to the RMT Map.

You can choose **View > Reset Map** to return the map to its default settings. You can choose **View > Clear Map** to remove all overlays except the Country Map overlay on the RMT Map.

View Playbook Plays on the Map

Playbook Play segments are sent to the RMT Map in a different manner than CDRs. General Play information is displayed in the top-level Query Results table on the Playbook Tool window. To see the detailed segment level routing information for each Play, select a Play in the Query Results table and then double-click or press the **View Play** button. Playbook Play origin and destination segments can be shown on the RMT Map by pressing the **Send to Map** button from the **View Play** window.

You may send the entire Play (all origin and destination segments) or selected Play segments to the RMT Map. To send the entire Play, first verify that no segments are highlighted in either the origin or destination tables. Press the **Deselect All** button to clear any segments that may be highlighted. Click the **Send to Map** button on the View Play window. Then click the title bar of the RMT Map window or select **Window > RMT Map** to view the Play segments.

To send selected segment(s) to the map display, select the segment(s) you wish to view on the RMT Map (see “Selecting Records in the Query Results Table” on page 47). The segment(s) should be highlighted. Click the **Send to Map** button on the View Play window. It is important to note the behavior when viewing split Plays, if you select an origin segment and do not specify a destination segment; all matching destination segments are displayed. The segments match if the last element in the origin segment is the same as the first element in the destination segment. If you select only a destination segment, all corresponding origin segments are displayed.

Please note that only one Playbook Play may be displayed on the RMT Map at a time. The default color for Play segments is brick red. The Playbook administrator may change the color (and specify a starting and ending point) for specific segments. RMT users may not change the color of the Play segments. The Playbook administrator may also choose to draw/define an impacted area associated with a Play. When Play segments are sent to the map, the impacted area is also displayed. FAA users take note that you can also send the Playbook history records to the map.

Multiple origins and destinations are shown by dashed lines between the origin or destination airports and the corresponding route segment on the RMT Map. In the example below (Figure 61), the DFW EAST 1 Playbook Play contains several route segments with multiple origin airports. This Play also has an associated Impacted Area.

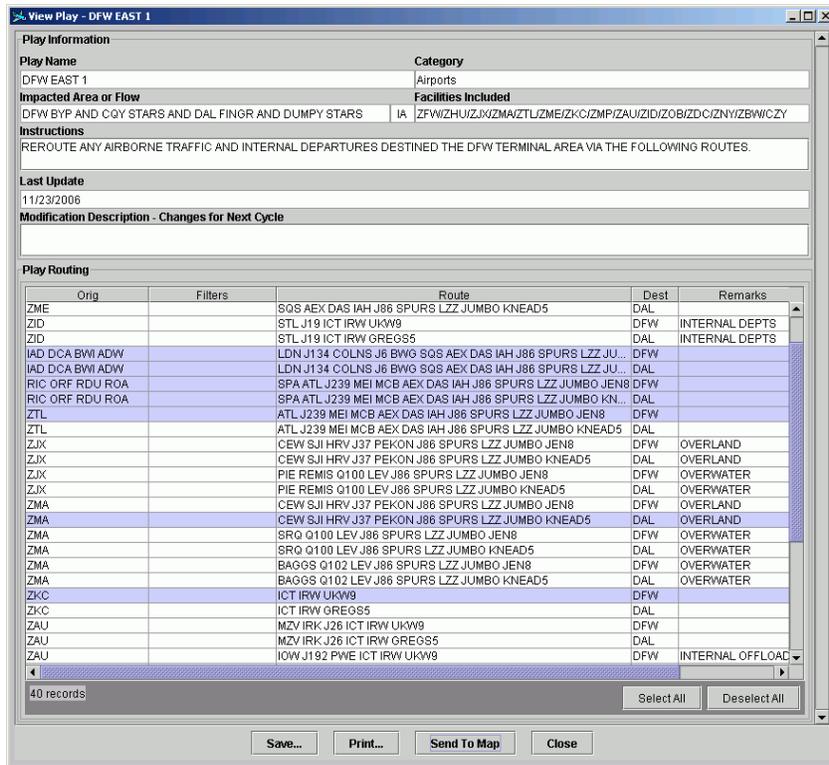


Figure 61: Multiple Origin Airports in Playbook Route Segments

Click the **Send to Map** button to display the selected segments on the RMT Map.

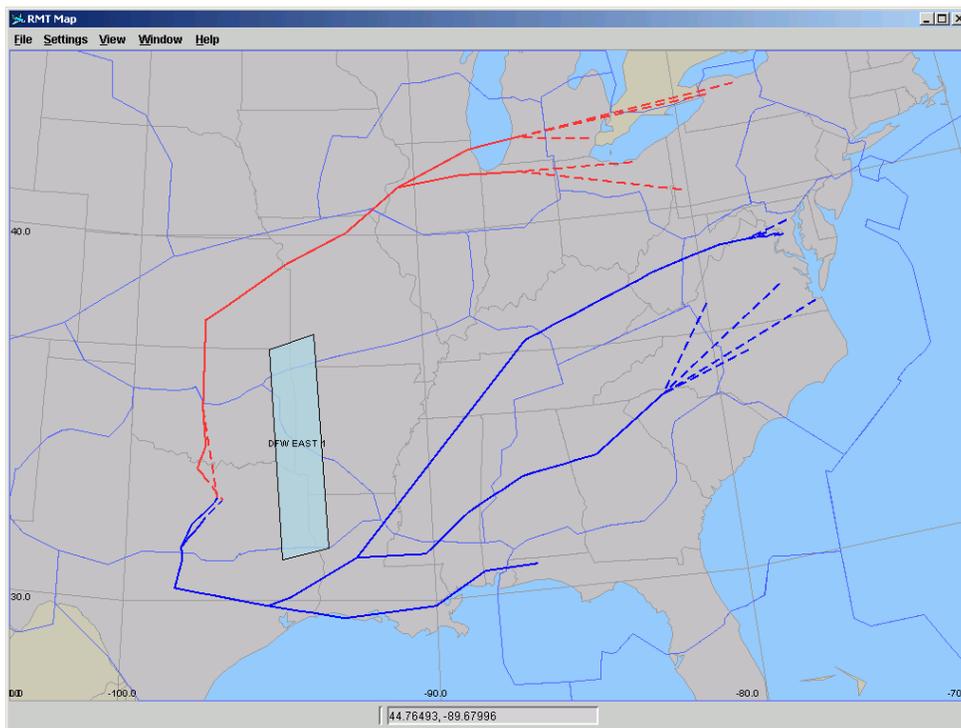


Figure 62: Playbook Route Segments with Multiple Origin Airports on the RMT Map

Remove Plays from the Map

Several options are available to remove the Playbook Play segments from the RMT Map. To delete an entire Play, **right-click** on the map near the Play segments and select the **Remove Playbook Play** option at the bottom of the pop-up menu. All Play segments and associated impacted areas should disappear from the map.

To remove a single Play segment or a specific group of segments from the map display, either click a single segment or Ctrl-click multiple segments on the map display so that the desired segments are highlighted. Press **Delete** on your computer keyboard.

To clear all routes (including any CDRs, preferred routes or ad hoc reroutes showing on the map), select **View > Clear Routes** or **right-click** on the map and select **Clear Routes**.

Map Customization Options

Users can customize the RMT Map to meet their specifications. RMT provides various options to manipulate the map display.

Map Display Options

To change the color and line style of the available RMT Map overlays, select **Settings > Display Options**. This opens the **Display Options** window.

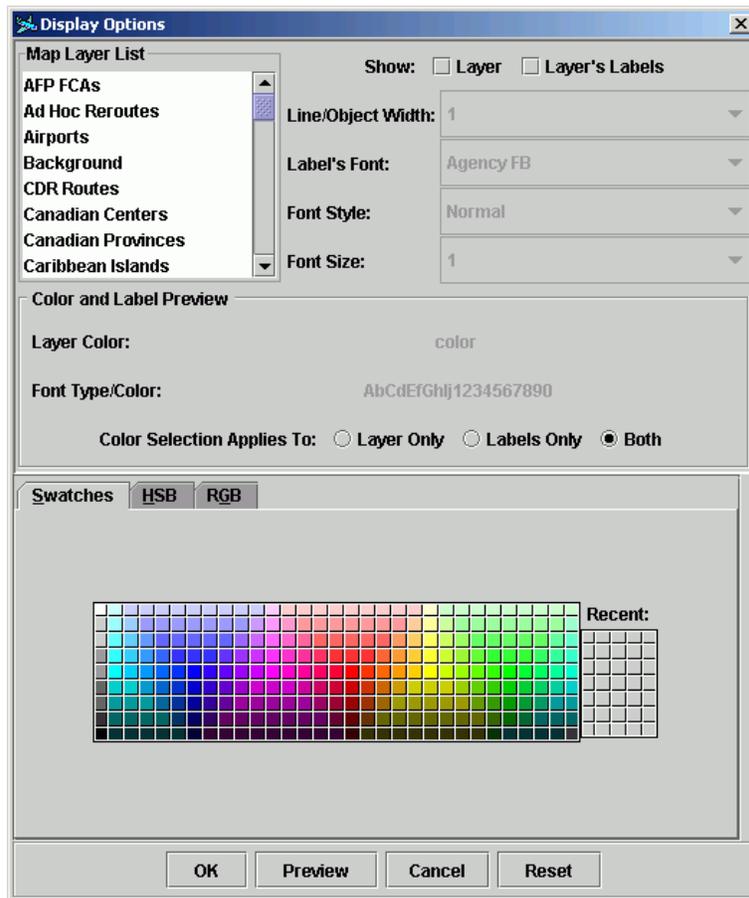


Figure 63: Display Options Window

Every overlay is made up of lines that denote borders or routes; this is the layer portion of the overlay. You can also choose to label the overlay. You can change both the layers and the labels of an overlay using the Display Options window.

To change the display attributes of a map overlay, select an overlay from the *Map Layer List* in the upper left of the Display Options window. Note that airway intersections are considered "fixes" on the map. To change the way the map displays airway intersections, select the overlay named Fixes. Once you select an overlay, you can choose from the listed attributes to change the overlay appearance. You must choose options for each overlay individually.

- **Line/Object Width** - Click the arrow to reveal a pull-down menu of available line thickness values. Click the desired thickness to change the overlay graphic.
- **Label's Font** - Click the arrow to reveal a pull-down menu of available fonts. Click the desired font for the overlay label.
- **Font Style** - Click the arrow to reveal a pull-down menu of available styles. Click the desired font style for the overlay label.
- **Font Size** - Click the arrow to reveal a pull-down menu of available font sizes. Click the desired font size for the overlay label.

Color and Label Preview Section

- **Layer Color** – Displays the color you have chosen for the Layer.
- **Font Type/Color** – Displays the color you have chosen for the font.
- **Color Selection Applies To** – Select whether you want the color you choose to apply to the **Layer Only**, **Labels Only**, or **Both**. Next click a color tab to reveal a palette of colors for the overlay graphics and labels. There are several color palettes available: swatches, HSB, and RGB colors. Click the desired color for the graphic or label. The Display Options window will preview the color for you. Continue selecting colors until you find a desired color scheme for your overlay.

To view how your settings will look on the map, click the checkboxes on the top of the Display Options window marked **Layer** and **Layer's Labels**. Then click **Preview**. To return the overlay settings to their original default values, click **Reset**.

Additional Layer Properties

Depending on the type of layer you have selected in the *Map Layer List*, different properties appear in the *Additional Layer Properties* area on the lower right of the Display Options window.

Geographic Boundaries (e.g., Centers, Sectors, AFP FCAs)

- **Brush Type** – Select a solid brush or a transparent brush.
- **Brush Color** – Select the color you want to use for the brush (this is a different way to set the Layer Color). Note that this field is only enabled when you select solid for the **Brush Type**.
- **Line Type** – Select whether you want solid or dashed lines appearing on the map.
- **Dash Pattern** – Select the pattern of the dashed line you would like to appear on the map. Note that this field is enabled only if you select dashed for the **Line Type**.
- **Show Nodes** – Check to show the boundary definition points.

Routes (e.g. CDRs, Preferred Routes, Ad Hoc Reroutes)

- **Labels Spacing** – Select the distance between labels in terms of the number of waypoints or nodes (default value is 4).

- **Show Nodes** – Check to show the waypoints or nodes along the route.

NAS Elements (e.g., Fixes, Nav aids)

- **Point Type** – Select what shape and fill type you want for the points on the map.

ROG Map Layer

When you select the ROG Map Layer from the *Map Layer List*, you can change colors for the following ROG Map Layer properties:

- **Area Layer** – Select the color for graphic overlay of any defined Areas to Avoid/Go Through (defined through the ROG Find Options – Areas to Avoid/Go Through window)
- **Area Label** – Select the color for the Area label.
- **Arrival Airports** – Select the color for the labels and symbols of the arrival airports on the FEA/FCA flight list.
- **Departure Airports** – Select the color for the labels and symbols of the departure airports on the FEA/FCA flight list.
- **Arrival/Departure Airports** – Select the color for the labels and symbols of the arrival/departure airports on the FEA/FCA flight list.
- **FEA/FCA Layer** – Select the color for the graphic FEA/FCA overlay.
- **FEA/FCA Label** – Select the color for the FEA/FCA label.

Click on the color box next to the property you would like to change to bring up the **Color** selection dialog. You can change the font/size of the Area and FEA/FCA Label properties in the *Color and Label Preview* section.

You can specify which of these elements are turned on/off from the ROG Tool **Settings > ROG Map Settings** menu option.

Display Latitude/Longitude Grid

Using the Map Display Options window, you can place a grid of latitude and longitude lines over the map. If you want to change the appearance of the latitude/longitude grid, first bring up the Display Options window using **Settings > Display Options**. Select the **Latitude Longitude Grid** from the *Map Layer list*, and then press the **Grid Settings** button in the *Additional Layer Properties* area. This brings up the **Latitude/Longitude Grid Settings** window.

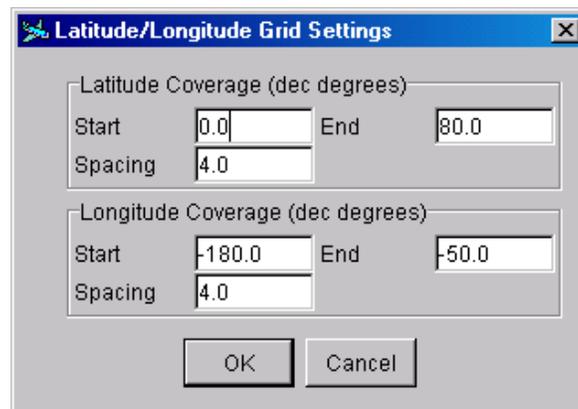


Figure 64: Latitude/Longitude Grid Settings

Use the Latitude/Longitude Grid Settings window to enter new values for the Start, End, and Spacing of latitude and longitude lines on the map. Changing the values will compress or expand the grid overlay on the RMT Map. Depending on the type of analysis you are conducting, a smaller or larger grid overlay could be more beneficial.

Display Range Rings

Range rings are a set of concentric circles that you can place on the map for reference purposes. You can adjust the settings for the range rings, including the latitude and longitude point for the center for the rings, spacing between each ring (nautical miles) and the number of rings. There are two ways to add new range rings to the map, you can either use the menu that appears when you **right-click** anywhere on the map or select Range Rings in the *Map Layer List* of the **Display Options** component.

From the right-click pop-up menu, click **Add Range Rings**. The **Add Range Rings** window appears.



Figure 65: Add Range Rings Window

The default value for the range ring center matches the location where you right-clicked on the map. However, you can change the center (latitude/longitude) values to whatever values you would like. You can also change the ring spacing and enter a new value for the number of rings that appear from the center.

To remove a set of range rings, **right-click** near the center of the rings you wish to remove and select **Remove Range Rings** from the resulting menu.

Alternatively, you can select **Settings > Display Options**. The Display Options window appears, and then scroll down the *Map Layer List* to Range Rings. From here you can adjust the look of the rings including the color of the rings and of the labels.

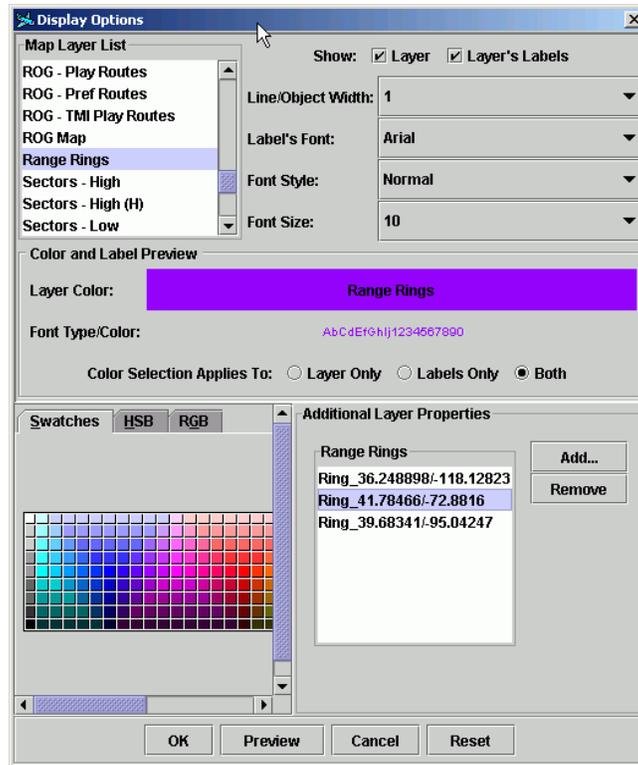


Figure 66: Adding Range Rings from Display Options

To get to the **Add Range Rings** window from the Display Options window, click **Add** in the *Additional Layer Properties* section of the window. The Add Range Rings window appears.

You can adjust the settings for the range rings, including the latitude and longitude point for the center for the rings, spacing between each ring (nautical miles) and the number of rings. When you have entered all of the values for the rings in the Add Range Rings window, click **OK**. Once you finish choosing colors, a font, etc. for the rings from the Display Options window, click **OK**. The Range Rings appear on the RMT Map.

Any range rings currently displayed on the map are listed in the *Range Rings* section. Select a set of range rings and then click **Remove** to remove them from the map display using the Display Options window.

Save Your Settings

Once you customize the RMT Map, you probably want to save those display settings for your next RMT session. RMT allows you to manually save any modifications made to the Map display. Select **Settings > Save Settings**. This will save the display settings to your local configuration file so that the Map will open exactly as you closed it.

Displaying Overlays

Certain default overlays in the RMT Map Tool are selected such that they will appear on the map automatically. These are the coded departure routes, Playbook Plays, preferred routes, ad hoc reroutes, and miscellaneous routes. The routes are always chosen so that when you choose the Send to Map option from the various tool windows, your queried routes will actually be displayed on the map.

You can customize the appearance of the RMT Map by choosing additional overlays (layers). For example, you can view sector boundaries, bordering countries, fixes, and jet routes on the map. As well, you can choose to display the layer with a graphic, a text label, or both. There are several ways to display the overlays.

Note that the eighteen ‘canned’ AFP FCAs have been added to the RMT Map. Both the ‘classic canned’ from 2006 (FCAA01 – FCAA06, FCAA08) and the eleven defined in 2007 are available as overlays.

Choosing Overlays (Layers) Using Display Options

You can choose to display overlays at the same time you are choosing the appearance of your overlays in the Display Options window. Select **Settings > Display Options** to open the Display Options window. When you click an option in the *Map Layer List*, the checkboxes in the top right corner of the window show the current status of that layer. The checkboxes indicate whether the layer is visible, or only the labels are visible.



Figure 67: Checkboxes in the Display Options Window

If the layer is marked as not visible, you can select **Layer** to display layer on the map. Repeat the process for any layer you want to display. Likewise, to remove any layer from the map, select the layer name in the *Map Layer List* and deselect the checkbox marked **Layer**. To see what the map looks like with your custom layers, click **Preview** on the Display Options window. When you are satisfied with the map appearance, click **OK** on the Display Options window to close the window and display the map with your custom layers.

Using Show/Hide Overlays

Select **View > Show/Hide Overlays** or **right-click** on the map and select **Show/Hide Overlays** for a quick view of your overlay filtering options. The **Show/Hide Overlays** window appears with the subset of overlays that can be filtered and added to the map.

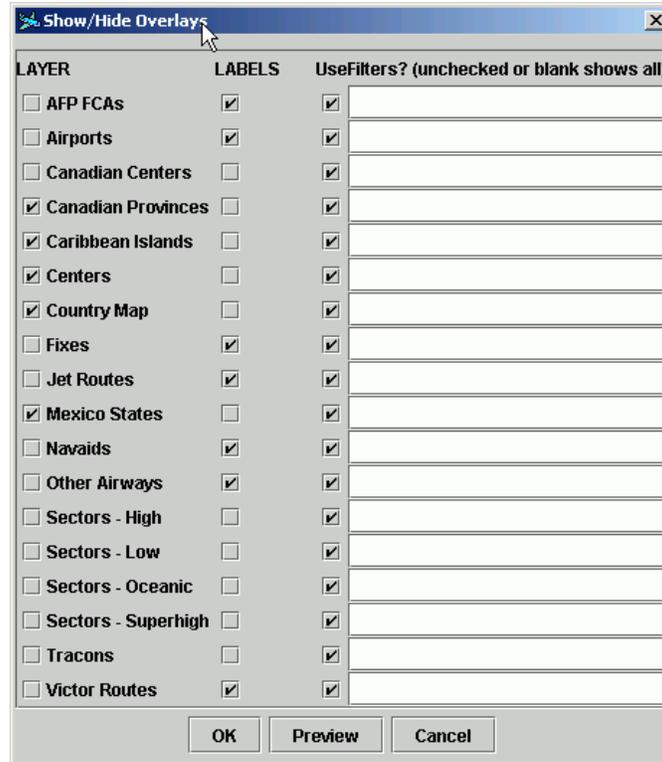


Figure 68: Show/Hide Map Overlays

To display an overlay, click the box under the Layer column next to the overlay name so that there is a checkmark in the box. This will force the layer graphic to appear on the map when you click **OK**. To view the labels in addition to the graphics make sure that the boxes under the **Layer** and **Labels** columns are both checked. Likewise, to hide an overlay on the map, click the box next to the overlay name in the Layer column to uncheck it. The overlay should disappear from the map.

Once you check the desired overlays to display on the map, you can click **Preview** to see what your map will look like with the overlays. You can then change any of your selections. Click **OK** when you are satisfied with the results. This will close the Show/Hide Overlays window and display your selected overlays on the map. To close the window without taking any action, click **Cancel**.

Filtering Overlays

Using overlay *filters*, you dictate specific elements within the overlay to view on the map. For example, when you choose to display fixes as an overlay, all fixes within the United States will appear on the map. Using a filter, you can choose to display only specific fixes.

Select **View > Show/Hide Overlays** to apply filters to your overlays. The **Show/Hide Overlays** window appears (see Figure 68).

You should see a column titled **UseFilters**. This column provides a text field in which you will type the specific filter values for an overlay. To apply a filter to an overlay, first type the name of the specific overlay element(s) you wish to view. For example, type PETTY and WISKE in the UseFilters column's text field on the Fixes row. You can use a wildcard symbol (*) to enter non-specific data points in the UseFilters text fields. Note that each element must be separated by a space. You must click the UseFilters checkbox to the left of the text field to actually apply the filters. When this box is checked the RMT Map will only display the items you defined in the UseFilters text column.

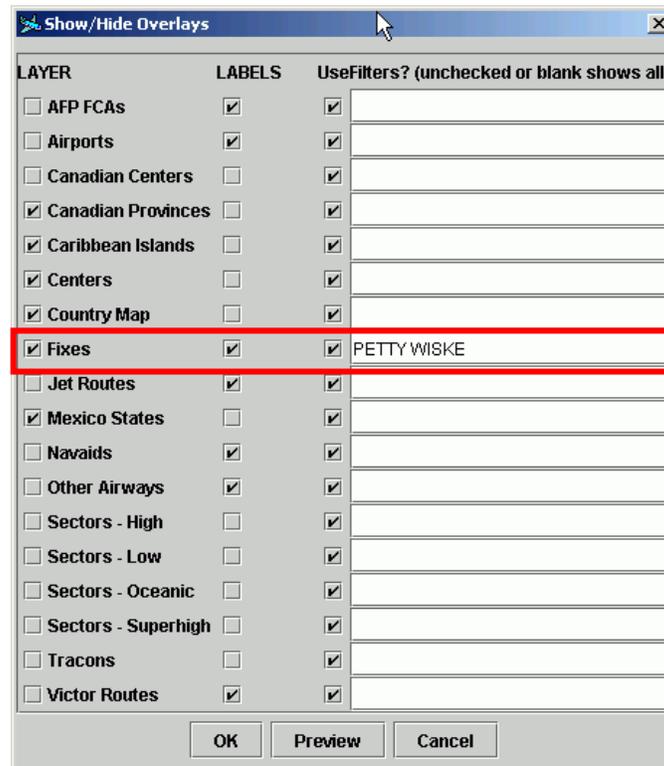


Figure 69: Show/Hide Overlay Filters

When you type in filters, you must have the box next to the UseFilters column checked. If the box is not checked, the map will show *all* the elements for that particular overlay. You can keep the filters saved in the Show/Hide Overlays window, but choose when to display the filtered information by selecting or clearing the box next to UseFilters field for a specific overlay.

To preview the map display with your filtered overlays, click the **Preview** button. Once you choose which overlays to display with filters, click the **OK** button to close the window and return to the RMT Map.

Note that warning messages have been added into the Map Tool that notifies you if an element is not found and can not be shown on the map.

To save your filters for your next RMT session, select **Settings > Save Settings**. This will save any filters typed in the Show/Hide Overlays window.

To clear the filters you have entered for an overlay, click the filter with your mouse and click **Delete** on your keyboard.

Display Single Overlay Elements

You can type in a group of different, specific overlay elements to view or delete on the map. This provides a shortcut to typing in filter values separately for each type overlay element. Using the **Show Overlay Elements** option, you type in a string of overlay elements to display on the map. The values can include elements from different overlays. For example, if there is a specific set of centers, airports, and nav aids you wish to view, use the **Show Overlay Elements** window to type the codes for the different overlay elements all at once.

Click **Ctrl+S** or select **Show Overlay Elements** from the **View** menu or the pop-up menu that appears when you **right-click** on the map. The Show Overlay Elements window appears (Figure 70).

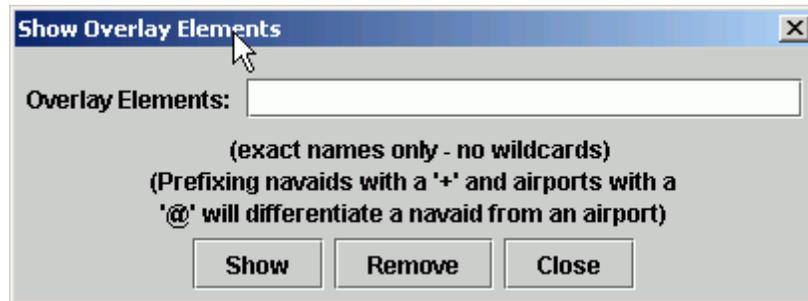


Figure 70: Show Overlay Elements Window

Type any specific fixes, airports, nav aids, centers, jet or victor routes, tracons and AFP FCAs you want to see on the map into the *Overlay Elements* field. Each element is independent of the others and should be separated by a space. Any overlay entity that you choose to show will automatically show up in the Filters section of the Show/Hide Overlays window.

Note that warning messages have been added into the Map Tool that notifies you if an element is not found and can not be shown on the map.

Please note that you cannot use wildcard characters (*, ?) in the Overlay Elements field. To differentiate between a nav aid and airport code, you may prefix nav aid codes with a plus symbol (+) and airport codes with an "at" symbol (@). Otherwise, if a nav aid and an airport share the same 3-character identifier, both will appear on the map.

For example, in Figure 71, the user has entered "@ord j80 bos." ORD is specifically identified as an airport by the "at" symbol (@). However, notice that BOS appears on the map as both an airport and a nav aid because the type is not specified. You cannot currently enter U.S. State names, Canadian Provinces, Caribbean Islands or Mexican States using Show Overlay Elements. However, you can add these to the map using the Show/Hide Overlay elements window and the filters field contained within that window.

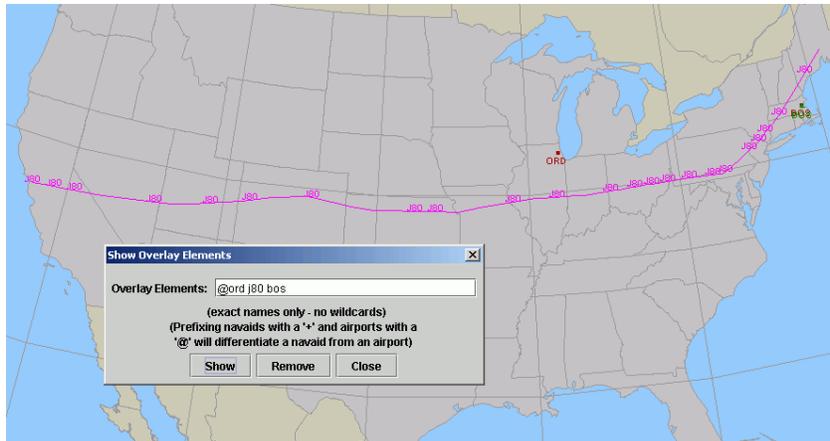


Figure 71: Overlay Elements Displayed on the Map

Display Miscellaneous Routes

You can define a custom or miscellaneous route and then display the route on the map. Select **Show Miscellaneous Routes** from the map's **View** menu or from the menu that appears when you **right-click** on the map to bring up the **Show Miscellaneous Routes** window. In the Route String field, type in any combination of elements that defines your route. The elements should be in the order you want the route to appear from start to finish. The RMT Map will connect the route elements graphically according to the order in which they are typed. Once you have typed in your route, click **Show** to see the route on the map (Figure 72). Note that partial route segments may be shown that begin at a navaid or fix.

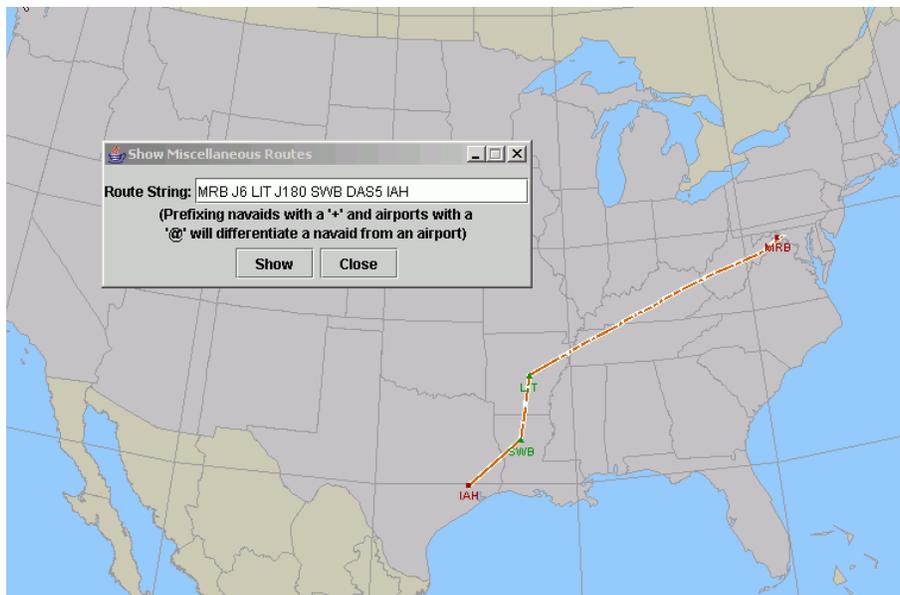


Figure 72: Miscellaneous Route String

In Figure 72, one of the ZNY segment from the 'NO J48 2' Playbook Play is used to define a miscellaneous route. Click on the miscellaneous route segment itself to show the nav aids and fixes along the route string.

Using Quick Keys

Several map overlays can be toggled on/off using the following shortcut or Quick Keys:

- Jet Airways J
- Victor Airways V
- ARTCC Boundaries A
- ARTCC Sectors – High H
- ARTCC Sectors – Low L
- ARTCC Sectors – Superhigh S
- ARTCC Sectors – Oceanic O
- Nav aids – High Shift F4
- Nav aids – Low Shift F5
- Nav aids - Terminal Shift F6
- Fixes – Arrival Shift F2
- Fixes – Departure Shift F3
- Fixes – En route Shift F8.

For example, when using the jet airway Quick Key (J), all jet airways will be turned on/off. To display specific elements use either the **View > Show Overlay Elements** or **View > Show/Hide Overlays** menu options.

The labels for these overlays can be turned on/off through the **View > Show/Hide Quick Key Overlays** menu option or right-clicking anywhere on the map and selecting **Show/Hide Quick Key Overlays**. This brings up the **Show/Hide Quick Key Overlays** window. The labels are turned off by default and can be turned on by clicking the labels box in the appropriate row. You can change the colors of the overlays through **Settings > Display Options**.

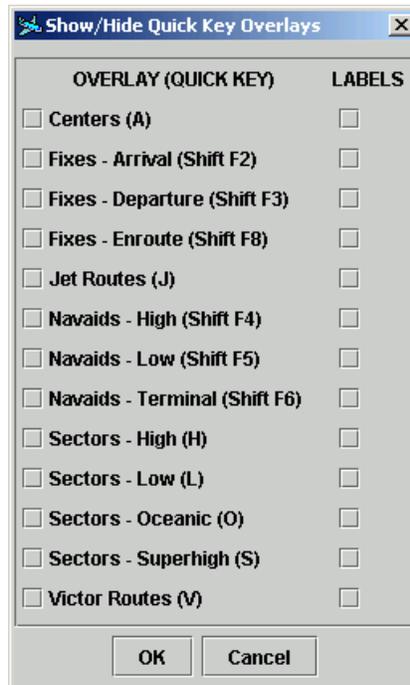


Figure 73: Show/Hide Quick Key Overlays Dialog

Zooming In and Out on the RMT Map

You can focus on specific areas of the map using the RMT Map's *zoom* feature. To **Zoom In**, click on the map in the upper-left portion of the area you would like to see. Using your mouse, click and drag down and to the right, creating a rectangle.

Release the mouse when you have enclosed the desired area within the rectangle. The area within your rectangle will be enlarged to the size of the RMT Map Tool window. In Figure 74 the user has zoomed in near ORD and MDW airports.

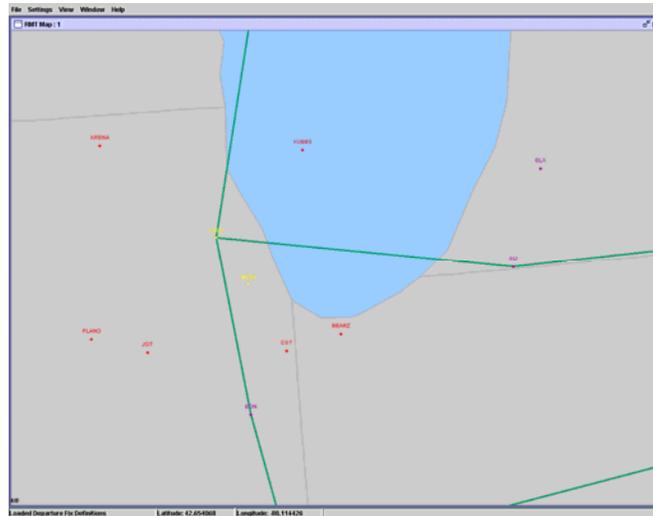


Figure 74: Zoom-in View

To **Zoom Out**, simply reverse the process. Click and drag up and to the left from the lower right corner of an area.

Release the mouse to complete the zoom out process. The degree to which the map zooms out is proportional to the size of the rectangle you draw. Larger rectangles will display a larger portion of the map in the map Tool window.

To *undo* the last zoom action you performed, **right-click** anywhere on the map and click **Undo Zoom** from the menu. Or select **View > Undo Zoom**.

To *redo* the last undo zoom action you performed, **right-click** anywhere on the map and click **Redo Zoom** from the menu. Or select **View > Redo Zoom**.

To *reset* the map to its original size, **right-click** anywhere on the map and select **Reset Zoom** or select **View > Reset Zoom**.

Several Quick Keys are also available for zooming in and out and moving the center of the map display:

- Zoom Z
- Unzoom U
- Move M.

Press Z, U, or M anywhere on the RMT Map to change your display.

Scrolling on the Map

To scroll in any direction on the map, position the cursor on a start point. Click with the middle mouse button and drag the mouse to an end point. Once you release the mouse, the map scrolls to the new location. You can also scroll on the map by simultaneously holding the right and left mouse buttons.

Clear the Map

To remove all overlays and routes and return your map to its original size, you can clear your map display(s). Clearing the map will clear the map and return the display to its original setting, with no overlays. To reset the map, select **View > Clear Map** or **right-click** on the map and select **Clear Map** from the pop-up menu.

Reset the Map

Select **View > Reset Map** or **right-click** on the map and select **Reset Map** from the pop-up menu to return your map display to its default settings.

Print the Map

To send the RMT Map in view to your local printer, select **File > Print**. Any overlays such as center boundaries, fixes, routes that are displayed on the map will also be printed on the map. Only one Play can be printed at a time.

Save the Map

You can save your map display as a GIF or JPG image. These images can be opened later in any program capable of displaying a graphics file. To save your map image, select **File > Save As GIF** or **File > Save As JPG**. Select the directory in which you want to save the file and enter a name for a file.

Route Options Generation

The ROG Tool allows you to view information from both a flight-specific and a broader system-level constraint perspective. Using the ROG Tool's flight-centric workspace, you can identify pre-coordinated reroute options for specific flights that avoid an FEA or FCA. ROG allows Customers to find reroute options and format them for submission to the system for their flights affected by an FEA/FCA. Note that Customers are only able to see their own flights (i.e., NWA can only see NWA's flights). Preferences are submitted as Early Intent (EI) messages to ETMS. The constraint-centric workspace allows you to characterize the constraint by providing enhanced flight list grouping and mapping capabilities. ROG also allows traffic managers to identify reroute options for flights that do not submit EIs and provides decision-support for developing route guidance and building reroute plans using Playbook Plays. The ROG Tool integrates with the RMT Map to display the relevant information, e.g. FEA/FCA definition, flights on the flight list, and available reroute options.

You can use the ROG Tool to:

- Examine FEA/FCAs and the associated dynamic flight lists
- Find and filter reroute options that avoid FEA/FCAs for specific flights
- Group flights to characterize and better understand the problem or constraint
- Select (or assign) reroutes for flights on the flight list
- Track the progress of flight/reroute selections and send EI messages
- Create route guidance using the Reroute Planner (FAA traffic managers).

Note that you can see public FEA/FCAs and shared FEAs with ‘_ICR’ in the name and the associated filtered flight lists (not including military or sensitive flights). Shared FEA/FCAs are visible to users on the shared site list.

Main ROG Tool Window

The main **ROG Tool** window is divided into five areas: the ROG Tool Bar, the FCA/Query Header area, the Grouping Results table, the Grouping Summary and the Matches Summary areas.

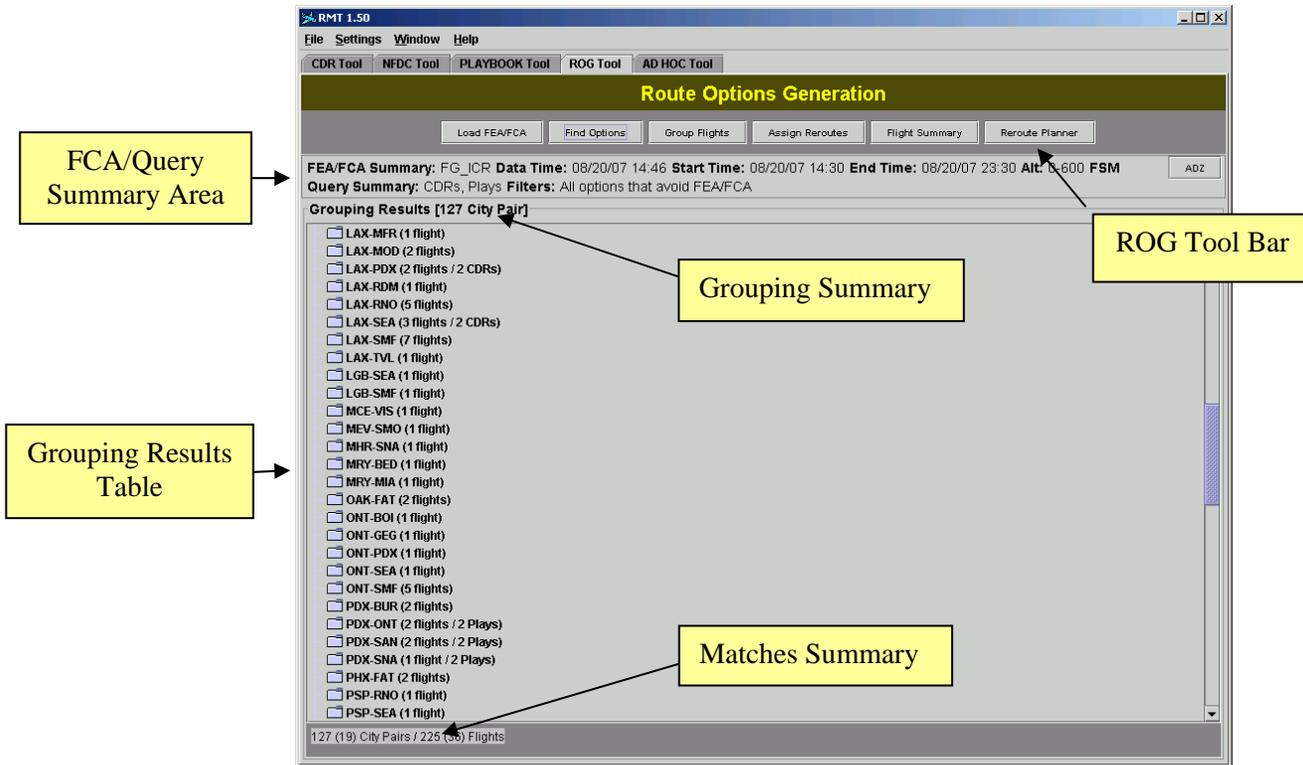


Figure 75: ROG Main Window

These areas are described in detail in the sections below.

ROG Tool Buttons

The following buttons appear on the **ROG Tool Bar**:

- **Load FEA/FCA** - allows you to load FEA/FCAs into the ROG Tool.
- **Find Options** - allows you to find reroute options around the specified FEA/FCA.
- **Group Flights** - allows you to group flights in several ways to better assist you in analyzing the flights in the FEA/FCA.
- **Assign Reroutes** - allows you to examine and select (or assign) reroute options for specific flights.
- **Flight Summary** - allows you to track the progress of flights/reroutes as they are assigned and send EI messages.
- **Reroute Planner** (FAA only) – allows you to develop route guidance or reroute plans.

Five (or six) buttons appear on the ROG Tool Bar depending on your user type. Note that these functions can also be accessed through the **File** menu. The capabilities are described in detail in the sections below.

FCA/Query Summary

The **FCA/Query Summary** area provides information on the FEA/FCA loaded into the tool and the latest query run. The **ADZ** button displays the associated advisory (if one has been issued for the FEA/FCA).

The **FEA/FCA Summary** line provides information about the FEA/FCA you loaded into the ROG Tool (see the “Loading the FEA/FCA Definition and Flight List” section on page 80). Note that you must first load an FEA/FCA into the ROG Tool for these fields to appear/populate. This area provides you with information on the following:

- **FEA/FCA Summary** - Name of the FEA/FCA you loaded.
- **Data Time** - Date and time you loaded the data (MM/DD/YY HH:MM).
- **Start Time** – FEA/FCA start time (MM/DD/YY HH:MM).
- **End Time** - FEA/FCA end time (MM/DD/YY HH:MM).
- **Alt** - Altitude range controlled by the FEA/FCA.
- **AFP Status** – FSM is displayed if the FEA/FCA is FSM-eligible.

Note that all times listed are GMT.

The **Query Summary** line provides information about the latest reroute option query you ran (see “Finding and Filtering Reroute Options” on page 81). The following information is included:

- **Query Summary** - Shows what types of routes you included in your query (CDRs, Plays, Preferred Routes, Ad Hoc Reroutes).
- **Filters** - Shows what filters you applied in your query (Areas, NAS Elements, etc.)

The **ADZ** button allows you to view the associated FEA/FCA advisories for the FEA/FCA definition and flight list currently loaded into the ROG Tool. Note that the **ADZ** button does not appear until you have loaded an FEA/FCA into ROG. RMT imports the FEA/FCA Advisories from the OIS Advisories database based on the FEA/FCA name. If multiple advisories are available for an FEA/FCA, the last entered appears in the FEA/FCA Advisory dialog displayed by the ROG Tool. If there are no advisories available for the FEA/FCA or if the OIS database is unavailable, you receive a warning message from RMT.

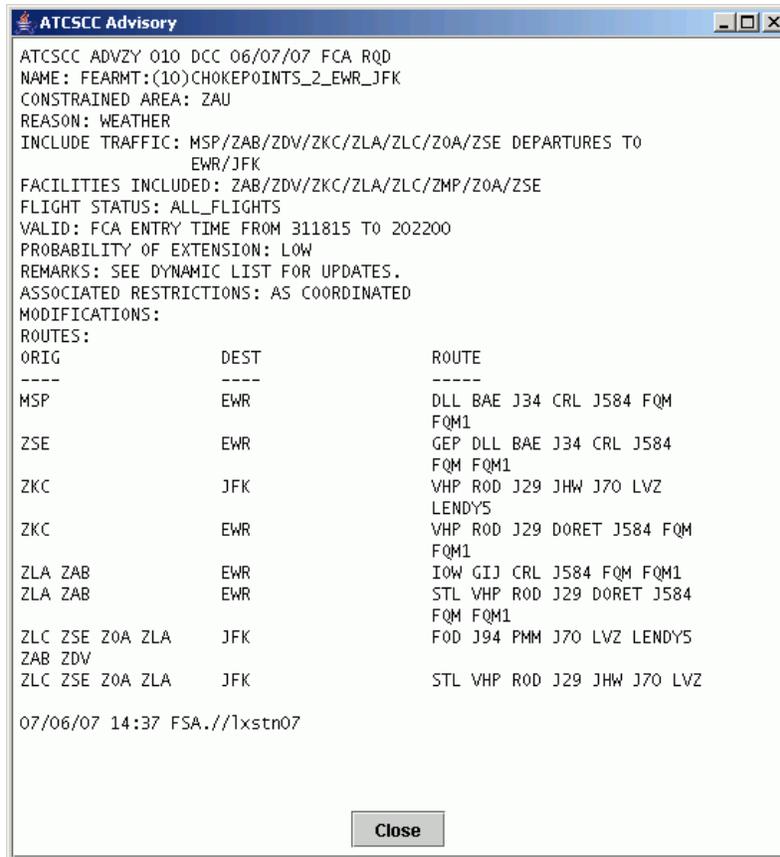


Figure 76: FEA/FCA Advisory Window

Grouping Results Table

The **Grouping Results** table includes a listing of all the flights affected by the FEA/FCA and arranges them according to how you group the flights. This section works in a standard Windows tree format. Note the default flight grouping is by city pair and you can group by up to three categories.

You will see a row in the Grouping Results table for each flight grouping along with the flight count for that grouping. Once a query has been run, the number of reroute options by route type for each grouping is also provided.

Grouping Summary

The **Grouping Summary** provides you with information about the current grouping criteria applied to the flight list and the number of groups for the criteria selected. For example, “5 DCNTR; City Pair” in the *Grouping Results line* means there are 5 different departure centers with flights on the flight list and the data is grouped first by departure center and then by city pair.

Matches Summary

The **Matches Summary** at the bottom left of the window shows the number of City Pairs and Flights in the FEA/FCA flight list. The numbers in parentheses are the City Pairs and Flights that have matching reroute options that avoid the FEA/FCA. Note that the number of matches in parenthesis will be zero until you run your query.

ROG Mapping Capabilities

The ROG Tool integrates with the RMT Map to provide a graphical display of the relevant information, e.g. FEA/FCA definition, flights on the flight list, and available reroute options. The **ROG Map Settings** window allows you to control how you view the information from the ROG Tool on the RMT Map.

When you load an FEA or FCA into ROG, the FEA/FCA definition and the departure and arrival airports for the flights on the flight list are automatically sent to the RMT Map.



Figure 77: ROG Map Settings Window (Default Settings)

FEA/FCA Map Settings

The *FEA/FCA Map Settings* area allows you to adjust how the FEA/FCA appears on the RMT Map. When you select the **FEA/FCA Layer** checkbox, the layer containing the FEA/FCA appears on the RMT Map. When you select the **Label** checkbox, the text label for the FEA/FCA appears on the RMT Map. Note that if you uncheck the **FEA/FCA Layer** checkbox, the **Label** option will be disabled.

Flight List Map Settings

The *Flight List Map Settings* area allows you to determine which flight list options you want to see on the map. When you select the **Flights (Current Route)** checkbox, the flight tracks for all flights on the flight list appear on the RMT Map. Note that if a flight has been amended en route, the flown portion of the route (before the tailoring indicator, ./.) will be shown as a dashed line. When you select the **Arrival Airports** checkbox, the arrival airports for flights on the flight list appear on the RMT Map. Note that the color of the **Arrival Airports** text matches the color of the arrival airports on the RMT Map. The **Arrival Airports** checkbox also has a **Flight Count** associated with it. Selecting this checkbox causes the arrival flight count for each arrival airport to appear on the map. When you select the **Departure Airports** checkbox, the airports with departures on the flight list appear on the RMT Map. Note that the color of the **Departure Airports** text matches the color of the Departure airports on the RMT Map. The **Departure Airports** checkbox has a **Flight Count** associated with it. Selecting this checkbox causes the departure flight count for each departure airport to appear on the map. RMT automatically selects the **Arrival & Departure Airports** check box when you select both the **Arrival Airports** and **Departure Airports** checkboxes. Note that the color of the **Arrival & Departure Airports** field matches the color of the Arrival and Departure airports on the RMT Map. Note that the **Flight Count** fields will be disabled when the associated **Airports** checkbox is unchecked.

The selections you make appear immediately on the RMT Map as you make them. To apply the current settings and close the window, click **OK**. If you would like to change your default ROG map settings, click **Save Settings**. This saves the information to your local configuration file. If you click **Cancel**, the ROG Map Settings window closes without changing your ROG map settings.

Colors for most of the settings can be changed using the Map **Settings > Display Options**. For more information on how to use the Display Options window see the **Map Customization Options** and **ROG Map Layer** section of this guide (page 64).

Loading the FEA/FCA Definition and Flight List

You must first select a constraint of interest before you can perform reroute searches, assign reroutes, etc. You can examine public FEA/FCAs and shared FEAs with ‘_ICR’ in the name that are active in the system. Access to the shared FEAs is based on your user login and the shared sites list. It is important to note that Customers can only see their own flights. FAA users can see flights for all carriers (military and sensitive flights are NOT included).

NAS Element – Airport type FEA/FCAs are not meaningful in ROG. Airport FEA/FCAs are defined to include arrivals or departures to the specified airport. ROG can not find options that avoid the airport for those flights. Also note that NAS Element - SUA type FEA/FCAs are currently not supported in RMT (the latitude/longitude data is not available). If there is an Airport or SUA FEA/FCA in the system, it will be grayed out in the list of FEA/FCAs.

It is important to note that the flight lists loaded into ROG contain a snapshot of the flight list at the time it is loaded into ROG (Data Time listed in the FEA/FCA Summary line). The FEA/FCA definitions and associated flight lists are updated every five minutes through a background process. If you reload the constraint into RMT, you will get the latest updated file available at that time.

Some FEA/FCAs may be very long in duration and could have thousands of flights on the associated flight lists (e.g., AFP FCAs). Please be aware that it will take some time to process the larger flights lists as they are loaded into the ROG Tool and the RMT Map.

Using the Select ETMS FEA/Flight Info Window

To load an FEA/FCA definition and the associated flight list, click the **Load FEA/FCA** button in the ROG Tool Bar (or **File > Load FEA/FCA**). This brings up the **Select ETMS FEA/Flight Info** window that shows a list of all active FEA/FCAs in the system (Figure 78). Summary information about the FEA/FCA is provided in the window to help you select the constraint of interest:

- **Name** - the name of the FEA/FCA.
- **Domain** - PUBLIC or SHARED.
- **Type** – FEA, FCA or EXPIRED.
- **Format** - the type of FEA/FCA (i.e., polygon, line, circle, NAS Element).
- **AFP Status** – FSM if the FEA/FCA is FSM-eligible or AFP if there is an active AFP.

Note that if an FEA/FCA is pending (current time is prior to the FEA/FCA start time), the name is shown in italics. The **Show** column contains a checkbox; select the checkboxes in the column

for any FEAs/FCAs you want to show on the RMT Map. The active FEA/FCA count is also shown.

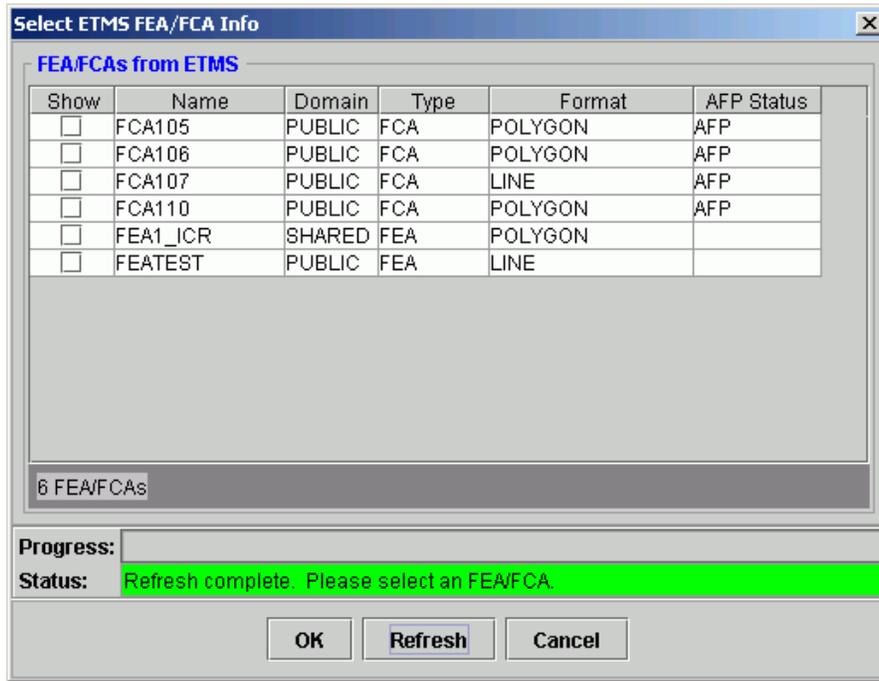


Figure 78: Select ETMS FEA/FCA Info Window

Click **OK** to load the selected FEA/FCA and close the window. When your file begins loading, the Progress and Status fields reflect what is occurring with the upload. When you click **Refresh**, ROG updates the list of available FEAs/FCAs and clears the checkboxes in the Show column. Click **Cancel** to quit the operation without starting the import.

Once RMT has loaded the files successfully, the *FEA/FCA Summary* line on the main ROG window is filled in with the appropriate FEA/FCA information (Name, Data Time, Start Time, End Time, Altitude, AFP Status indicator). Additionally, RMT populates the Grouping Results table with flights on the dynamic flight list. Note that flights entering/exiting the FEA/FCA more than once are only listed once in ROG. The entry time displayed is the earliest entry time; the exit time is the last exit time.

Finding and Filtering Reroute Options

You can use the **Find Options** component of the ROG Tool to find reroute options around the specified FEA/FCA for the flights on the flight list. RMT searches several pre-coordinated route databases including Preferred Routes, CDRs, Playbook Plays, and the ad hoc reroutes (user-defined). The Find Options component provides various filtering capabilities to narrow the list of potential options for each flight (or city pair). The route databases are then queried to bring up the flight and route option details to help make the reroute selections or assignments.

Using the Find Options Window

To find and filter reroute options for your flights, click **Find Options** on the ROG Tool Bar (or **File > Find Options**). The **Find Options** window appears.

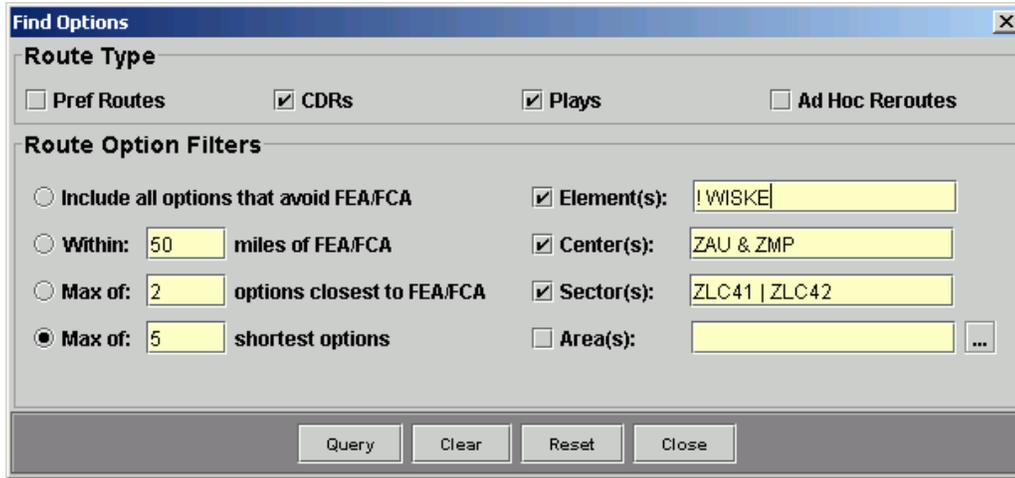


Figure 79: Find Options Window

Available Route Types

Select the databases you would like to search. The available **Route Types** are:

- **Pref Routes** - Preferred IFR routes.
- **CDRs** - Coded departure routes.
- **Plays** - Playbook Play segments.
- **Ad Hoc Reroutes** – Ad hoc reroutes created by users (both FAA and Customers).

Note that you can select multiple route types. When you run your query, the database(s) selected will be filled in the **Query Summary** line on the main ROG window. Note that the ROG Tool searches the operational route databases (routes effective for the current 56-day chart cycle).

Route Options Filters

If you would like to narrow the number of reroute options you receive from your query, select one (or more) of the Route Option Filters.

You must select one filter from the left column (radio buttons).

If you select **Include all options that avoid FEA/FCA**, ROG retrieves all options from the route types selected that avoid the constrained area.

If you select **Within: miles of FEA/FCA**, you need to enter the number of nautical miles in the text box. This returns all options that come within the specified number of miles of the constraint. For example, if you enter 50 miles, ROG returns all routes that come within 50 miles or less of the FEA/FCA boundary. Note that you will see a 50 nm transparent border around the constraint on the RMT Map. Note that the maximum value for this parameter is 500 nm (RMT will reset any values greater than 500 entered into this field to 500).

If you select **Max of: options closest to FEA/FCA**, you need to enter the maximum number of routes per Route Type you want returned in the text box. ROG will return (at most) the number of options you requested that are closest to the FEA/FCA boundary for each route type selected. In the example shown in Figure 79, ROG retrieves the 2 CDR and Play segments closest to the FEA/FCA boundary. Note that there may not always be 2 options for each route type that avoid the FEA/FCA for each flight (or city pair).

If you select **Max of: shortest options**, you need to enter the number of routes per Route Type you want returned in the text box. ROG retrieves (at most) the number of options you requested that are the shortest and that avoid the borders of the FEA/FCA. For example, if you enter 5 in the text box, ROG retrieves the 5 shortest routes that avoid the FEA/FCA for each route type selected. Note that there may not always be 5 options for each route type that avoid the FEA/FCA for each flight (or city pair).

You can use the filters in the right column as necessary based on the current situation, your business objectives and flights of interest. All filters in the right column allow you to use the “and” (&), “or” (|) and “not” (!) logical operators to specify combinations of filters.

If you select the **Elements** checkbox, you need to enter the NAS element identifier in the text field. You can enter fixes, navaids, jet routes, etc. that are included or excluded from the route string of the reroute options. In Figure 79, all options avoiding the FEA/FCA that do not include WISKE on the route string are retrieved (“! WISKE”).

If you select the **Centers** checkbox, you need to enter the Center identifier (ZDC, ZAB, etc.) that the route options should avoid or go through. In Figure 79, all options avoiding the FEA/FCA that go through both ZAU and ZMP are retrieved (“ZAU & ZMP”).

If you select **Sectors**, you need to enter the sector identifier (ZTL20, ZDC50, etc.) that the route options should avoid or go through. In Figure 79, all options avoiding the FEA/FCA that go through either ZLC41 or ZLC42 are retrieved (“ZLC41 | ZLC42”).

Areas to Avoid/Go Through

You can also find reroute options that avoid or go through an ‘Area’. An area could be one of the eighteen static AFPs or you can define your own area based on the current situation. For example, you may want to avoid a second area of thunderstorms or only show options going north of the constrained area.



Figure 80: Find Options Avoiding or Going through AFP FCAs

For example, if you type FCAA02 in the **Area(s)** text field and click the Areas checkbox, only reroute options will be returned that go through FCAA02. If you type “! FCAA05” (or NOT FCAA05) in the Areas text field, only options that avoid FCAA05 will be returned.

To define your own **Area**, you need to click on the ellipsis (...) button after the Areas text field. The **Areas to Avoid/Go Through** window appears. You can query for existing areas or create a new one if existing options do not meet your needs.

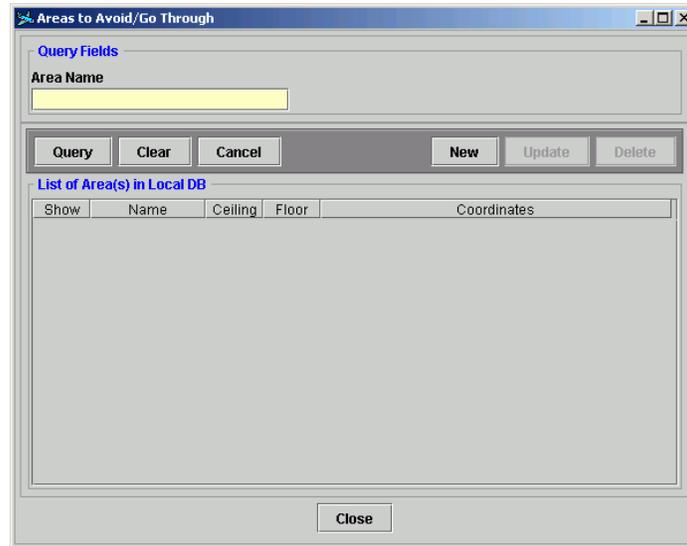


Figure 81: Areas to Avoid/Go Through Window

Enter a name (or part of the name) in the **Area Name** field. Click **Query** with the Area Name field blank to show all areas saved in your local database. Click **Show** to display any existing areas on the RMT Map.

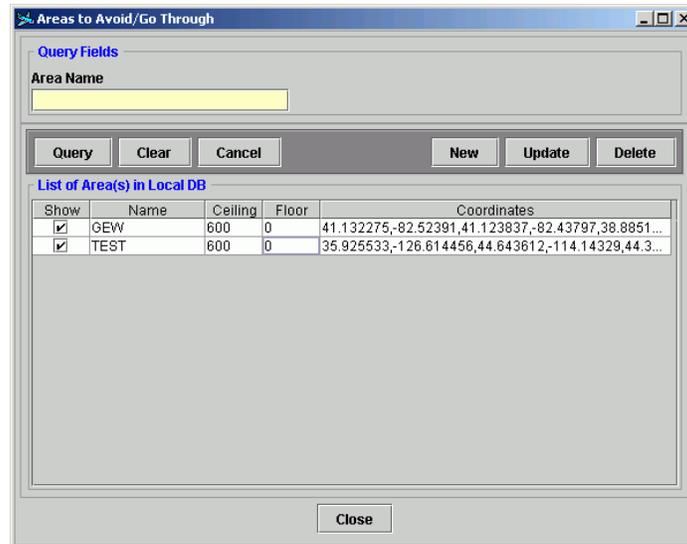


Figure 82: Saved Areas to Avoid/Go Through

If you click **New** to create a new area, the **Area Editor** appears. Give the area a name, and click the **Map** button to start drawing the area.

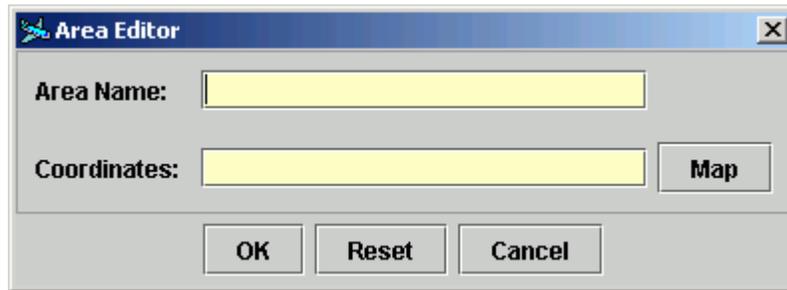


Figure 83: Area Editor

The Area Editor sends you to the RMT Map. Click to set a starting point and then continue outlining your area with single clicks. Once you have selected the final point, double-click to close the polygon. This selects the area's coordinates from the map and sends them to the **Coordinates** field of the Area Editor. Click **OK** to complete your area definition. The new area appears in the **List of Area(s) in Local DB** section of the Areas to Avoid/ Go Through window. You can also **Update** or **Delete** the areas you have created in your local database. Double-click the area name for the area (or areas) you want to use in your current reroute option query. The **Area(s)** you selected will appear in the Areas text field on the Find Options window. Click **Close** when you finish creating or editing Areas.

Run the Reroute Option Search

Once you have selected the route database(s) to search and finished entering any filtering criteria, click **Query** to begin the reroute option search. **Clear** resets any data you have entered in the Find Options window and clears the Query Summary and Grouping Results table. **Reset** returns the Find Options window to its default state. Click **Close** to close the Find Options window without running a query. You will see a Query Status bar at the bottom of the main ROG showing the status of your route option query. Click **Cancel** to cancel your query.

ROG lists the results of your query and filtering in the Grouping Results table and populates the **Query Summary** line with the route type information and any filters applied. The reroute options found by route type are listed in the Grouping Summary area on the main ROG window. Any centers, sectors, NAS Elements or area filter criteria are displayed on the map along with the potential reroute options.

Grouping Flights

The **Group Flights** component in the ROG Tool enables you to analyze the FEA/FCA, flight list and available reroute options. You can group flights and reroute options by up to three categories. The default flight grouping is by city pair.

Using the Group Flights Window

To group flights in the ROG Query Results table, click **Group Flights** (or **File > Group Flights**). Then select the first criterion by which you want to group the flights from the drop down box under **Group By**.

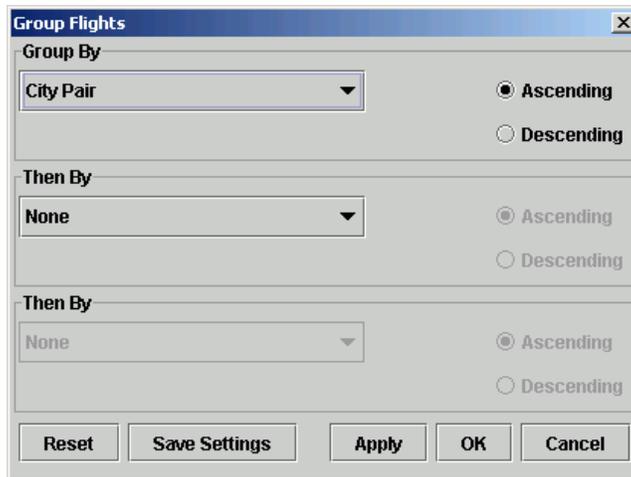


Figure 84: Group Flights Window (Default Settings)

You can group the flight list by the following criteria:

- **City Pair** - Origin and destination airport.
- **Orig** - Origin airport.
- **Dest** - Destination airport.
- **DCNTR** - Departure center.
- **ACNTR** - Arrival center.
- **Status** – Flight status; note that this category is ordered by the progression of a flight, S (Scheduled), R (Historical replaced by assigned route), N (Early Intent), P (Proposed), T (Taxi), A (Active-ETD is actual Departure Time), and E (Active ETD is estimated Departure Time).
- **Airline** - Airline code (note that GA flights beginning with N are listed in a ‘GA’ group).
- **Matches/No Matches** - Flights that do or do not have reroute options that match the last query run.
- **Arrival Time Bin** - 15, 30, or 60 minute arrival time bins.
- **Departure Time Bin** - 15, 30, or 60 minute departure time bins.
- **Flight Stage Length** - Length of flights in nautical miles (nm). The default length. grouping is 500 nm. Note that the flight stage length is estimated by the RMT trajectory maker.

Select whether you want the results displayed in **Ascending** or **Descending** order. If you have additional criteria by which you want to group the flights, select them from the two **Then By** fields and select whether you want them in **Ascending** or **Descending** order.

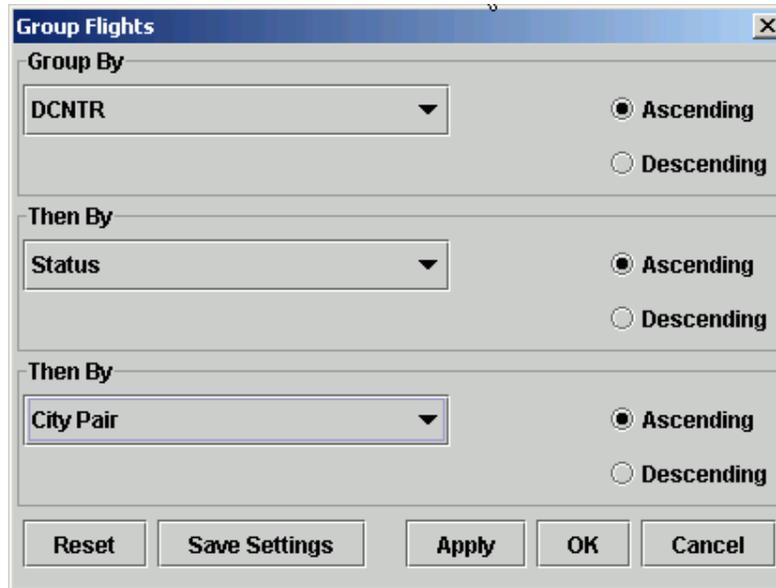


Figure 85: Group Flights Window with Three Grouping Criteria Selected

Click **Apply** to see the results without closing the Group Flights window or **OK** to apply the grouping and close the window. If you would like to change your default groupings settings, click **Save Settings**. This saves the information to your local configuration file. Note that if you click **Reset**, all groupings are reset to what has been saved to your local configuration file (city pair by default). If you click **Cancel**, the Group Flights window closes without regrouping the flights in the Grouping Results table.

Assigning Reroutes

Once you have run a search to identify potential reroute options for your flights that avoid the constrained area, you can select (or assign) reroute options for specific flights using the ROG Tool's **Assign Reroutes** component. This is part of the flight-centric ROG workspace that allows you to display detailed flight information along with pre-coordinated reroute options that avoid the FEA/FCA in both tabular and graphical format.

Using the Assign Reroutes Window

To begin selecting reroute options for flights, click **Assign Reroutes** from the ROG Tool Bar (or **File > Assign Reroutes**). The Assign Reroutes window appears.

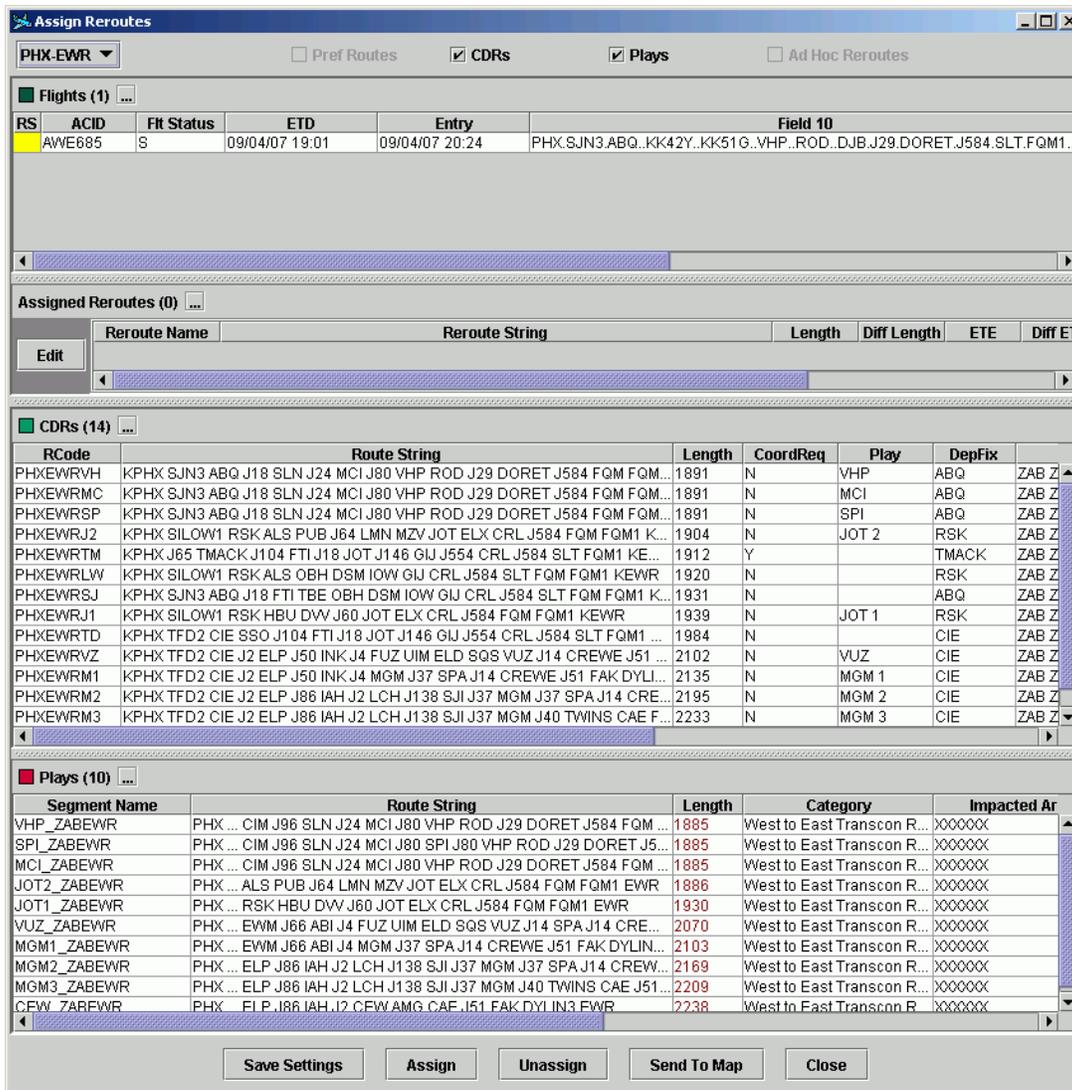


Figure 86: Assign Reroutes Window with Reroute Options for PHX-EWR Flights

Note that the route databases that were included in your reroute option query are shown at the top of the Assign Reroutes window. Route databases not included in the query are grayed out. Note that you can show/hide tables that have been included in the current display by clicking the checkboxes.

Select the city pair for which you want to reroute flights from the drop down box in the upper left hand corner of the window. The flights on the FEA/FCA flight list for that city pair appear in the **Flight(s)** section. Note that city pairs that do not have matches are designated in red in the drop-down list. The city pairs with at least one match are designated in black. Once you have selected (or assigned) reroute options for all flights for a city pair, the city pair name is shown in green.

The Assign Reroutes window is highly customizable. Click the ellipsis (...) button next to the different route type table names to show/hide columns in the tables. You can also move or resize columns as in other RMT tables. Click **Save Settings** to save changes to your local configuration files.

The **Flights** table includes the following flight-specific information (default configuration) plus the Reroute Assignment Status (RS) indicator column:

- **ACID** – Flight identifier.
- **Flt Status** – Flight status; S (Scheduled), R (Historical replaced by assigned route), N (Early Intent), P (Proposed), T (Taxi), A (Active-ETD is actual Departure Time), and E (Active ETD is estimated Departure Time).
- **ETD** – Estimated time of departure.
- **Entry** – FEA/FCA first entry time.
- **Field 10** – Route string.
- **Length** – Filed route length in nautical miles (calculated by the RMT trajectory maker).
- **ETE** – Estimated time en route.
- **Actype** - Aircraft type.
- **Alt** - Filed altitude.
- **Spd** - Filed speed.
- **TCNTRs** - Traversed centers.
- **DCNTR** - Departure center.
- **ACNTR** - Arrival center.

Several additional columns may be added through the **Show/Hide Columns** window (... button):

- **Orig** – Origin airport.
- **Dest** – Destination airport.
- **IGTD** – Initial gate time of departure.
- **ETA** – Estimated time of arrival.
- **Exit** – FEA/FCA last exit time.
- **CTL Element** – Control element.
- **CTD** – Controlled time of departure.
- **CTA** – Controlled time of arrival.
- **Fixes** – Fixes in flight's route.
- **Airways** – Airways in flight's route.

You will see a table with route-specific information for each of the route types included in your reroute option query if there were matches of that type for the specified city pair. The number of reroute options avoiding the FEA/FCA and the map display color is shown in the various table headers.

The **Preferred Routes** table includes the following information for each option that avoids the FEA/FCA:

- **Name** - Preferred route name (origin-destination-type-sequence number, RMT designated name).
- **Route String** - Route elements (airports, nav aids, fixes, jet routes) that make up the preferred route string.
- **Length** – Preferred route length in nautical miles (calculated by the RMT trajectory maker).
- **Area** - Preferred route area description.
- **Altitude** - Preferred route altitude description.
- **Aircraft** - Aircraft types that can use this route.

- **Direction** - Route direction limitations description.
- **TCNTRs** - Traversed centers.
- **DCNTR** - Departure center.
- **ACNTR** - Arrival center.

Optional columns include:

- **Orig** – Origin airport.
- **Dest** – Destination airport.
- **Hours1** - Effective times (GMT) for the route.
- **Hours2** - Effective times (GMT) for the route.
- **Hours3** - Effective times (GMT) for the route.
- **Type** – Route type.
- **Seq** - Route identifier sequence number.

The **CDR** table includes the following information for each option that avoids the FEA/FCA:

- **RCode** - CDR route code.
- **Route String** - Route elements (airports, nav aids, fixes, jet routes) that make up the CDR route string.
- **Length** – CDR route length in nautical miles (calculated by the RMT trajectory maker).
- **CoordReq** – The “Coordination Required Flag” indicating whether the CDR requires coordination when filed, values are Y for Yes - coordination is required or N for No - coordination is not required.
- **Play** - Associated Play name.
- **DepFix** - Departure fix.
- **TCNTRs** - Traversed centers.
- **DCNTR** - Departure center.
- **ACNTR** - Arrival center.
- **NavEqp** - Navigation equipment designator, values include 1- basic navigational routes, 2 – routes which begin and/or end with RNAV DPs and STARs, 3 - routes which contain Q-route segments and/or pitch and catch points.
- **Warnings** - Any warnings associated with the CDR.

Optional columns include:

- **ModTime** - Date and time the CDR was last updated (last Chart Date).
- **Orig** – Origin airport.
- **Dest** – Destination airport.
- **Remarks** - Any remarks associated with the CDR.

The **Plays** table includes the following information for each option that avoids the FEA/FCA:

- **Segment Name** – Play segment name (Play name_orig-dest, RMT designated segment name).
- **Route String** - Route elements (airports, nav aids, fixes, jet routes) that make up the Play segment route string.
- **Length** - Segment length in nautical miles (estimated by RMT and marked in red since Play segments are not defined end-to-end).

- **Category** - Playbook Category name, e.g. Airports, East to West Transcon Routes, South to Northeast Routes.
- **Impacted Area** - Impacted area or flow for the Play.
- **Filters** – Play segment filters.
- **TCNTRs** - Traversed centers.
- **DCNTR** - Departure center.
- **ACNTR** - Arrival center.
- **Instructions** - Any special instructions associated with the Play.
- **Remarks** - Any remarks associated with the Play.

Optional columns include:

- **Play Name** – Playbook Play name.
- **Orig** – Origin airport.
- **Dest** – Destination airport.
- **Facilities Included** - Facilities included or traversed by this Play.
- **Notes** - Any special notes associated with this Play.
- **Comments** - Any remarks associated with this Play.

The **Ad Hoc Reroutes** table includes the following information for each option that avoids the FEA/FCA:

- **Name** - Ad Hoc Reroute name.
- **Route String** - Route elements (airports, nav aids, fixes, jet routes) that make up the ad hoc reroute route string.
- **Length** – Ad hoc reroute length in nautical miles (calculated by the RMT trajectory maker).
- **DepFix** - Departure fix.
- **TCNTRs** - Traversed centers.
- **DCNTR** - Departure center.
- **ACNTR** - Arrival center.
- **Warnings** - Any warnings associated with the Reroute.

Optional columns include:

- **ModTime** - Date and time the ad hoc reroute was last updated.
- **Orig** – Origin airport.
- **Dest** – Destination airport.
- **Remarks** - Any remarks associated with the ad hoc reroute.
- **ModInit** - Initials of the person who modified the ad hoc reroute record.
- **ModUser** - The user type of the person who modified the ad hoc reroute record.

Select the flight (or flights) for which you want to assign the reroute. You can use standard Windows Shift-click and Ctrl-click functionality to select multiple flights. If you do not select a flight, then ROG assumes you want to assign the reroute to all of the flights for the selected city pair.

The FEA/FCA definition, the flight's current route (Field 10 route string) and the reroute options for the selected city pair are automatically sent to the RMT Map when you switch city pairs.

Note that if a flight has been amended en route, the flown portion of the route (before the tailoring indicator, ./.) will be shown as a dashed line. Selecting a reroute option on the map displays the navaids, fixes and airports along the route string. The associated row on the Assign Reroutes window is also highlighted for easier route selection. If you would like to show a subset of reroute options on the map, select the routes of interest in the route tables, then click **Send To Map**.

Select the reroute option you want to assign to the flight from the route tables and click **Assign**. The Reroute Assignment Status (**RS**) color changes to from yellow to green next to the flight. The information for the selected reroute appears in the **Assigned Reroutes** table. Note that you can assign the same reroute option to all flights from the selected city pair at the same time, or you can select different reroutes for each flight.

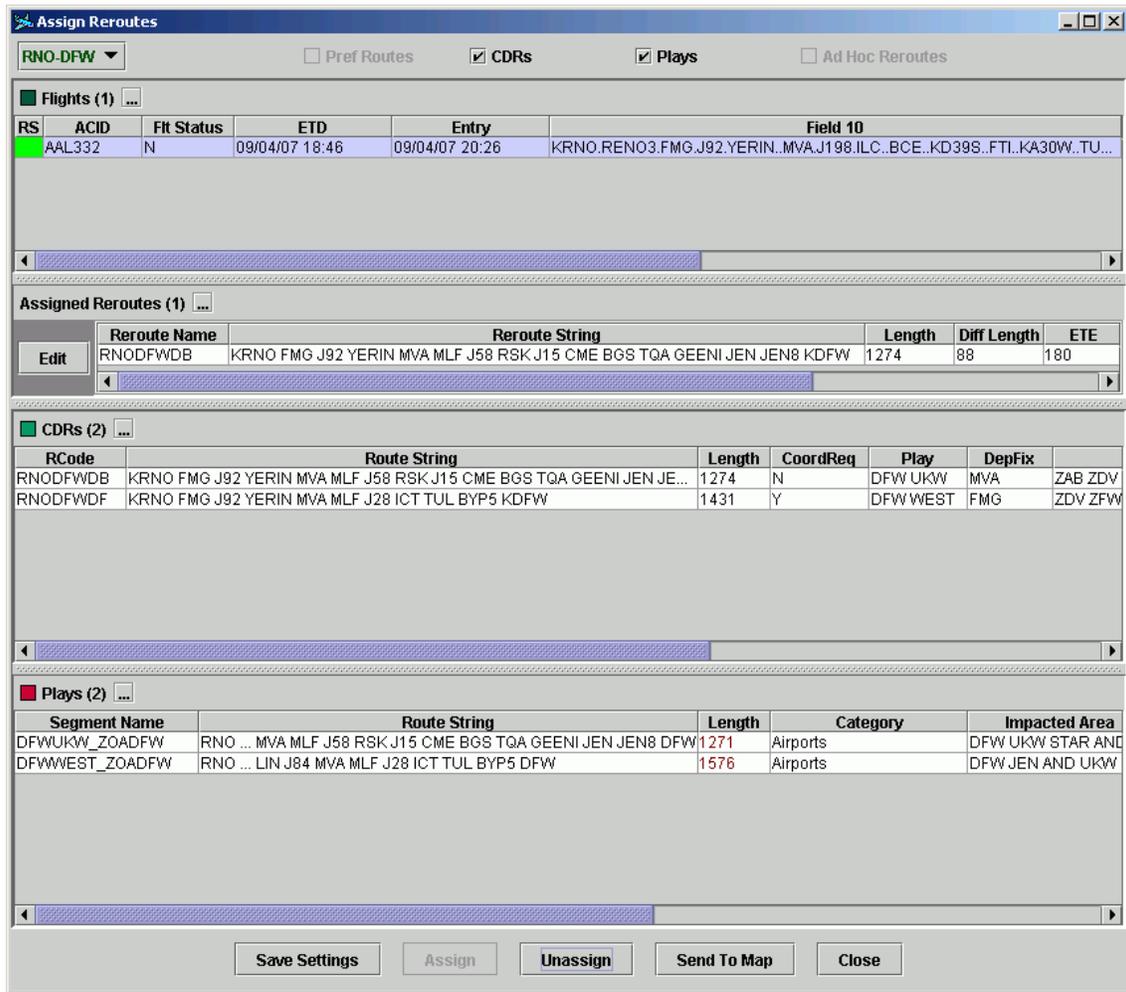


Figure 87: Assign Reroutes Window with Reroute Selected

The Assigned Reroutes table includes the following information for each reroute option selected (or assigned) that avoids the FEA/FCA:

- **Reroute Name** – Name of the selected reroute (e.g., CDR route code, Play segment name).
- **Reroute String** - Route elements (airports, navaids, fixes, jet routes) that make up the reroute route string.

- **Length** – Reroute length in nautical miles (calculated by the RMT trajectory maker).
- **Diff Length** – Difference between the reroute length and the original filed route length (reroute length – filed length).
- **ETE** – Estimated time en route for the reroute (estimated by RMT).
- **Diff ETE** – Difference between the reroute ETE and the original filed route ETE (reroute ETE – filed ETE as calculated by RMT).
- **Type** – Route type of the selected reroute (e.g., CDR, Play, Preferred Route or Ad Hoc).
- **Alt** – Reroute altitude.
- **Spd** – Reroute speed.
- **ETD** – Reroute estimated departure time.

If a flight(s) does not have any pre-coordinated options that avoid the FEA/FCA, you can edit the filed route or create an ad hoc reroute for that flight. You can also edit the assigned reroute information if necessary. To edit the flight's filed route, first highlight the flight record in the flights table and click **Assign** (you need to assign a reroute before you can edit it). You will then see the flight's filed information in the Assigned Reroutes table. Note that the RMT-designated Reroute Name for a reroute created from the flight record is ACID_FLT. If you change the altitude the Reroute Name changes to ACID_ALT, if you change the reroute string it becomes ACID_RTE, or ACID_COMB if both are changed.

Once a reroute has been assigned to a flight, click the **Edit** button in the Assigned Reroutes section and the **Reroute Editor** appears. From here you can manually adjust the flight or reroute option data. You can edit the reroute name, filed altitude and reroute string. Note that if the FEA/FCA has a floor and ceiling, you can file over or under the constraint. RMT verifies that the new reroute avoids the constrained area and provides warning messages if there are problems with the reroute. When you finish editing the reroute, click **OK** to accept the changes.

Reroute Name	Speed	Altitude	ETD	
BDLIAHM1	432	320	05/05/06 20:20	
Length	Diff Length	ETE	Diff ETE	Type
1375	68	241	9	CDR
Reroute String	KBDL BDL V405 PWL CMK J75 GVE J37 SPA.ATL VUZ JAN AEX DAS6 KIAH			

Errors

Reroute is okay.

OK Reset Cancel

Figure 88: Reroute Editor

If the reroute selected is a Play segment, you may see ‘...’ in the route string field. This indicates that part of the route may need to be filled in. Fill in the missing piece of the route or remove the ‘...’ if not applicable. Also note that if the flight record is active and has been amended en route, you will see the tailoring indicator ‘./.’ in the route string.

Note that clicking **Reset** returns the reroute's data to its original values if you have changed them manually; clicking **Cancel** closes the editor without changing the reroute data.

If you decide that the reroute option you have chosen is not the best for the flight, you can select the flight and click **Unassign** to remove the reroute from the flight. You have to remove an existing assigned reroute from a flight first in order to assign a different reroute to the same flight. When you have finished selecting (or assigning) reroutes to flights, click **Close**.

Tracking Flight/Reroute Selections Using Flight Summary

You can use the **Flight Summary** component to track the progress of flights/reroutes as they are assigned. The Flight Summary window provides a listing of all the flights you are permitted to see and shows which flights have reroutes selected for them and which do not. Flights with the **Reroute Assignment Status (RS)** field colored yellow do not have a reroute assigned to them. Flights with the RS field colored Green have a reroute assigned to them. Customers can submit EI messages directly from the **Flight Summary** window to ETMS.

Using the Flight Summary Window

To track flight/reroute selections, click **Flight Summary** (or **File > Flight Summary**). The Flight Summary window appears. The top section of the panel shows the same FCA/Query summary information as the main ROG panel. The flight list shows all flights included in the current FEA/FCA flight list file. The flight data can be sorted by double-clicking on one of the column headers, and you can resize and rearrange the columns just like the other RMT Tool tabs.

Flight Summary: FG_ICR
 FEA/FCA Summary: FG_ICR Data Time: 08/20/07 15:09 Start Time: 08/20/07 14:30 End Time: 08/20/07 23:30 Alt: 0-600 FSM
 Query Summary: CDRs, Plays Filters: All options that avoid FEA/FCA

RS	ACID	Flt Status	Matches	Orig	Dest	ETD	ETA	Actype	Alt	Spd	Reroute Name
Yellow	AAL1885	P	N	DFW	FAT	08/20/07 16:15	08/20/07 19:13	MD82	320	452	
Green	AAL2215	N	Y	DFW	SJC	08/20/07 18:10	08/20/07 21:22	MD80	330	430	DFWSJC1N
Yellow	AAL318	S	N	FAT	DFW	08/20/07 20:22	08/20/07 23:13	MD80	330	445	
Yellow	EGF14	P	N	FAT	LAX	08/20/07 15:55	08/20/07 16:47	SF34	170	254	
Yellow	EGF16	S	N	FAT	LAX	08/20/07 17:35	08/20/07 18:34	SF34	170	264	
Yellow	EGF52	S	N	FAT	LAX	08/20/07 18:55	08/20/07 19:52	SF34	170	264	
Yellow	EGF11	P	N	LAX	FAT	08/20/07 15:59	08/20/07 16:50	SF34	160	255	
Yellow	EGF13	S	N	LAX	FAT	08/20/07 17:21	08/20/07 18:15	SF34	160	260	
Yellow	EGF15	S	N	LAX	FAT	08/20/07 20:22	08/20/07 21:14	SF34	160	260	
Yellow	AAL1172	N	N	SJC	AUS	08/20/07 19:28	08/20/07 22:40	MD80	330	430	

10 Flights / 1 Assigned

Assign Unassign Select All Deselect All

Send EI Save... Print... Send To Map Close

Figure 89: Flight Summary Window

Select a flight and click **Assign** or double-click to assign a reroute. This takes you to the **Assigned Reroutes** window for the specified flight. Select a flight and click **Unassign** to remove an assigned reroute. See the “Assigning Reroutes” section for more information. Note that you can use standard Windows Shift +click and Ctrl +click functionality to select multiple flights at a time for the “Send to Map” or “Unassign” functionality.

The bottom left corner of the **Flights** section shows you how many flights traverse the FEA/FCA and the number of flights for which you have assigned reroutes.

Click **Send To Map** to view the selected flights and the assigned reroutes on the RMT Map. Note that you will see other elements on the map based on your default ROG map settings. If you want to save your flight/reroute selections for later reference, click **Save**, navigate to the location where you want to save the file and enter a name for the file in the **File Name** field. You can also print the information listed in the Flight Summary window by clicking **Print**. When you are finished using the Flight Summary window, click **Close**.

Submitting Early Intent Messages

Customers can submit Early Intent (EI) messages to ETMS for their flights from the ROG Flight Summary window. Note that this capability is only available to Customer users and submission is based on permissions defined in the airline_definitions.dat file (same file is used by the Common Constraint Situation Display (CCSD)). ROG provides error checking, ETMS submission status, and warning messages. RMT formats the EI messages in standard CDM message format.

ROG allows you to assign (or select) reroutes for all flights on the dynamic list, but only allows you to submit EI messages to ETMS for flights that do not have a filed flight plan. This includes flights with flight status of S – Scheduled, R – Historical replaced by assigned, and N – Early Intent. The **Send EI** button is enabled once you have assigned at least one reroute for your flights in the Assign Reroutes window. Clicking **Send EI** displays the EI Summary dialog.

To send EI messages to ETMS, click **Send EI** from the **Flight Summary** window. If there are no flights/reroute assignments in the appropriate status, the following warning message appears “Flights with assigned reroutes have already filed flight plans – no EI messages sent to ETMS.” Otherwise, the **EI Summary** dialog appears.

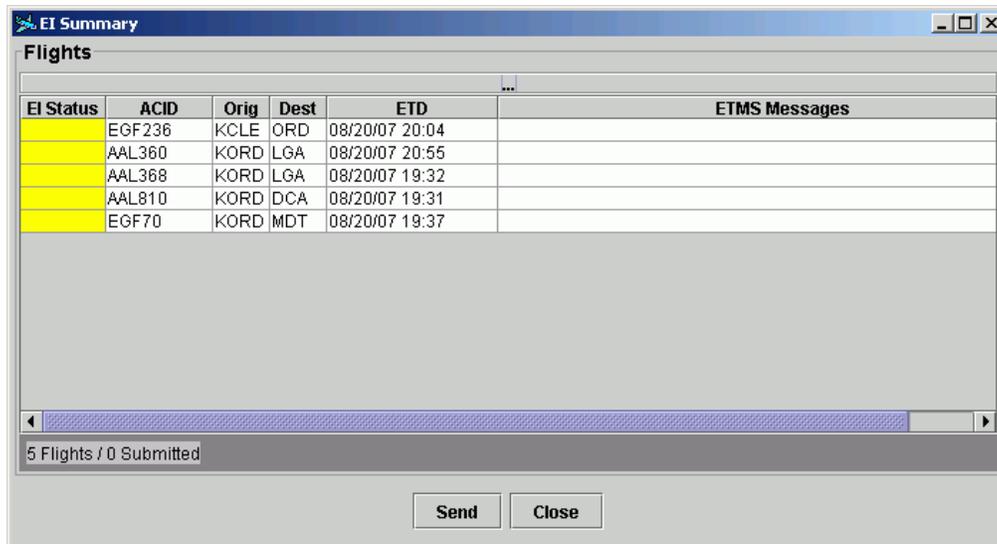


Figure 90: EI Summary Dialog

The EI Summary dialog has a table that includes one line for each flight/EI message sent to ETMS. The table has six columns by default, but you can show/hide columns by clicking the ellipsis (...) button on the dialog. The following are the default columns:

- **EI Status Indicator** - Yellow (EI message not submitted), Green (EI message submitted successfully), Red (Problem with EI message submission)
- **ACID** - Flight identifier.
- **Orig** - Origin airport.
- **Dest** - Destination airport.
- **ETD** - Estimated time of departure.
- **ETMS Messages** - Success message if EI was successfully submitted to ETMS, ETMS error message if the EI was not successfully submitted to ETMS.

You can add the following columns from the **Show/Hide Columns** window (... button):

- **IGTD** – Initial gate time of departure.
- **New Route** – Route string being submitted to ETMS in the EI message.
- **New Alt** – Altitude being submitted in the EI message.
- **New Spd** – Speed being submitted in the EI message.
- **ETE** - Estimated time en route.
- **Original Route** – Original route string of the flight.
- **Original Alt** – Original filed altitude of the flight.
- **Original Spd** – Original speed of the flight..
- **Actype** – Aircraft type.

A count of the EIs and their status appears in the lower left corner of the EI Summary dialog. When you click **Send**, RMT sends the EI messages to ETMS and saves the messages to a file. You can track the progress of the submission using the progress bar at the bottom of the EI Summary dialog. The progress bar shows the EI messages sent and responses received from ETMS. If all EI responses from ETMS are not received within 60 seconds, a warning message appears in the progress bar. Once you've finished submitting EIs to ETMS, click **Close** at the bottom of the dialog.

Early Intent messages sent to ETMS are saved to a file automatically for troubleshooting purposes. The files are saved in the “ei_files” directory one level below the main RMT program directory (note that the save directory name is a configurable parameter). You can choose not to save the EI messages by unchecking the **Save EI Files** checkbox under the ROG Tool **Settings** menu. Select **Settings > Save Settings** to permanently change the settings described above.

The file contains the following information (standard CDM EI message format):

- Message Type - Flight Plan (FP)
- Call Sign
- Aircraft Type
- Airspeed
- Departure Airport
- Departure Time
- Cruising Altitude
- Route String/Estimated Time Enroute
- Remarks (optional); separated by a vertical bar

Creating Route Guidance Using the Reroute Planner

The Reroute Planner is part of the ROG constraint-centric view that provides decision support to FAA Traffic Managers for developing route guidance and reroute plans. The Reroute Planner includes a list of applicable Plays with flight counts and a measure of Play overlap. The Reroute Planner also provides a list of flights/city pairs that do not have pre-coordinated options avoiding the FEA/FCA (note this includes Plays and CDRs only in the initial phase of development). ATCSCC users can now export reroute plan information to the TSD Create Reroute dialog through file exchange if they are using both applications on the same workstation.

Using the Reroute Planner Window

To examine the Play options applicable for the flight list being evaluated, click **Reroute Planner** (or **File > Reroute Planner**) on the ROG Tool Bar. The **Reroute Planner** window appears.

FEA/FCA Summary: DFM_IAD_ZDC Data Time: 07/31/07 21:33 Start Time: 07/26/07 17:45 End Time: 08/02/07 17:45 Alt: 0-600
 Query Summary: CDRs, Plays Filters: All options that avoid FEA/FCA
 Counts: Flights: 37 City Pairs: 24 Matching Plays: 11
 No Matches Found: Flights: 7 City Pairs: 6 List CDR Matches Only: Flights: 11 City Pairs: 6 List
 Reroute Plan: Flights Covered: 0 City Pairs Covered: 0 Plays:

Show	Add to Plan	Reroute Plan Components	Description	Additional Distance (nm)	Max Distance (nm)	Remaining Flights
<input type="checkbox"/>	<input type="checkbox"/>	PXV (17 flts / 45%)	West to East Transcon Routes	80	265	17
<input type="checkbox"/>	<input type="checkbox"/>	IU (17 flts / 45%)	West to East Transcon Routes	83	265	17
<input type="checkbox"/>	<input type="checkbox"/>	MCI (17 flts / 45%)	West to East Transcon Routes	108	758	17
<input type="checkbox"/>	<input type="checkbox"/>	SPI (17 flts / 45%)	West to East Transcon Routes	133	783	17
<input type="checkbox"/>	<input type="checkbox"/>	BNA (17 flts / 45%)	West to East Transcon Routes	166	571	17
<input type="checkbox"/>	<input type="checkbox"/>	VUZ (17 flts / 45%)	West to East Transcon Routes	346	868	17
<input type="checkbox"/>	<input type="checkbox"/>	MGM 1 (3 flts / 8%)	West to East Transcon Routes	300	354	3
<input type="checkbox"/>	<input type="checkbox"/>	MGM 2 (3 flts / 8%)	West to East Transcon Routes	367	421	3
<input type="checkbox"/>	<input type="checkbox"/>	MGM 3 (3 flts / 8%)	West to East Transcon Routes	407	461	3
<input type="checkbox"/>	<input type="checkbox"/>	CEW (3 flts / 8%)	West to East Transcon Routes	436	490	3
<input type="checkbox"/>	<input type="checkbox"/>	MACER1 (2 flts / 5%)	Regional Routes	132	133	2

Save... Print... Send Plan to Map Send to TSD Close

Figure 91: Reroute Planner

The **FCA/Query Summary** section at the top of the Reroute Planner window provides the **FEA/FCA Summary** and **Query Summary** information for reference. See the “Main ROG Tool Window” section for more details.

The **Counts** section shows you the number of flights and city pairs affected and the number of Plays with matching segments that avoid the FEA/FCA for flights on the flight list (Matching Plays). If there are flights and city pairs which have no reroute options that avoid the FEA/FCA, they appear in the *No Matches Found* section. To see which city pairs and flights had no matches, click **List** next to the *No Matches Found* section. The **No Matches Found** window appears.

City Pair	Flts
CMH-IAD	1
CYVR-IAD	1
DAY-IAD	1
MSP-IAD	2
MWO-IAD	1
STP-IAD	1

6 City Pairs / 7 Flights

Close

Figure 92: City Pairs with No Matches Found

If any flights and city pairs do not have Play segments, but do have CDR options that avoid the FEA/FCA, then the *CDR Matches Only* section is populated. To see which flights and city pairs have only CDR matches, click **List** in the *CDR Matches Only* section. The **CDR Matches Only** window appears.

City Pair	Flts
CLE-IAD	2
CVG-IAD	2
DTW-IAD	3
IND-IAD	1
MDW-IAD	2
PIT-IAD	1

6 City Pairs / 11 Flights

Close

Figure 93: City Pairs with CDR Matches Only

The table lists the Plays with segments avoiding the FEA/FCA for the flights on the flight list. The **Reroute Plan Components** column shows you the applicable Play Names. The **Description** column has the associated Play Category. The number of flights covered by the Play is shown in the **Remaining Flights** column. In the example shown in Figure 91, Play PXV has segments that avoid the FEA/FCA for 17 of the 37 flights on the flight list. VUZ also covers 17 flights in this case.

The Reroute Planner also calculates different statistics for each Play to provide a relative measure of the impact of applying that Play. This may help with choosing specific Plays and developing route guidance or a reroute plan. The **Additional Distance** column shows you the average

additional distance in nautical miles the covered flights would take if that Play was applied. The **Max Distance** column shows you the maximum additional distance in nautical miles any of the covered flights would take if that Play were applied. It is important to keep in mind that Play segment lengths are estimated (Play segments are not always defined end-to-end) and these statistics should be used to measure the relative differences between the Play options. Note the statistics are highlighted in red in the table.

You can show the Play segments avoiding the FEA/FCA for the flights on the flight list on the map by clicking the checkbox in the **Show** column. Each Play will be displayed in a different color. This shows you where each of the Plays selected would reroute the flights on the flight list.

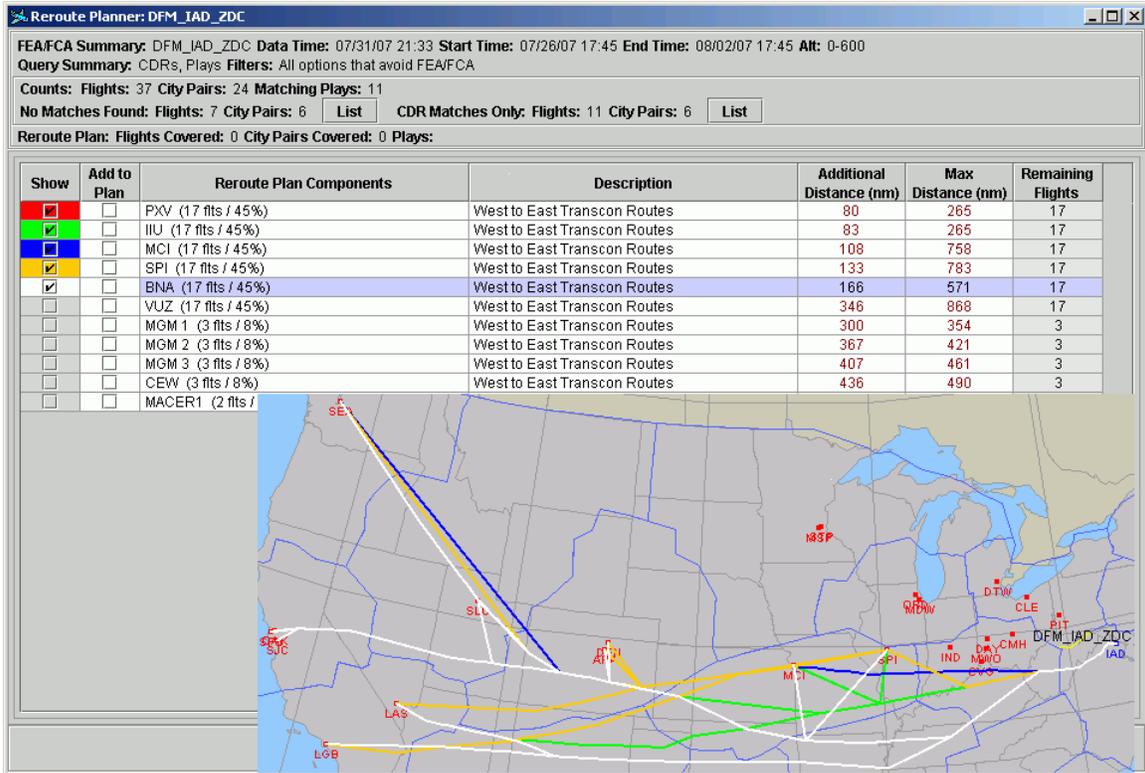


Figure 94: Show Plays from the Reroute Planner

Once you have decided which Plays to add to your reroute plan based on the current situation, the statistics and the map, click the corresponding checkboxes in the **Add to Plan** column. The counts and Play names in the *Reroute Plan* line are updated with your selections.

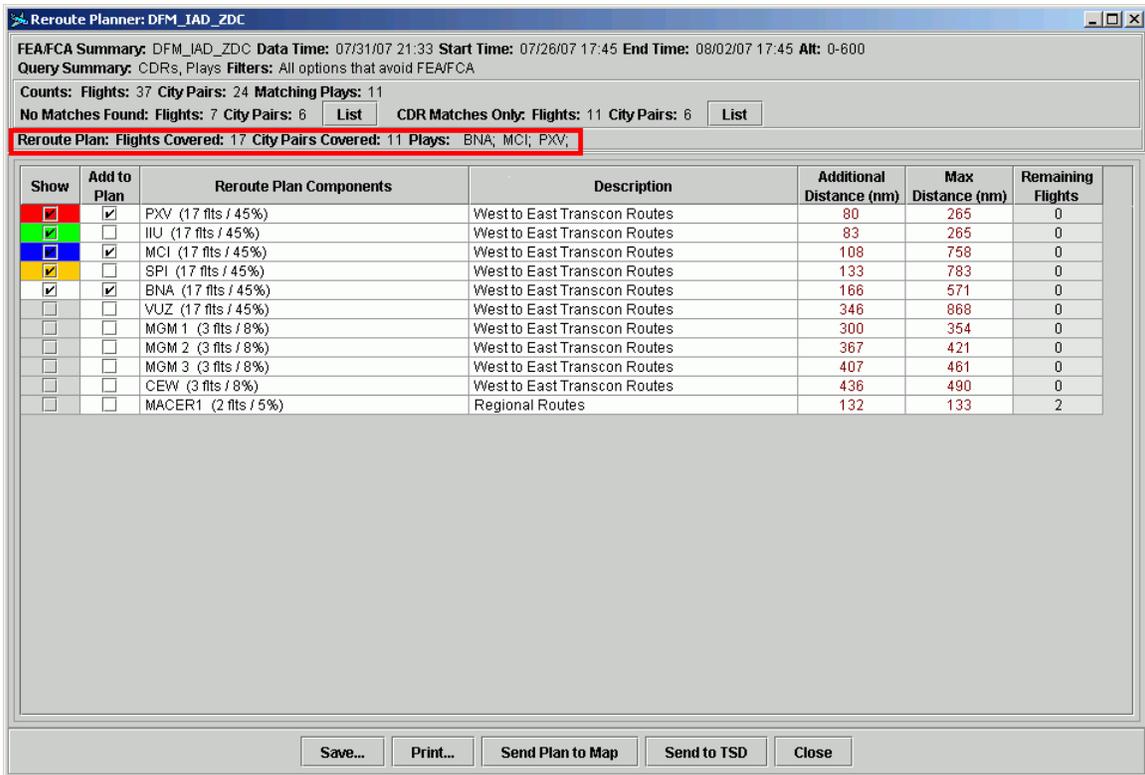


Figure 95: Reroute Planner with Reroute Plan

Note that the number of *Remaining Flights* changes based on which components are ‘added to the Plan’. Once a Play has been selected, the remaining flights count for that Play goes to zero and the counts for the other Plays are adjusted. This shows you how the Plays overlap and what additional Plays may provide reroute options for the remaining flights. In Figure 95, three Plays are included in the reroute plan; BNA, MCI and PXV. 17 of the 37 flights on the FEA flight list were covered by this plan. The 7 flights/6 city pairs without pre-coordinated options are listed in the *No Matches Found* section (Figure 92). Note that clicking **Send Plan to Map** shows the Plays included in the reroute plan on the RMT Map. This shows you what the final reroute plan would look like on the map.

If you want to view this information later, click **Save**, navigate to the location where you want to save the file and enter a name for the file in the **File Name** field. You can also print the information listed in the Reroute Planner window for later reference by clicking **Print**. Once you are satisfied with your selections, click **Close**.

ATCSCC users may send the reroute plan information to the TSD Create Reroute dialog. RMT and TSD will communicate initially through XML file exchange. Note that the **Send to TSD** button only appears on workstations running both the RMT and TSD applications. If you want to export information to the TSD, click **Send to TSD**. An XML file is created containing the Origin, Destination and the Route String for each city pair covered by Plays that you selected for inclusion in the Reroute Plan. Files created through RMT will be accessed through the **RMT File** button on the TSD Create Reroute dialog.

Change Route Records

Flight routes do not remain static. Individual routes may change or become obsolete; new routes could be created; and route element names could change. Using RMT, FAA administrator users are able to modify coded departure routes using the CDR Tool. The Playbook administrator at the ATCSCC is able to modify Playbook Plays. Customers and FAA users can create and update ad hoc reroutes for their own use.

All FAA users can view modifications made to the route records in the CDR and Playbook databases. However, only ATCSCC and ARTCC administrators can actually change the route records. Administrators have the ability to make necessary route modifications in the CDR and Playbook *staging* databases. ARTCC administrators can only create, delete, or modify routes departing from their own center. The ATCSCC administrator can create, delete, or modify any route, from any center if required during the verification process.

If you are a CDR administrator, you can use the CDR Tool *New*, *Update* and *Delete* buttons to complete any route modifications. You can also update your route records by importing a text file with all your routes into the staging database. The CDR Tool reads both ASCII and Host Stereo files into the database.

RMT recognizes two types of modifications to existing CDR and Play routes: *local modifications* and *global modifications*. A local modification is a change that affects a single route record. For example, the route string may change. A global modification is a name change to a route element and can affect many routes. For example, a STAR number could change, which affects any type of route using that STAR number.

View Route Record Modifications

Any FAA user can view the local and global modifications that have been made to a route (CDR or Play). Viewing the modifications can be especially important, however, to ATCSCC and ARTCC administrators. The global modifications display indicates which centers need to update their route records to reflect global name changes.

Viewing a local modification shows the history of all changes made to a *single route record*. Viewing a global modification will show the old and new values for a route element as well as *the centers and number of routes* affected by a global name change. The Playbook global modification panel shows if any Plays are affected by a global name change.

View the Local Modification History

To view the history of a CDR or Playbook Play, make sure that the Modifications section is displayed by selecting **Modifications > Show Modifications**. You should see the Modifications section at the bottom of the tool window. Click the **Local Modifications** tab.

The data columns appearing in the **Local Modifications panel** match the column order and size from the Query Results table. The settings are read from the user's saved preferences in the local configuration file for each tool window. Note that the modification time and modification flag will always be 'turned on' in the Local History panel. Modification time may not be as critical for operational use, but it important for the history display. For more information on the columns, see "The Query Results Table" on page 39.

CDR Local Modification History Records

To view the CDR local modifications, you must first select the route record whose modification history you want to see. Run a search in the CDR Tool for the desired record. In the Query Results table of the CDR Tool, **double-click** the route record for which you want to view modification information. The route record should be highlighted in the Query Results table and also appears in the Modifications section with a listing of all the modifications made to the route. Each modification is listed in its own row.

The screenshot shows the RMT 1.50 application window. The main area is titled "CDR" and displays the effective dates "25 Oct 2007" and "20 Dec 2007". Below this is a "Query Fields: CDR Staging" section with various input fields for Route Code, Origin/Dep Center, Dest/Arr Center, Traversed Centers, Departure Fix, Mod Date/Time, Route String, Remarks, Warnings, Modnit, ModUser, ModFlag, Route Length, Coordination Required, Nav Eqp, Associated Play, and Play/ModFlag. A "Database" section on the right has radio buttons for "CDR Operational" and "CDR Staging". Below the query fields is a "Query Results: CDR Staging" table with columns for ModTime, RCode, Orig, Dest, Route String, CoordReq, and DepFix. The table contains 89 records. Below the query results is a "Modifications" section with a table for "Local Modifications" with columns for ModTime, RCode, Orig, Dest, Route String, CoordReq, DepFix, DCNTR, and ACNTR. This table contains 5 records.

Figure 96: CDR Local Modifications Tab

Playbook Local Modification History

Playbook local history is available for FAA users in both the operational and staging databases. The operational history lists only records that were effective for at least one 56-day chart cycle. The staging history includes a record for every change made to a Playbook Play.

The same general Play information available in the Query Results table is shown in the Local Modifications tab. Select a Play in the Local Modifications tab and click the **View Play History** button to see the segment-level details for that Play. The historical Play information can be displayed on the RMT Map by clicking the **Send to Map** button, saved by clicking the **Save** button or printed by clicking the **Print** button on the **View Play History** window.

View Global Modifications

Each center is responsible for ensuring that the global modifications (or global name changes) that affect routes they control are completed every 56-day cycle. Administrators can see whether the center has completed modifying its affected routes in the global modifications tab. See the “Global Modifications” section on page 106 for related information. Note that if you are an ARTCC administrator, you will only see the column for your center.

Make sure the Modifications section is visible. Select **Modifications > Show Modifications** to see the Modifications section. Click the **Global Modifications** tab in this section. All the global modifications planned for the next cycle and future cycles are listed.

ID	EffDate	Time	Init	ModUser	Center	OrigVal	FinalVal	Remarks	ZAB	ZAU	ZBW	ZDC	ZDV	ZFW	ZHU	ZID	ZJK	ZKC
1	10/30/2003	09/08/2003 14:32:39	AC	ADMIN_ZDV	ZDV	FMN	RSK	NFDD 161	█	█	█	█	█	█	█	█	█	█
2	10/30/2003	09/16/2003 23:40:48	MDO	ADMIN_ZTL	ZTL	STROS3	STROS4	NFDD 167 PAGE 40	█	█	█	█	█	█	█	█	█	█
3	10/30/2003	09/16/2003 23:41:54	MDO	ADMIN_ZTL	ZTL	ROKIT6	ROKIT7	NFDD 167 PAGE 38	█	█	█	█	█	█	█	█	█	█
4	10/30/2003	09/16/2003 23:42:28	MDO	ADMIN_ZTL	ZTL	DAS6	DAS6	NFDD 167 PAGE 30	█	█	█	█	█	█	█	█	█	█
5	10/30/2003	09/16/2003 23:43:11	MDO	ADMIN_ZTL	ZTL	BUZZY5	BUZZY6	NFDD 169 PAGE 24	█	█	█	█	█	█	█	█	█	█
6	10/30/2003	09/16/2003 23:44:00	MDO	ADMIN_ZTL	ZTL	GLASR5	GLASR6	NFDD 134 PAGE 24	█	█	█	█	█	█	█	█	█	█
7	10/30/2003	09/18/2003 01:07:04	VM	ADMIN_ZAU	ZAU	CHINS4	CHINS5	STAR CHG	█	█	█	█	█	█	█	█	█	█
8	10/30/2003	09/18/2003 01:11:20	VM	ADMIN_ZAU	ZAU	TARNE2	TARNE3	STAR CHG	█	█	█	█	█	█	█	█	█	█
9	10/30/2003	09/22/2003 17:50:12	RH	ADMIN_ATCSCC	ADMIN	CUGAR1	CUGAR2	UPNUMBERED	█	█	█	█	█	█	█	█	█	█
10	10/30/2003	09/22/2003 17:55:09	RH	ADMIN_ATCSCC	ADMIN	GLAND2	GLAND3	UPNUMBERED	█	█	█	█	█	█	█	█	█	█
11	10/30/2003	09/22/2003 18:48:26	RH	ADMIN_ATCSCC	ADMIN	LISSE5	LISSE6	UPNUMBERED	█	█	█	█	█	█	█	█	█	█
12	10/30/2003	09/23/2003 14:30:14	HP	ADMIN_ATCSCC	ADMIN	BOOTH2	BOOTH4	UPNUMBER	█	█	█	█	█	█	█	█	█	█
13	10/30/2003	09/23/2003 14:30:43	HP	ADMIN_ATCSCC	ADMIN	BOOTH7	BOOTH4	UPNUMBERED	█	█	█	█	█	█	█	█	█	█

Figure 97: Global Modifications Tab

Each global modification is listed in its own row with several information columns. The columns available in the Global Modifications tab are:

- **ID** - Identification number automatically assigned to the modification based on the order the modifications are created.
- **Effective Date** - Chart date on which the modification will go into effect.
- **Time** - Global modification record "create" time, or, the date and time the global modification was entered into the system.
- **Init** - FAA-assigned initials of the user who entered the global modification (FAA Administrators only).
- **ModUser** - User type of the person who entered the global modification. The user type will always be the administrator from the ATCSCC, ATA-100, or a specific center administrator.
- **Center** – Center that entered the global modification. With the exception of the ATCSCC, each center can only make changes to the routes they control. If their changes affect other centers, the other centers must make changes to their own routes. The administrator listed in this column can be the ATCSCC, ATA-100, or an FAA center.
- **OrigVal (Original Value)** – Identifier of the route element before it was changed.
- **FinalVal (Final Value)** – New identifier for the updated route element.
- **Remarks** – Any remarks associated with the global modification.
- **Center Names** - ARTCC users will see their center listed at the end of each global modification row. The box color in the center column indicates whether the center is affected by the modification and whether the center has updated their affected routes. Gray indicates that the center is not affected. Green indicates that some center routes are affected, but have already been updated. Red indicates that some center routes are affected and still need to be updated.

Customize the Modifications Section

Local and global modifications are listed in rows with several columns of information. You can change the appearance and order of the rows, as well as use the RMT sorting capabilities to customize your modifications display. Note that if you do change the column appearance in the Modifications section, you cannot save the display changes between RMT sessions.

Sort Records

Double-click any column header to sort modifications in ascending order according to column selected. To view a descending sort according to the same field, simply double-click on the column header again.

Change Column Order

To rearrange column order, simply click and drag the column header you wish to move to the desired location. The moved column will drop in place and the other columns move to the right of the inserted column when you release the mouse.

Resize Columns

To resize a column, place your cursor on the line between two columns. When the cursor becomes a double arrow, click and drag the border to the desired width.

Global Modifications

Global modifications (or global name changes) may affect many routes because they are an actual name change to a common route element. Typically, these changes are DP or STAR number changes. To view the current and future global modifications, select **Modifications > Show Modifications** in the CDR or Playbook Tool window.

Typically, the ATCSCC administrator enters the global modification table entries based on a report sent from the NFDC at the beginning of each 56-day chart cycle. ARTCC CDR administrators are also able to enter global modifications if necessary.

Create a Global Modifications Entry

To create a new entry in the Global Modifications table for all FAA users to see, select **Modifications > Global Modification**. The Global Modification window appears. There are four sections in the Global Modifications window: Effective Date, Changes, Action, and Status.

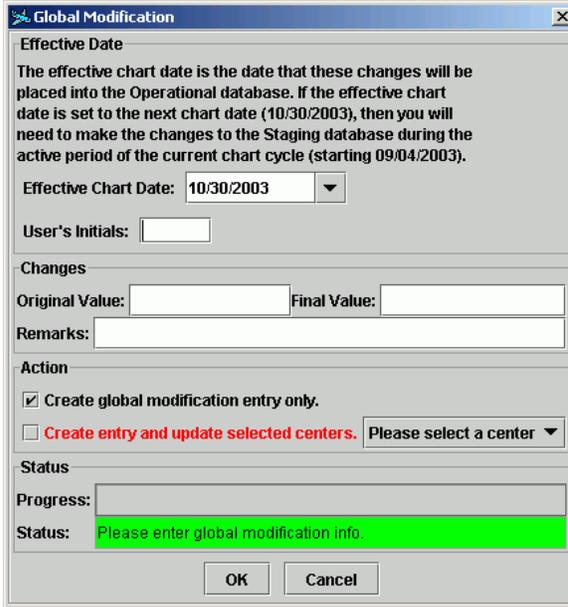


Figure 98: Global Modifications Window - ATCSCC Administrator View

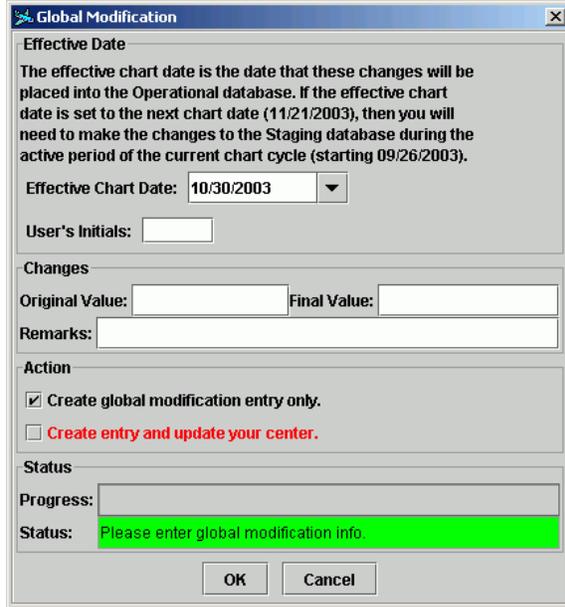


Figure 99: Global Modifications Window - Center Administrator View

In the **Effective Date** section, you must put in the chart date for which you want the global modification to take effect. The default date is the next chart date. Note that you can enter global modifications for future chart cycles. Click the triangle on the right of the Effective Chart Date field and a drop-down menu appears with the next 5 valid chart dates. Click a chart date to select it as your Effective Chart Date. To choose a chart date beyond the next 5 planned chart dates, simply type a valid chart date in the Effective Chart Date field. To view the valid chart dates, select **Help > Show Chart Dates**. In this section, you must also type in your FAA-assigned initials in the User's Initials field.

In the **Changes** section, type in the actual global modification name change that is to take place. Global modifications include route elements that are new, cancelled, or modified. You can also type in any remarks you feel necessary about the change in this section (e.g. NFDD number).

- To enter a **new route element**, type NEW_ELEMENT in the Original Value field and the element name in the Final Value field. Note that a green box will appear in the global mod row for a center if the new element is found in that center's routes.
- To enter a **cancelled element**, type in the element name in the Original Value field. Type CANC_ELEMENT in the Final Value field. Note that a red box will appear in the global mod row for a center if the cancelled element is found in that center's routes. The center must modify or delete the affected routes as appropriate.
- To enter a **modified element**, type the original value of the route element in the Original Value field. Type in the new value of the route element in the Final Value field. For example, if STAR number ROKIT6 is to change to ROKIT7, the original value would be ROKIT6 and the final value would be ROKIT7.

Please note that if you wish to enter a global modification for an airport, you must enter the 4 character code to avoid potential confusion with nav aids.

There are two options in the **Actions** section. Checking **Create global modification entry only** will create an entry in the table and provide a count of the number of routes affected by center. Center administrators also have the option to **Create entry and update your center**, which will create an entry in the table and automatically update any of your center's routes affected by the change. Other centers are still responsible for changing their own routes. The ATCSCC administrator can update all the centers' routes affected by the global modification by checking **Create Entry and Update Selected Centers**.

The **Status** section gives you instructions for filling in the Global Modifications window fields and informs you of the progress while counting or updating the necessary route records.

Click **OK** to add the global modification entry or **Cancel** to exit the window without updating the table.

A Global Modification Summary window appears with statistics including the number of routes affected and number of routes changed by departure center. A new row will appear in the Modifications section with the information you entered in the Global Modifications window.

If you chose to update routes, the ModFlag column for the affected routes will have an "M" to indicate that the route has been modified. In the remarks field, all the routes that were just updated will have a default message with the old and new route element name and your user name. Verify in the Modifications section that the status box under your center column for the new global modification entry is green.

Recalculate/Refresh the Global Modifications Table

In the Modifications section of the CDR Tool, the ATCSCC administrators can determine which centers are affected by a global modification by viewing the red, green and gray boxes under the centers' codes. A red box indicates the global modification affects some of the center's routes, but the center has not updated their routes. A green box indicates that the global modification affects some of the center's routes and the center has updated their affected routes. A gray box indicates that the center's routes are not affected by the global modification.

The **Recalculate** feature causes RMT to go through all the routes and recalculate or update the boxes with the latest center status data. Note that the global modification status is updated or recalculated automatically every time an ARTCC administrator updates their routes from an ASCII or Stereo file.

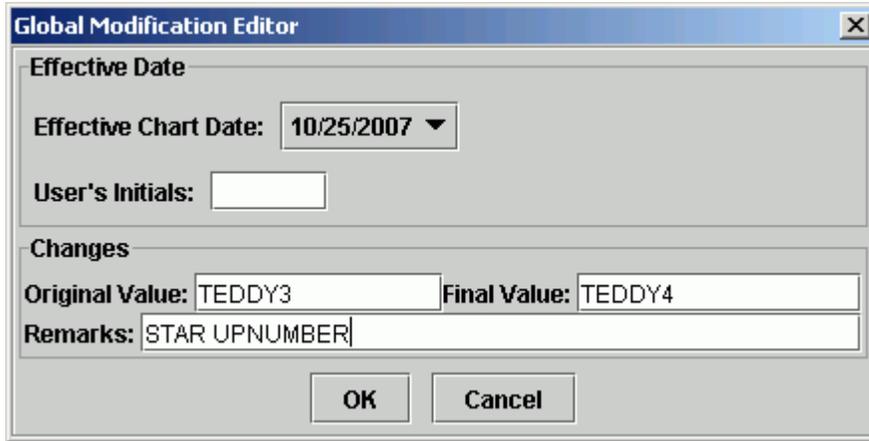
The **Refresh** button allows the Global Modification status information to be refreshed at any time. This could be helpful if several users have been updating their routes and changing the colors of the status boxes information simultaneously.

ID	EffDate	Time	Init	ModUser	Center	OrigVal	FinalVal	Remarks	ZAB	ZAU	ZBW	ZDC	ZDV	ZFW	ZHU
1	06/08/2006	04/19/2006 18:30:05	RH	ADMIN_ATCSCC	ADMIN	JORDN1	JORDN2	UPNUMBERED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	06/08/2006	04/19/2006 18:32:09	RH	ADMIN_ATCSCC	ADMIN	KEATN2	KEATN3	UPNUMBERED	<input type="checkbox"/>						
3	06/08/2006	04/19/2006 18:43:24	RH	ADMIN_ATCSCC	ADMIN	ZIGGY3	ZIGGY4	UPNUMBERED	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	06/08/2006	04/28/2006 15:31:05	RH	ADMIN_ATCSCC	ADMIN	CETUS2	CANC_ELEMENT	NFDD 68	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	06/08/2006	04/28/2006 15:31:56	RH	ADMIN_ATCSCC	ADMIN	GONNE2	CANC_ELEMENT	NFDD 68	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	06/08/2006	04/28/2006 15:32:28	RH	ADMIN_ATCSCC	ADMIN	WAKEM2	CANC_ELEMENT	NFDD 68	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	06/08/2006	05/08/2006 16:48:06	GEW	ADMIN_METRON	ADMIN	RMG3	ERLIN2		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 100: Recalculate/Refresh Global Modification Information

Update a Global Modification Entry

Administrator users have the ability to edit and delete global modifications that have not yet been applied at any centers. This may be helpful if an entry was entered incorrectly (typo). To update a global modification entry, select the global modification record you wish to update. Then click the **Update** button. A window pops up to ask if you really want to edit the global modification record. Click **OK** to proceed with the update. Click **Cancel** to cancel the action. If you proceed with the update, the **Global Modification Editor** window opens. In this window, fill in the change you wish to make and click **OK** to proceed with the change. Clicking **Cancel** will close the window without taking any action.



The screenshot shows a dialog box titled "Global Modification Editor". It has a blue title bar with a close button (X) on the right. The dialog is divided into two sections: "Effective Date" and "Changes".

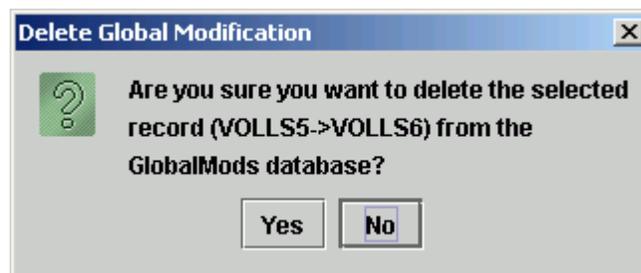
- Effective Date:** Contains a label "Effective Chart Date:" followed by a dropdown menu showing "10/25/2007". Below this is a text input field labeled "User's Initials:" which is currently empty.
- Changes:** Contains two text input fields: "Original Value:" with the text "TEDDY3" and "Final Value:" with the text "TEDDY4". Below these is a larger text area labeled "Remarks:" containing the text "STAR UPNUMBER".

At the bottom of the dialog are two buttons: "OK" and "Cancel".

Figure 101: Global Modification Editor

Delete a Global Modification Entry

To delete a global modification entry, select the global modification record you wish to delete. Click the **Delete** button to delete the selected record. A warning message will let you know which global modification is to be deleted and ask if you wish to proceed. Click **OK** to delete the record. Click **Cancel** to close the window without taking any action on the record.



The screenshot shows a dialog box titled "Delete Global Modification". It has a blue title bar with a close button (X) on the right. The dialog contains a green question mark icon on the left. The main text reads: "Are you sure you want to delete the selected record (VOLLS5->VOLLS6) from the GlobalMods database?". At the bottom are two buttons: "Yes" and "No".

Figure 102: Delete Global Modification Warning Message

Create a New Global Modification Entry

The **New** button at the bottom of the Global Modifications tab brings up the Global Modifications window described above in the "Create a Global Modifications Entry" section on page 106.

Perform a Global Modification

All routes from a particular departure center that are affected by a global name change can be updated at the same time through the Modifications section.

Center administrators can display the Modifications section at the bottom of the CDR or Playbook Tool using the **Modifications > Show Modifications** menu option and clicking the Global Modifications tab. The list of global name changes entered by the ATCSCC administrator should appear in the Modifications section. If a red box appears in the center name column, click on the red box to apply the global modification to all the CDR routes from your center. The Global Modification window appears, select the **Update Selected Centers** option after verifying that your center name appears in the drop-down box. A Global Modification Summary window is displayed with statistics including the number of routes affected and number of routes changed by departure center. After closing the summary dialog, verify in the Modifications section that the status box under your center column has changed to green.

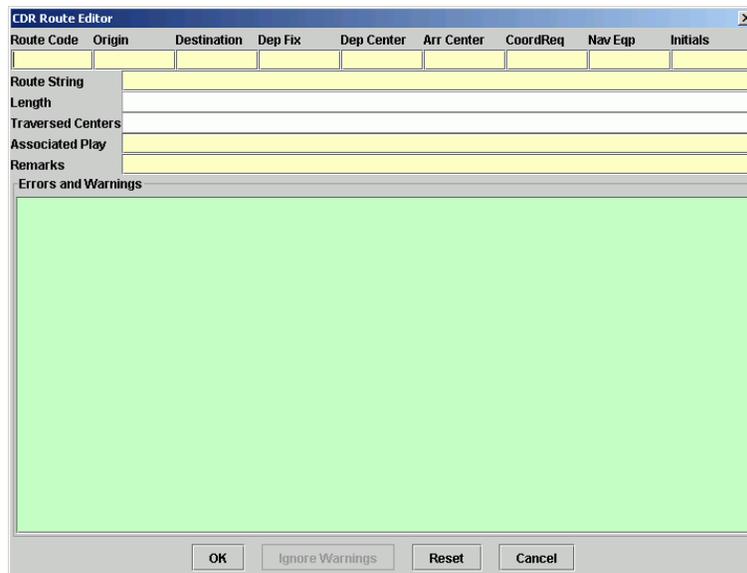
Note that NEW_ELEMENT and CANCELLED_ELEMENT global modifications can be counted but not applied using this update method.

Update CDR Routes

There are create, delete, and modify functions (New, Update, and Delete buttons) within the CDR Tool that allow administrators to work directly in RMT to make any route record modifications. The route modification functions are simple to use and especially useful when you have a few changes to make. Administrators with especially numerous route record updates may want to use the option of updating routes from their own ASCII or Stereo file (see “Update CDR Routes from a File” on page 115).

Create New CDR Routes

To create a new route in the CDR Tool, click the **New** button. This brings up the **CDR Route Editor** window.



Route Code	Origin	Destination	Dep Fix	Dep Center	Arr Center	CoordReq	Nav Eqp	Initials

Route String

Length

Traversed Centers

Associated Play

Remarks

Errors and Warnings

OK Ignore Warnings Reset Cancel

Figure 103: Create New Record - CDR Route Editor Window

Enter Route Parameters

To create a new route, you must fill in all required fields. The RMT application will fill in other fields left blank. Note that you can tab through the list of editable fields in the Route Editor.

When entering new data, you must adhere to the accepted format. RMT will change all characters to upper case. Spaces separate each element. No leading zeros (0) are permitted. For example, J12 is permitted but J012 is not for Victor or Jet routes. STAR numbers must include a number character. For example, SUNSS5 is permitted but SUNSS* is not. Note that the letters 'I' and 'O' are not allowed in the seventh and eighth character position of the CDR route code. In the Origin, Destination, and Route String fields, you must enter the 4-character ICAO code for foreign cities and cities outside the continental U.S. The 4-character ICAO code is inserted automatically for cities within the continental United States.

Shortcut: If you are creating a new route that is very similar to an existing route, you do not have to fill in all the input fields again. Instead, use the CDR Tool to search for the similar existing route. Click the route in the Query Results table so that it is highlighted. Click the New button. The Route Editor window appears with the input fields filled in with the existing route data. Simply change the input fields you need to make the new route.

CDR Parameters

- **Route Code (required)** - Enter the CDR route code: an 8-character route designator made up of the 3-character departure airport code, 3-character arrival airport code, and a 2-character facility-designated code. Note that CDRs use the 2-character facility code at the end of the route code. Also note that the letters 'I' and 'O' are not allowed in the seventh and eighth character position of the CDR route code.
- **Route String (required)** - Enter the list of route elements (i.e. fixes and navaids) that make up the route.
- **Initials (required)** – Note that you are required to enter your FAA-assigned initials to modify a route.
- **CoordReq (required)** – Enter “Y”-Yes or “N”-No to designate whether the CDR requires coordination when filed.
- **Nav Eqp (required)** – Enter the navigation equipment designator, 1- basic navigational routes, 2 – routes which begin and/or end with RNAV DPs and STARs, 3 - routes which contain Q-route segments and/or pitch and catch points. This field became effective on the Aug 3, 2006 Chart Date.
- **Origin** – Enter the 3 or 4-character airport code to identify the route’s point of origin (Canadian airports require the 4-character ICAO codes. Anchorage, AK and Honolulu, HI require PANC and PHNL, respectively.). Note that RMT will insert the origin from the route string into this field if it is left blank.
- **Destination** - Enter the 3 or 4-character airport code to identify the route’s destination (Canadian airports require the 4-character ICAO codes. Anchorage, AK and Honolulu, HI require PANC and PHNL, respectively.). Note that RMT will insert the destination from the route string into this field if it is left blank.
- **Dep Fix (Departure Fix)** - Enter the departure fix. You may enter a hyphen (-) in this field if there is no real departure fix for the route. Note that RMT will insert the first navaid or fix from the route string into this field if it is left blank.
- **Remarks** - Use this field to enter any remarks about route changes or new record additions.

- **Associated Play** – Enter the Associated Playbook Play name if the CDR was designed to match a Play.

RMT will fill in the Departure and Arrival Centers for the airports specified in the Origin and Destination fields if they are not filled in by the user. Note that route **Length** and **Traversed Centers** are calculated by the RMT trajectory maker and are visible in the Route Editor but are not input by the user.

To clear your input fields, click the **Reset** button. Note that this will clear *all* the input fields.

Check for Errors

Once you fill in the input fields, click the **Check** button. Any warnings or errors found are displayed in the **Errors and Warnings** section of the Route Editor window. Read messages carefully to see if any changes are necessary in the input fields before completing the new route record. Change the necessary input fields and click the Check button again. Short descriptions of the warning/error messages are provided under **Help > Show Warning/Error Messages**. A complete list is also provided in the Appendix.

Note that some Canadian and Mexican location data has been incorporated into RMT (obtained from the ETMS grid files). You may still find some airports, nav aids, and fixes that are not yet included in the database. A “WARNING_UNKNOWN_ELEMENT” message will appear stating that “The specified element was not found in any of the NFDC tables.” If the message is generated because of a Canadian element, you can ignore the message.

The RMT route checking also includes a file with valid Canadian & Mexican element names that RMT does not have the corresponding latitude/longitude positional data for. This will allow for significantly fewer warning messages for the ARTCC administrator as the routes are entered into RMT. A warning message, “WARNING_NO_COORDINATES”, is provided in the “Warnings Field” that shows that there is missing data when the corresponding route is drawn on the map.

Several warning message check the “flyability” of the route. For example, a warning message is displayed if elements on the route string field are further than 600 miles apart. Another warning message is displayed if an element appears more than once on a route string.

The RMT 1.50 route checking capability has been enhanced to provide two new warning messages; DP/STAR transition problems and invalid airway intersections. These warnings are listed in the CDR or Ad Hoc Warnings field or the Play route segment status field.

Note that the “Warnings field” is used to create the Warnings Report that will be used by administrators during the Verification Period.

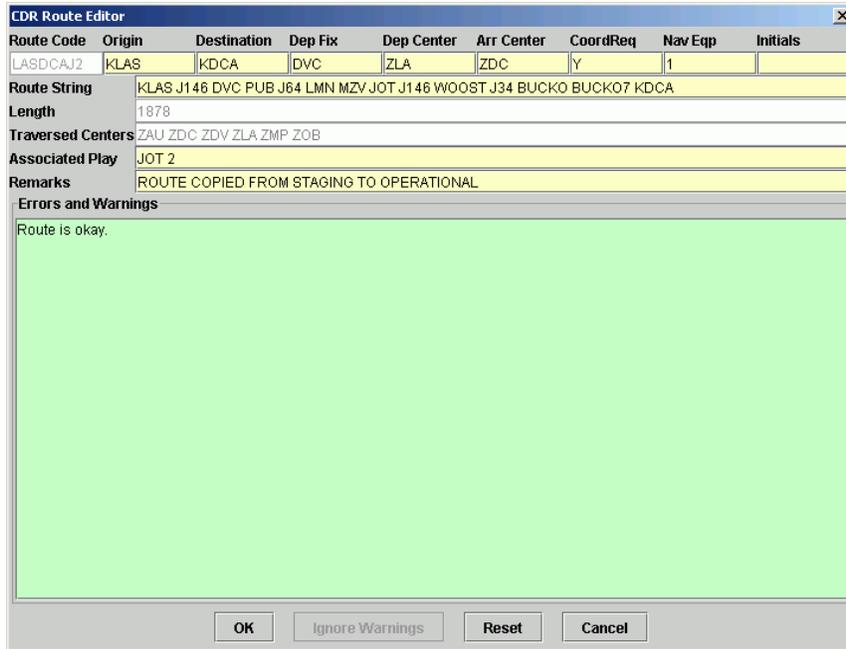
Complete the New Route Record

Once the route has been checked, you can click the **OK** button to complete the new route record. If you still have error or warning messages and want to proceed without changing the input fields, click the **Ignore Warnings** button. This will create the new route record despite the presence of warnings.

Once you have completed the process, the route record in the Query Results table will have an “N” in the ModFlag column to denote that a new record has been added.

Modify Existing Routes

To update a route that already exists in the CDR database, first perform a search in the CDR Tool to find the route you want to modify. Click the route record you want to modify in the Query Results table so that it is highlighted. Click the **Update** button.



The screenshot shows the CDR Route Editor window with the following data:

Route Code	Origin	Destination	Dep Fix	Dep Center	Arr Center	CoordReq	Nav Eqp	Initials
LASDCAJ2	KLAS	KDCA	DVC	ZLA	ZDC	Y	1	

Route String: KLAS J146 DVC PUB J64 LMN MZV JOT J146 WOOST J34 BUCKO BUCKO7 KDCA
Length: 1878
Traversed Centers: ZAU ZDC ZDV ZLA ZMP ZOB
Associated Play: JOT 2
Remarks: ROUTE COPIED FROM STAGING TO OPERATIONAL

Errors and Warnings: Route is okay.

Buttons: OK, Ignore Warnings, Reset, Cancel

Figure 104: Modify an Existing Record – CDR Route Editor Window

The route record data appears in the Route Editor window. Make the necessary changes to any of the input fields. See a complete description of the input parameters in the “Enter Route Parameters” section on page 111.

Check for Errors

Once you fill in the input fields, the **OK** button will change to read **Check**. Click the **Check** button to check your inputs. Any problems are displayed in the **Errors and Warnings** section of the Route Editor window. Read the messages carefully to see what changes you should make to the input fields before completing the modification. Change the necessary input fields and click the Check button again.

See “Check for Errors” on page 112 for a description of the RMT route checking capabilities.

Complete the Modification

Once the route has been checked, you can click the **OK** button to complete the modification. If you still have error or warning messages and want to proceed without changing the input fields, click the **Ignore Warnings** button. This will update the route record despite the presence of warnings.

Once the modification is complete, the route record in the Query Results table will have an "M" in the ModFlag column to denote that the record has been changed.

Delete CDR Routes

To delete a CDR, you must first perform a search in the CDR Tool to find the route(s) you want to delete. Select the record(s) you want to delete in the Query Results table. To select more than one route record, Ctrl-click multiple route records; click a route record and then shift-click another route record to select a range; or click and drag over a range of route records.

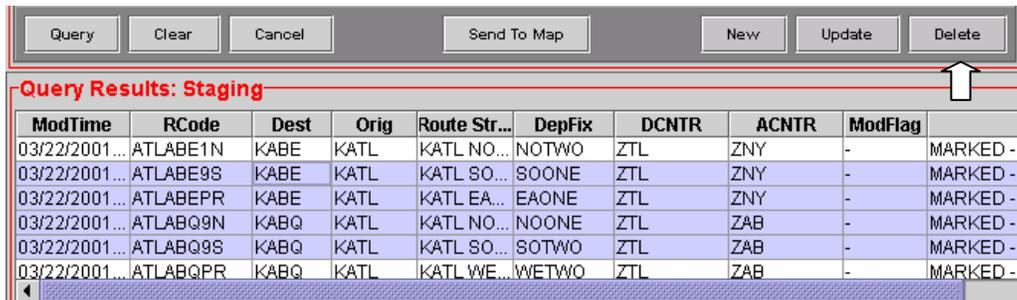


Figure 105: Deleting Multiple Routes

Once you select the route record(s) to delete, click the **Delete** button. The **Delete Records** window appears. In this window, you are asked if you really want to delete the selected route(s).

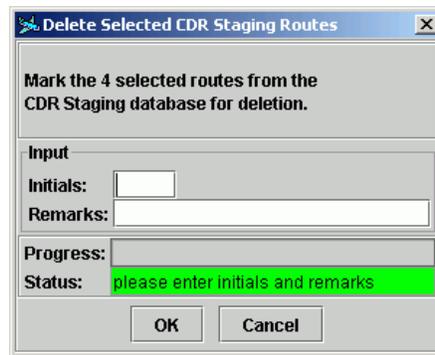


Figure 106: Delete Routes

To complete the deletion, enter your FAA-assigned initials into the **Initials** field. Enter any remarks you feel necessary to give reasons for the deletion. Click **OK** to complete the deletion. The record(s) you deleted will still be visible in the Query Results table, but the **ModFlag** column will contain a "D" to indicate that the route has been marked for deletion.

If you decide you do not want to delete the route record(s), click **Cancel** in the Delete Records window. The window will close and no action is taken on the selected route record(s).

Reinstate a Deleted Route

To reinstate a deleted route, perform a search in the CDR Tool to find the route you want to reinstate. Click the route record you want to reinstate in the Query Results table so that it is highlighted. Click the **Update** button.

When reinstating a deleted route, you do not have to change the input fields. However, you may want to enter some remarks in the Remarks input field. The **Reinstate Deleted Route** window appears. In this window, you are asked if you really want to reinstate the deleted route. Note that you should see an "M" in the ModFlag column replacing the "D" for the reinstated route.

Update CDR Routes from a File

The recommended method for updating CDRs is by importing the Host Stereo file into RMT to ensure that the host and RMT database are consistent. Note that the option to update routes using a Stereo file is only available in the CDR Tool.

Import an ASCII File

An ASCII file can be created in any text editor but to import a file into the CDR database, it must follow specific guidelines.

CDR Required ASCII Columns

To import an ASCII file into CDR, insert a header line with the column names listed and the required columns. You can put the required columns in any order. Note that RMT automatically fills in the remaining fields (e.g. ACNTR, TCNTR, Length, ModTime and ModFlag).

1. **RCode (Route Code)** - 8-character CDR route code with 3-character origin airport, 3-character destination airport- and 2-character facility-designated code.
2. **Orig (Origin)** - The 3 or 4-character origin airport code. (Canadian airports must be 4 characters).
3. **Dest (Destination)** - The 3 or 4-character destination airport code (Canadian airports must be 4 characters).
4. **DepFix (Departure Fix)** - Name of the departure fix for the route. Enter a hyphen (-) if there is no real departure fix for the route.
5. **Route String** - List of elements that make up the route.
6. **DCNTR (Departure Center)** - 3-character code for the departure (controlling) center.

Please note that the CDR CoordReq and Nav Eqp fields are required. If you are entering a new CDR, the CDR Route Editor screen will appear and you will have to fill them in before you can continue with the loading process. Values for the CoordReq flag are Y - the CDR requires coordination or N - the route does not require coordination when filed. Values for the NavEqp field include 1- basic navigational routes, 2 - routes which begin and/or end with RNAV DPs and STARS, 3 - routes which contain Q-route segments and/or pitch and catch points.

Select **Modifications > Update from File > From ASCII File**. The **Load DB From ASCII File** window pops up. In this window you need to specify the file to use for the import and the way in which the CDR Tool should import your file.

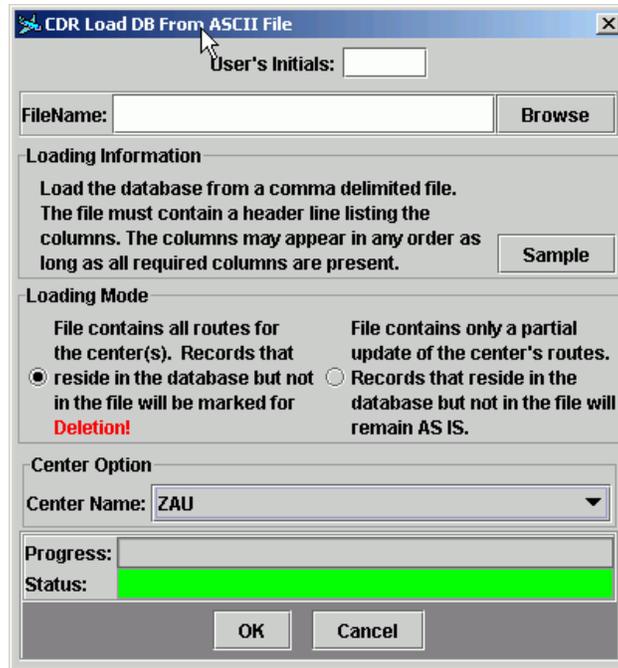


Figure 107: Load DB From ASCII File

Define Loading Options

The first step to loading routes from a file into the CDR database is to complete the fields in the **Load DB From ASCII File** window. The fields you must fill in are listed below:

- **User's Initials** - Enter your FAA-assigned initials in the **User's Initials** field.
- **File Name** – Specify the location and file name of the file to import. If you do not know the exact location of the file, use the **Browse** button to find the file.
- **Loading Information** - This section describes the requirements for loading an ASCII file into the CDR database. To view an example what your file should look like, click the **Sample** button.
- **Loading Mode** - You must tell the CDR Tool how to compare your file with the information already in the database. Your file may contain all the route records for your center, which overrides the information currently in the database and will delete any route records in the database that do not appear in your file. Or your file may contain only a partial list of routes, which would prevent routes currently in the database from being deleted if they are not in your file. Click the box next to the appropriate option. The option that is checked defines the way in which your file is compared to the database. Please note that it is *very important* to choose the correct loading option when you are reading in routes from a file. Routes can be unintentionally deleted if the wrong option is chosen!
- **Center Option** – Your center name should be the default in the Center option section and appear in the Center Name field. If it does not, select your 3-character center name from the pull-down menu.

Click **OK** to import the file and **Cancel** to quit the operation without starting the import. If you have failed to fill in all the fields in the window, you will get a pop-up warning message, which is reflected in the Status field. When your file begins importing, the Progress field informs you of the import status.

Import a Stereo File

RMT allows an ARTCC administrator to import CDRs directly from the Host Stereo files through the CDR Tool. It is important to note that when you use this option, the CDR Tool assumes that this file contains *all* routes for your center. Stereo file formats differ between ARTCCs. The CDR Tool parses and reads the relevant information from the I and W lines in the file, other lines are discarded. Several centers use special characters in the route string (e.g. *, +) to designate different things. The Stereo files do not need to be modified; the CDR Tool strips these characters before the records are entered into the database.

The CDR Tool compares the route codes and route strings in the Stereo file with those that are currently in the CDR database. Route codes in the Stereo file that are not in the database are marked as new (ModFlag = N). Those route codes that appear in the database but are not in the Stereo file are marked for deletion (ModFlag = D). The route strings are compared for route codes that appear in the Stereo file and in the database. Route codes with route strings that have not changed are marked with ModFlag = -, route strings that have been modified are given ModFlag = M.

Also note that the process of reading in the Stereo file can be repeated as many times as necessary. If problems are identified through the verification process, the Stereo file must currently be updated outside the RMT Tool. The updated Stereo file can be read in again to make sure all the problems have been corrected. This is important to ensure that the routes in the host match the RMT database.

Please note that the CDR CoordReq and Nav Eqp fields are required. If you are entering a new CDR from the host file, the CDR Route Editor screen will appear and you will have to fill them in before you can continue with the loading process. Values for the CoordReq flag are Y – coordination is required or N – coordination is not required. Values for the NavEqp field include 1- basic navigational routes, 2 – routes which begin and/or end with RNAV DPs and STARs, 3 - routes which contain Q-route segments and/or pitch and catch points.

Select **Modifications > Update From File > From Stereo File**. The **Load DB From Stereo File** window pops up. In this window you need to define the file to use for the import and the way in which the CDR Tool should import your file.

Obtaining a Stereo File from the Host

The first step to loading routes from a Stereo file into the CDR database is to obtain a copy of the Stereo file that will be updated for the chart date in question. This can be done by Air Traffic or AOS (Automation) personnel. This is done by a “file transfer” from the VM/CMS system. In the example in Figure 108, the file named “CDRS 12-25-03 A!” is being received from the Host interface known as the Virtual Machine (VM) system and is being transferred to a disk with the name of “cdrs 12-25-03.txt”.

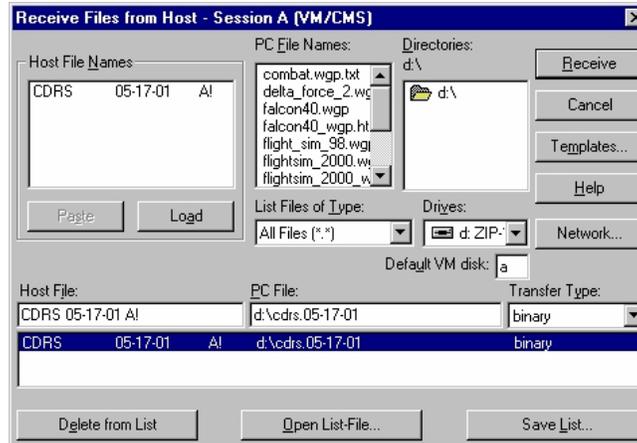


Figure 108: Transfer file from Host to PC or Disk

Updating a Stereo File Prior to Loading

Once the file has been received from the Host system, it can be opened using any word processor (MS Word, WordPerfect, WordPad, etc.) for editing. You can then use the search and replace function to make the necessary changes. Figure 109 shows an example of making a global modification in a Stereo File: LZARD1 to LZARD2. This allows you to check for all instances where the particular search subject occurs and replace them.

Note that problems may occur if the search and replace changes the length of the line in the Stereo File.

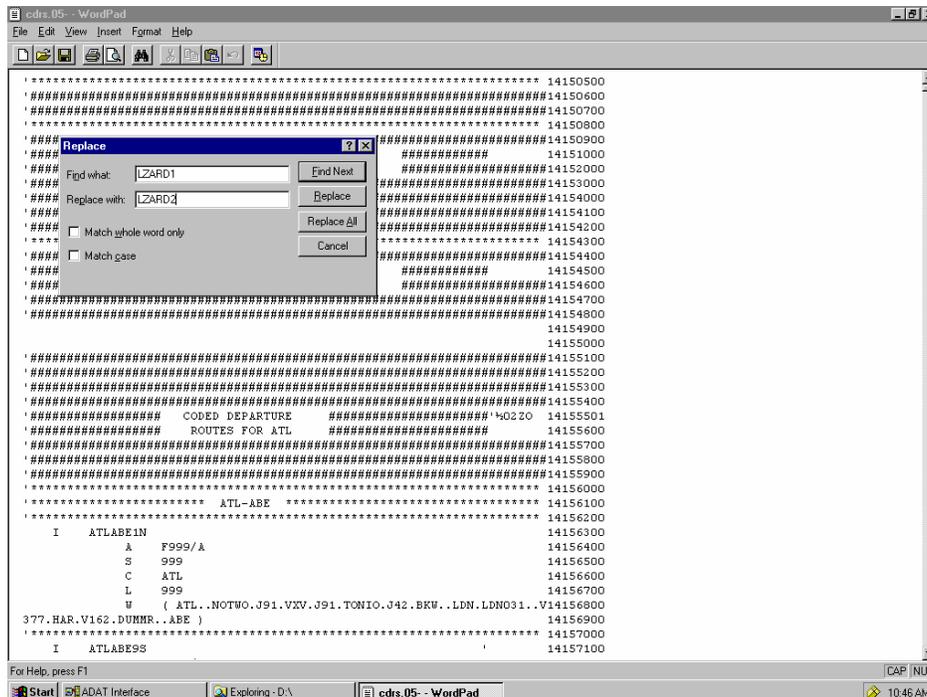


Figure 109: Using Word Processor Search and Replace Function to Update Stereo File

Once the changes have been made to the Stereo file, you might want to save it with a name that identifies it with the upcoming system update (i.e., CDRS 12-25-03.txt). Once it has been saved, it can be used to update the CDR database in RMT.

Import a Stereo File into RMT

ARTCC administrator users can update the CDR staging database using the text file created in the previous step from the CDR Tool Window within RMT.

Select **Modifications > Update from File > From Stereo File**. The **Load DB From Stereo File** window appears and allows you to select the file to use for the import.

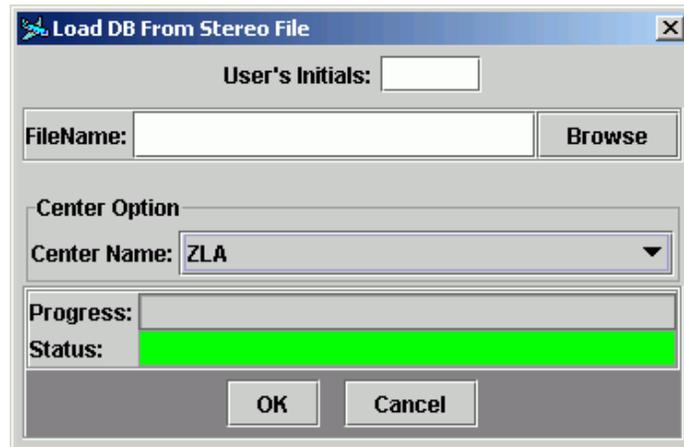


Figure 110: Load DB From Stereo File Window

Define Loading Options

The first step to loading routes from a file into the CDR database is to complete the fields in the **Load DB From Stereo File** window. The fields you must fill in are listed below:

- **User's Initials** - Enter your FAA-assigned initials in the **User's Initials** field.
- **File Name** - Specify the location and file name of the file to import. If you do not know the exact location of the file, use the **Browse** button to find the file.
- **Center Option** - Your center name should be the default in the Center option section and appear in the Center Name field. If it does not, select your 3-character center name from the pull-down menu.

Click **OK** to import the file and **Cancel** to quit the operation without starting the import. If you have failed to fill in all the fields in the window, you will get a pop-up warning message, which is reflected in the Status field. When your file begins importing, the Progress field informs you of the import status.

Note that when you import a Stereo file, the CDR Tool assumes that this file contains all routes for your center. The CDR Tool will mark those routes that appear in the database, but not in your Stereo file, as "deleted."

Importing Stereo File Back Into Host

Once all of the routes have been loaded into the database, you can import the Stereo file back into the Host. To learn how to load routes from the Stereo file into the CDR database, read the next few sections in this manual. To import the Stereo file back into the Host, proceed with the following:

- If all of the routes were good on the first try, use the Stereo file to now go back and update the Host record for the next chart date. Depending on local procedures, it may be necessary to submit an Adaptation Request to the local AOS office.
- If all of the routes were not good and corrections had to be made to the file, it will be necessary to again revise the Stereo file that you started with to ensure that the RMT file and the Host file are identical. You can use the word processor to revise those routes using the information from the upload attempts to the RMT. Once you have completed the revisions, the file is ready to be imported back to the Host as the CDR file for the next update.

Keep in mind that many facilities have cutoff dates for updates that are prior to the closing date of the RMT. Users should update as early as possible to avoid possibly missing cutoffs.

Error Checking Your Imported File

RMT provides warning messages if problems are found during the validation process. Certain warnings can be “ignored” and the routes can be entered into the database. Other errors are more serious and the routes cannot be entered without modification. A complete list of error and warning messages is available through **Help > Show Warning/Error Messages**. A list is also provided in the Appendix.

See previous description of the RMT error checking capabilities on page 112.

Files Created During the Error Checking Process

RMT creates four ASCII files during the error-checking process. The routes in your file will be saved to one of the four files generated by RMT.

1. **Check** - the word "check" is appended to your original file name and becomes a separate file (i.e. my_routes.txt.check). This file contains all routes that you should look over before importing them into the database.
2. **Good** - The word "good" is appended to your original file name and becomes a separate file (i.e. my_routes.txt.good). The 'good' file contains all routes that were validated and are ready to be loaded into the database with no further changes.
3. **Loaded** - The word "loaded" is appended to your original file name and becomes a separate file (i.e. my_routes.txt.loaded). The 'loaded' file contains all routes that passed the error-checking process and were loaded into the database.
4. **Reject** - The word "reject" is appended to your original file name and becomes a separate file (i.e. my_routes.txt.reject). The "reject" file contains all routes that you reject from the import process and decide to exclude from the database.

These text files (ASCII) can be read into the tool at a later time using the **Load DB from ASCII File** option. The “check” and “reject” files include the error/warning messages described below. These files can be used to identify problem route codes that may need to be changed in the host Stereo file. You can find these files in the same directory as the original Stereo file that you are reading in to the RMT Tool.

Once the import process is complete, a **File Statistics** window opens to tell you how many route records were good and how many records had potential problems. From the File Statistics window, you can see into which group your route records are placed.

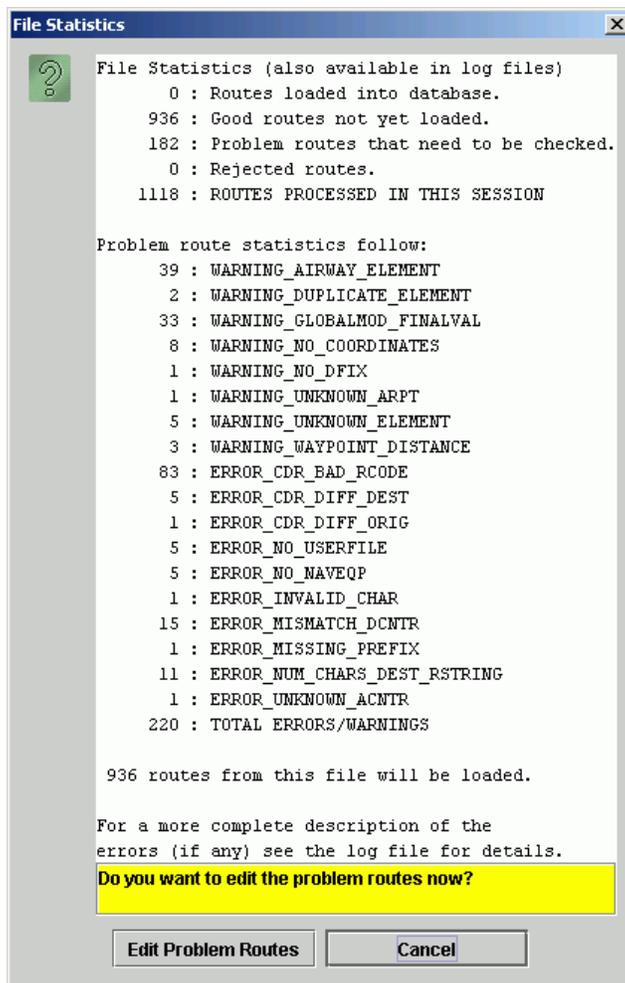


Figure 111: File Statistics After First Phase

In Figure 111, the user completed the first phase of importing a Stereo file, the verification process. You can see that 936 of the routes are good and ready to be loaded. However, 182 routes have potential problems that the user needs to check.

Edit Problem Routes

Once the CDR Tool completes the verification process, you can edit any problem routes. Click the **Edit Problem Routes** button in the File Status window. This brings up the CDR Tool Route Editor and allows you to make the necessary changes to each problem record.

When you choose to edit routes in the CDR Tool, the **Route Editor** window pops up, see Figure 112. In this window you can modify the route record, ignore any warnings, or reject the route.

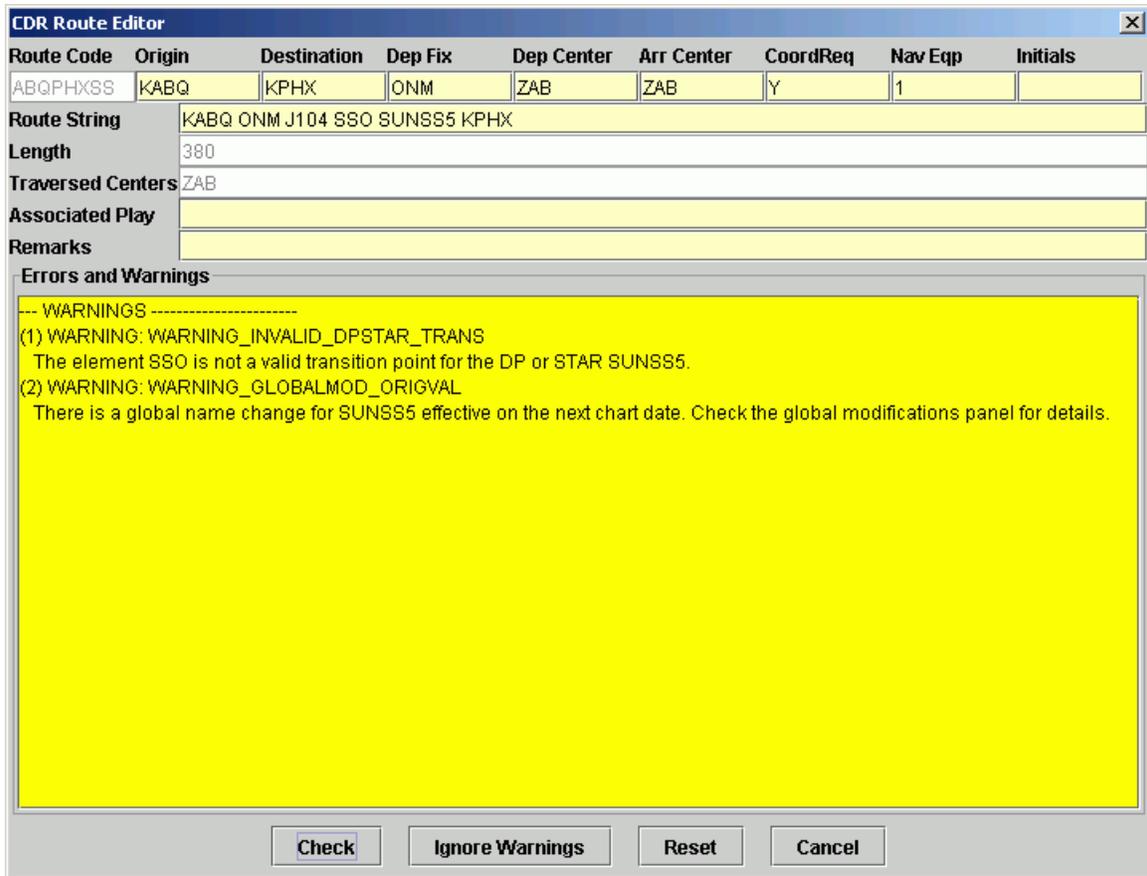


Figure 112: CDR Route Editor

Fixing CDR Route Records

When the Route Editor window opens, the fields are already filled in with the information for the first problem route. In the **Errors and Warnings** section of the Route Editor window, you can view the specific problems found in the route. Read the error/warning message and make the appropriate change to the route record by typing new information into one of the fields. For the example in Figure 112, you see the “WARNING_GLOBALMOD_ORIGVAL” message. SUNSS5 was identified as having a global name change effective on the next chart date. Change SUNSS5 to SUNSS6 in the Route String field and click **Check** to review the route again. In Figure 113, the warning message has changed to “WARNING_GLOBALMOD_FINALVAL”. This indicates that the global modification has been successfully applied to this route, but RMT does not yet contain the latitude/longitude information to correctly draw the route on the map. Click the **Ignore Warnings** button to continue, you should see **Route okay with approved warnings** in the Errors and Warnings section. If the route has more than one problem listed in the Errors and Warnings section, you will need to make multiple corrections before you see that your route is okay. Once you are satisfied with the results, click the **OK** button to go to the next problem route. Click **Reset** to return the fields in the Route Editor window to their original values. This will cause the original error/warning messages to appear. Click **Cancel** to close the window without taking any action.

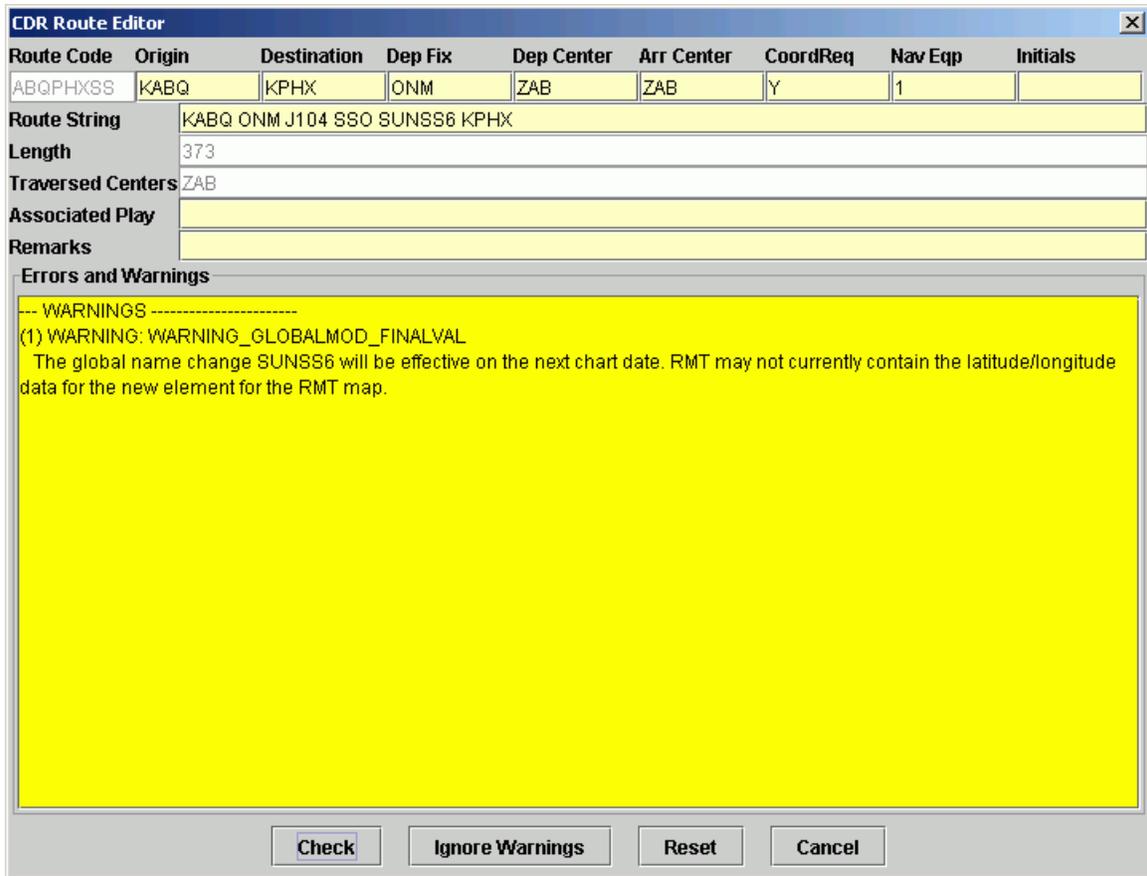


Figure 113: Edited Route

Ignore Warnings

At times the CDR Tool may indicate a problem with a route record when the record is actually valid. Remember, the validation against the NFDC tables is provided to help prevent erroneous data from being entered into the database and facilitate the verification process. This process is continually being enhanced; check your warning messages carefully. In the Route Editor window, you can choose to ignore the messages in the Errors and Warnings section, which tells the CDR Tool to mark the route records as "good" and ready to load.

To ignore the warnings for a single route, click **Ignore Warnings** in the Route Editor window. To ignore a specific warning that appears in many route records, click **Ignore All Similar Warnings** in the Route Editor window. Note that if a record has more than one warning/error message, it will still appear in the Route Editor window for you to fix unless you have chosen to ignore all the different types of warnings/errors that appear in that route record.

Please note that the **Ignore All Similar Warnings** processing has been modified. Previously, you could choose to "Ignore All" token not found warnings. Now "Ignore All Similar Warnings" ignores each instance of the specified element not found. This will help to identify typos in the input files and will speed up the verification process.

Reject Routes

You can choose to reject route records, which would prevent them from being loaded into the database. To reject a single route, click **Reject Route** in the Route Editor window. To reject all routes with a similar warning/error message, click **Reject All Similar Routes**. Any rejected routes will be placed in a file marked ".reject." For example, you could reject all routes missing a destination.

Once you are finished editing and rejecting routes, the File Status window will appear again with the latest statistics about the route record groupings. You can choose to Load Good Routes from this window or start the process over again if necessary.

File Creation and Naming

Note that the more file imports you perform, the more files are created. For example, if you load good routes by opening the CDR Tool and importing the file my_routes.txt.good, the CDR Tool again creates four files for the ".good" file during import. So you will see "my_routes.txt.good.good," " my_routes.txt.good.check," " my_routes.txt.good.loaded," and " my_routes.txt.good.rejects." However, all the route records in a '.good' file should be ready for loading and should produce blank files for the other three appended names. Be aware of the naming scheme and files created to make sure you are working with the appropriate file.

CDR Database Loading Report

RMT generates a “Database Loading Report” for ARTCC administrators as routes are read into the CDR databases from a Stereo or ASCII file. The report lists how many routes were loaded/rejected in the current session and lists any warnings/error messages found during the loading process. This report also contains a summary of the routes entered by type (New, Modified, Deleted, or Unchanged) to help the administrator verify that the file was processed correctly. The report is first displayed on the screen and then may be saved to a file.

The screenshot shows a web browser window with the following content:

CDR Staging Database Loading Report

Current Date: 2003-09-29 18:34:43
Center: All Centers

File Statistics

15425 : Routes loaded into database.
0 : Rejected routes
15425 : ROUTES PROCESSED IN THIS SESSION

Loaded Routes Summary

New Routes (N)	112
Deleted Routes (D)	8
Modified Routes (M)	1577
Unchanged Routes (-)	13728
Total Loaded Routes (N,D,M,-)	15425

Warnings in Loaded Routes

# Warnings	# Routes	Warning Type	Elements
933	798	WARNING_AIRWAY_ELEMENT	ABQ/J104, AMA/J26, APE/J85, BAVPE/J184, BIGBE/V36, BLI/J52, BPI/J158, BUF/J38, BWG/J39, CAMRA/J515, CAP/J24, CCC/V139, CDR/J11, CEFOR/V320, CIP/J217, CIP/V232, COATE/J36, COATE/V213, CRG/J79, CVM/J21, DEL/J13, DEL/J35, DEN/J114, DEN/J13, DJB/J43, DNY/V493, DPK/V229, DSM/J60, EKN/J53, ELD/J180, FLIRT/J230, FQF/J130, FQF/J60, FSM/J137, FWA/J43, FWA/V14, GEE/J522, GELLE/J537, GLD/J64, GRD/J208, GSO/V226, GUP/J19, HNK/J63, HNK/V213, HVQ/J83, HYPER/V134, IGN/V493, IJU/J213, ILM/J121, IRQ/J14, ITH/V422, KATZN/J121, KLINE/V14, LCU/J32, LINNG/V522, LLO/J17, LNK/J10, LRP/V134, MBW/J94, MEM/J14, MTY/J148, MTY/J157, NAPEE/V91, OAL/J72, OBK/J70, ONL/J157, ONM/J74, OO/V98, ORF/J208, PCA/J21, PGS/J76, PKB/V119, PKB/V44, PLL/J34, PMM/J34, PONEE/V130, PSP/J50, PSP/J74, PSP/J96, PXV/J8, PXV/J98, RDU/J208, RIC/J24, RIC/V1, ROBT/V134, RSK/J10, RSK/J110, RSK/J15, RSK/J161, RSK/J44, RSK/J58, RSK/J64, RZC/J46, SBV/V226, SRQ/J58, ...

Figure 114: CDR Database Loading Report

Update Additional CDR Information

Three important CDR characteristics are not contained in the host stereo files and must be updated directly through RMT: the CDR/Associated Play name, Coordination Required Flag (CoordReq) and navigation equipment designator (Nav Eqp). Two methods are provided to allow the ARTCC administrators to add the information to the CDR record. The CDR Route Editor allows administrators to update one record at a time. If many routes must be changed, updating from a comma-delimited file may be an easier method. Please note that this information must only be entered once, it is retained during the RMT chart date processing and will not be overwritten the next time a stereo or ASCII file is imported into the tool.

ARTCC administrators are required to fill in both the CoordReq and Nav Eqp fields for new CDRs. It is recommended that the Associated Play information is also reviewed and entered into the database at that time.

Load Additional Information from the Route Editor Window

The CDR/Associated Play name, CoordReq Flag (Y or N) and Nav Eqp designator (1, 2 or 3) information can be added through the CDR Route Editor window. The administrator may select a specific CDR in the Query Results table, press the **Update** button and type the information into the appropriate field on the Route Editor window. See “Enter Route Parameters” on page 111.

The screenshot shows the 'CDR Route Editor' window with the following data:

Route Code	Origin	Destination	Dep Fix	Dep Center	Arr Center	CoordReq	Nav Eqp	Initials
SMFLGAC1	KSMF	KLGA	DUDES	ZOA	ZNY	N	1	

Route String: KSMF DUDES LLC J32 CZI J82 RAP J158 ABR CESNA JUVAG JAKY VIXIS PENDO SIBKI TULEG RKA RKA2 K
Length: 2319
Traversed Centers: CZY ZBW ZDV ZLC ZMP ZNY ZOA
Associated Play: CAN 1 EAST
Remarks: ROUTE COPIED FROM STAGING TO OPERATIONAL
Errors and Warnings: Route is okay.

Buttons: OK, Ignore Warnings, Reset, Cancel

Figure 115: Update Additional Information from the CDR Route Editor Window

Create a Comma-Delimited Loading File

The following steps can be used to create comma-delimited text files for loading Associated Play, CoordReq or NavEqp information into RMT:

1. Perform a query in the CDR Tool to list the desired set of CDRs in the Query Results table. For example, type "ZOB" into the Origin/Dep Center field, "ATL" in the Dest/Arr Center field and "ERLIN2 | FLCON1" in the Route String field to display a specific set of CDRs.
2. Remove all fields except the CDR route code from the Query Results table using **Settings > Show/Hide Columns**. Click to uncheck all column names except RCode.
3. Create a file containing the displayed CDR route codes using the **File > Save to File** menu option.
4. Open the saved file in Excel and add the new column (Associated Play, CoordReq or NavEqp). Note that RMT will reject the file if it does not recognize the correct column header name in the Coordination Required (RCode, CoordReq) or NavEqp (RCode, NavEqp) loading file.
5. Enter the appropriate Associated Play, CoordReq or NavEqp information for each CDR.
6. Save the file in comma-delimited format (.csv) and then follow the steps described below to load into RMT.

CDR Associated Play Information

Several ARTCCs design CDRs to match Playbook Plays. CDR/Playbook coordination fields have been added to the CDR database to facilitate the update process and allow Plays and CDRs to be updated in the same cycle. The modification flag for the Associated Play is copied automatically by RMT from the Playbook table into the "PlayModFlag" field in the CDR table when the information is loaded from a file or through the CDR Route Editor. The PlayModFlag field can be used to help identify CDRs that may need to be updated by CDR administrators and should be used in conjunction with the **Playbook Changes for Next Cycle Report**.

Load Associated Plays from a File

To update many CDRs at once, the **Modifications > Update From File > Load Associated Plays** option allows the administrator to read in the information from a comma-delimited text file. The CDR route code and associated Play name are verified as the file is read in to the database.

You must first enter your FAA-assigned initials, and then click the **Browse** button to find the appropriate file. Press the **Sample** button for further details and to see a sample file.

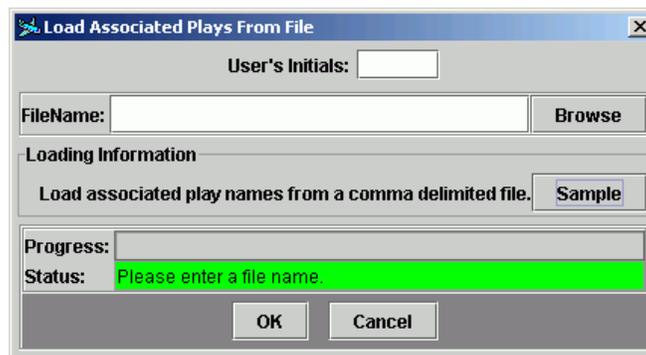


Figure 116: Load Associated Play Information from File

An “Associated Play Loading Report” is generated that lists any warnings or errors found during processing.

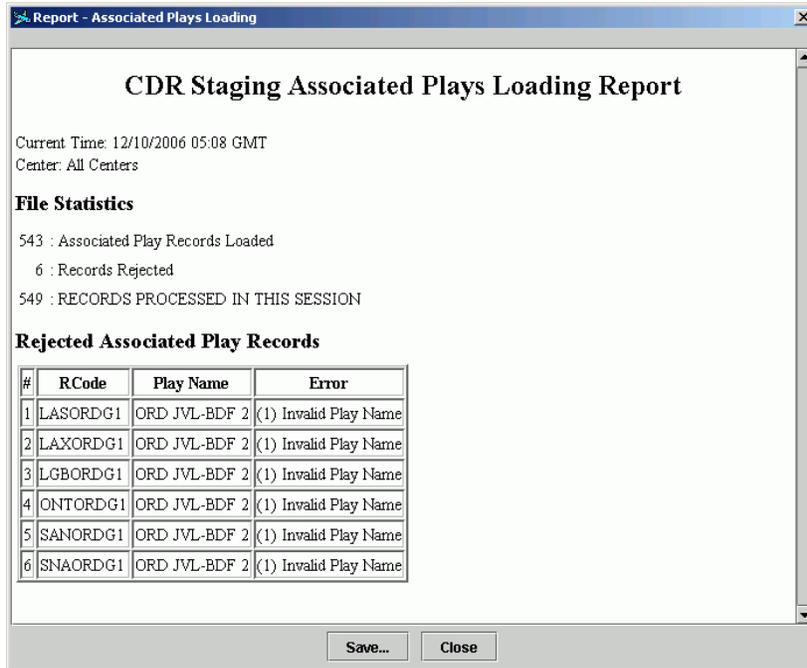


Figure 117: Associated Plays Loading Report

To verify that the Play information was read into the database correctly, use a wildcard search ‘*’ in the Associated Play query field to bring up all CDRs with Associated Plays from your center.

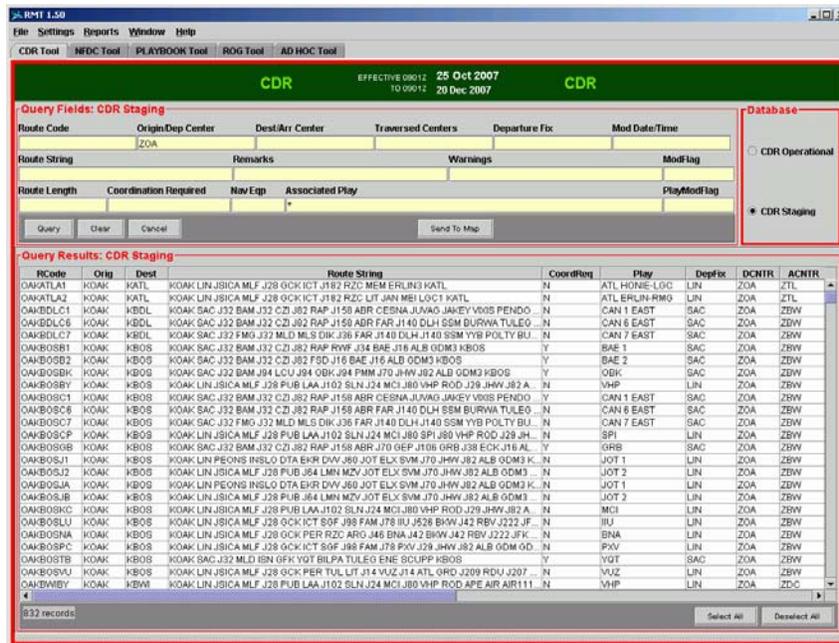


Figure 118: Associated Play Search

Update CDR Coordination Required Flag or Navigation Equipment Designator

The CDR Coordination Required Flag was designed to allow the FAA administrators to designate whether the CDR requires coordination when being filed. Values for this field are “Y” meaning Yes – coordination is required or “N” meaning No – coordination is not required. This field was called “UserFile” in previous versions of RMT. Note that this name change affects the underlying meaning of the data contained in the database. All CDRs with UserFile=“Y” have been reset to CoordReq=“N” in conjunction with the RMT 1.50 release.

The Navigation Equipment Designator (Nav Eqp) field allows users to quickly identify CDRs that require advanced navigation capabilities. The values for the Nav Eqp field include 1- basic navigational routes, 2 – routes which begin and/or end with RNAV DPs and STARs, 3 - routes which contain Q-route segments and/or pitch and catch points.

Load Coordination Required Flag from a File

To update many CDRs at once, the **Modifications > Update From File > Load Flags** option allows the administrator to read in the Coordination Required flag information from a comma-delimited text file. The CDR route code and CoordReq flag (Y or N) are verified as the file is read in to the database.

You must first enter your FAA-assigned initials, select a Flag Name (**CoordReq** in this case), then click the **Browse** button to find the appropriate file. Press the **Sample** button for further details and to see a sample file. Note that the file must include a header line with the two column names: RCode, CoordReq (case-sensitive).



Figure 119: Load Coordination Required Information from File

A “**CoordReq Loading Report**” is generated that lists any warnings or errors found during processing. Verify that the CoordReq information was read into the database correctly by searching for the updated CDRs, then checking for the correct value in the CoordReq field (Y or N).

Load Navigation Equipment Designator from a File

To update many CDRs at once, the **Modifications > Update From File > Load Flags** option allows the administrator to read in the NavEqp designator from a comma-delimited text file. The CDR route code and NavEqp designator (1,2 or 3) are verified as the file is read in to the database.

You must first enter your FAA-assigned initials, select a Flag Name (**NavEqp** in this case), then click the **Browse** button to find the appropriate file. Press the **Sample** button for further details and to see a sample file. Note that the file must include a header line with the two column names: RCode, NavEqp (case-sensitive).

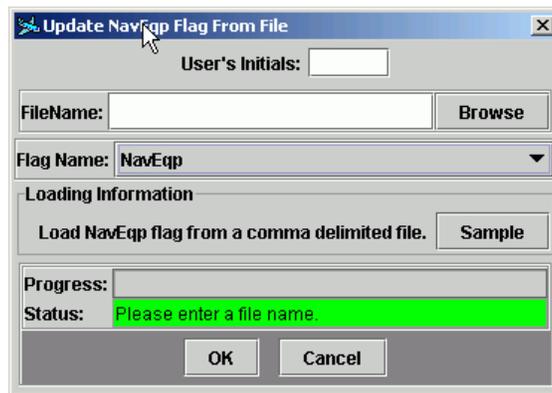


Figure 120: Load NavEqp Information from File

A “**NavEqp Loading Report**” is generated that lists any warnings or errors found during processing. Verify that the Nav Eqp information was read into the database correctly by searching for the updated CDRs, then checking for the correct value in the NavEqp field (1, 2, or 3).

Update Playbook Plays

There are create, delete, and modify functions (New, Update and Delete buttons) within the Playbook Tool that allows the Playbook administrator to work directly in RMT to make any modifications. Note that Playbook Plays are not updated through a file.

Create a New Play

In the Playbook Tool click the **New** button. The **Create New Play** window appears, asking whether the new Play is a Split Play.



Figure 121: Create New Play Window

Click either the **Yes** button or the **No** button to continue. This brings up the **Play Editor** window.

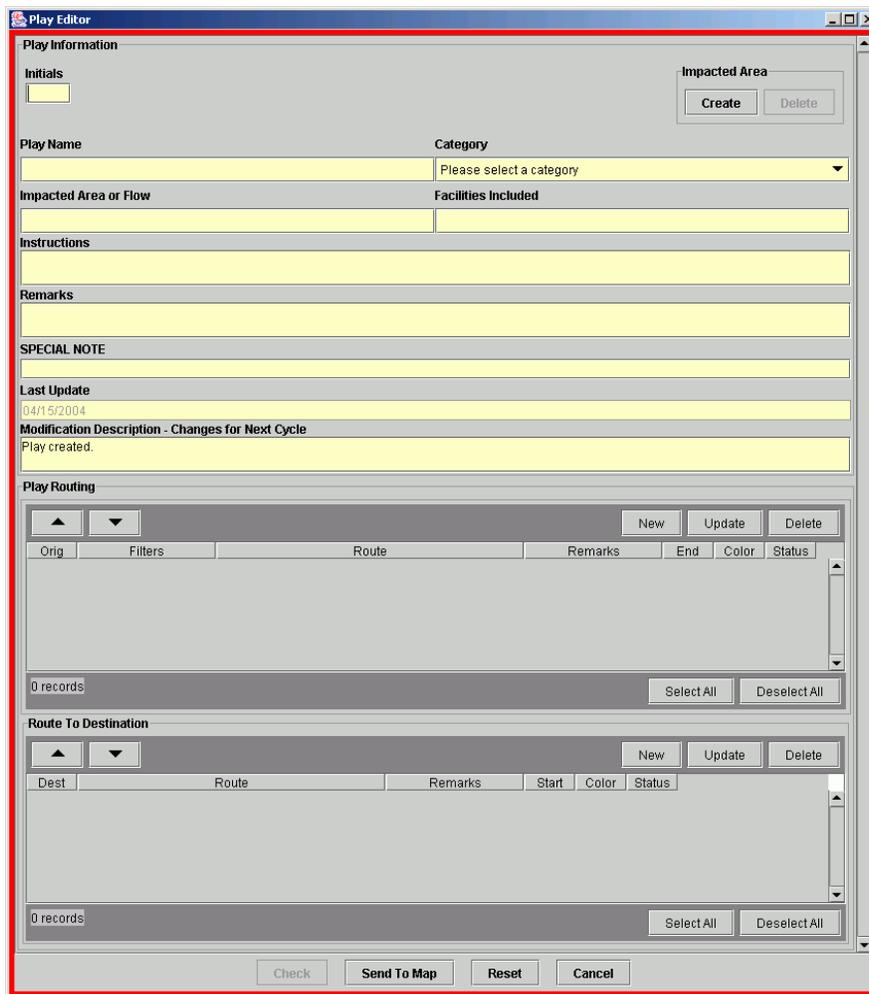


Figure 122: Create New Play - Play Editor Window

Enter Play Parameters

To create a new Play, you must fill in all required fields. The RMT application will fill in other fields left blank. Note that you can tab through the list of editable fields (Playbook Ctrl-tab).

Shortcut: If you are creating a new Play that is very similar to an existing Play, you do not have to fill in all the input fields again. Instead, use the Playbook Tool to search for the similar existing Play. Click the Play in the Query Results table so that it is highlighted. Click the New button. The Play Editor window appears with the input fields filled in with the existing Play data. Simply change the input fields you need to make the new Play.

The screenshot shows the 'Play Editor - DFW EAST 1' window. It contains several sections for configuring a play:

- Play Information:** Includes fields for 'Initials', 'Play Name' (DFW EAST 1), 'Category' (Airports), 'Impacted Area or Flow' (DFW BYP AND CQY STARS), and 'Facilities Included' (ZFW/ZHU/ZJX/ZMA/ZTL/ZME/ZKC/ZMP/ZAU/ZID/ZOB/ZDC/ZNY/ZBWCZY).
- Instructions:** A text area containing: 'REROUTE ANY AIRBORNE TRAFFIC AND INTERNAL DEPARTURES DESTINED THE DFW TERMINAL AREA VIA THE FOLLOWING ROUTES. SUBSTITUTE OTHER DESTINATION IN PLACE OF DFW IF APPLICABLE'.
- Remarks:** A text area for additional notes.
- SPECIAL NOTE:** A text area for special instructions.
- Last Update:** Shows the date '04/15/2004'.
- Modification Description - Changes for Next Cycle:** A text area for describing changes.
- Play Routing:** A table listing routes with columns for Orig, Filters, Route, Dest, Remarks, Start, Color, and Status. The table contains 20 records.

At the bottom of the window are buttons for 'OK', 'Send To Map', 'Reset', and 'Cancel'. The routing table also has 'New', 'Update', and 'Delete' buttons at the top right, and 'Select All' and 'Deselect All' buttons at the bottom right.

Orig	Filters	Route	Dest	Remarks	Start	Color	Status
ZHU		IAH J86 SPURS LZZ JEN JEN8	DFW		IAH	Blue	Green
ZME		SGS AEX DAS IAH J86 SPURS LZZ JEN JEN8	DFW		SGS	Red	Green
ZID		STL J19 ICT IRW UKW8	DFW	INTERNAL DEPTS		Red	Green
IAD D...		LDN J134 COLNS J6 BWG SGS AEX DAS IAH J86 S...	DFW		LDN	Blue	Green
RIC O...		SPA ATL J239 MEI MCB AEX DAS IAH J86 SPURS LZ...	DFW		SPA	Blue	Green
ZTL		ATL J239 MEI MCB AEX DAS IAH J86 SPURS LZZ JE...	DFW		ATL	Blue	Green
ZJX		CEW SJI HRV J37 PEKON J86 SPURS LZZ JEN8	DFW	OVERLAND	CEW	Blue	Green
ZJX		PIE REMIS Q100 LEV J86 SPURS LZZ JEN8	DFW	OVERWATER	PIE	Blue	Green
ZMA		CEW SJI HRV J37 PEKON J86 SPURS LZZ JEN8	DFW	OVERLAND	CEW	Blue	Green
ZMA		SRQ Q100 LEV J86 SPURS LZZ JEN8	DFW	OVERWATER	SRQ	Blue	Green
ZMA		BAGGS Q102 LEV J86 SPURS LZZ JEN8	DFW	OVERWATER	BAGGS	Blue	Green
ZKC		ICT IRW UKW8	DFW			Red	Green
ZAU		MZV IRK J26 ICT IRW UKW8	DFW			Red	Green
ZAU		IOW J192 PWE ICT IRW UKW8	DFW	INTERNAL OFFLOADS		Red	Green
ZMP		OVR J21 ICT IRW UKW8	DFW			Red	Green
DTW B...		PMM J94 OBK MZV IRK J26 ICT IRW UKW8	DFW			Red	Green
CLE PIT		GSH J60 JOT MZV IRK J26 ICT IRW UKW8	DFW			Red	Green
ZNY		PSB J60 JOT MZV IRK J26 ICT IRW UKW8	DFW			Red	Green
ZBW		SYR J547 FNT J94 OBK MZV IRK J26 ICT IRW UKW8	DFW			Red	Green
CZY C...		ECK J94 OBK MZV IRK J26 ICT IRW UKW8	DFW	CHECK WW ATCSCC ...		Red	Green

Figure 123: Create a New Play from an Existing Play

Playbook Parameters

- **Play Name (required)** – The Playbook Play name.
- **Category (required)** – The Playbook Category name, e.g. Airports, East to West Transcon Routes, South to Northeast Routes. A category must be selected from the drop-down list.
- **Facilities Included (required)** – The facilities included or traversed by this Play.
- **Initials (required)** – Note that you are required to enter your FAA-assigned initials to modify a Play.

- **Impacted Area or Flow** – The impacted area or flow for this Play.
- **Instructions** - Any special instructions associated with this Play.
- **Remarks** - Any remarks associated with this Play.
- **Special Note** - Any special notes associated with this Play.
- **Impacted Area** – You may draw an impacted area associated with this Play. See “Draw an Impacted Area on the RMT Map” section below.

The **ModTime** and **Last Update** (effective chart date for the last update to this Play) fields are updated automatically by RMT. The text ‘Play Created’ is placed in the **Modification Description** field, additional comments can be added for further clarification. Note that any comments should end with a period ‘.’. This field is used to create the **Playbook Changes for Next Cycle Report**.

Draw an Impacted Area on the RMT Map

The Playbook administrator may draw an impacted area associated with a Playbook Play to graphically show an area on the map. Note that only one area can be defined per Play.

To create an impacted area, select the **Create** button on the Impacted Area section at the top of the Play Editor window. The fill and line colors should be selected first by choosing options from the pull-down menus. The administrator may then define the impacted area by pointing and clicking to define the points of the polygon. Many of the usual RMT Map functions such as zooming in and out, adding overlays and the Quick keys are available for reference.

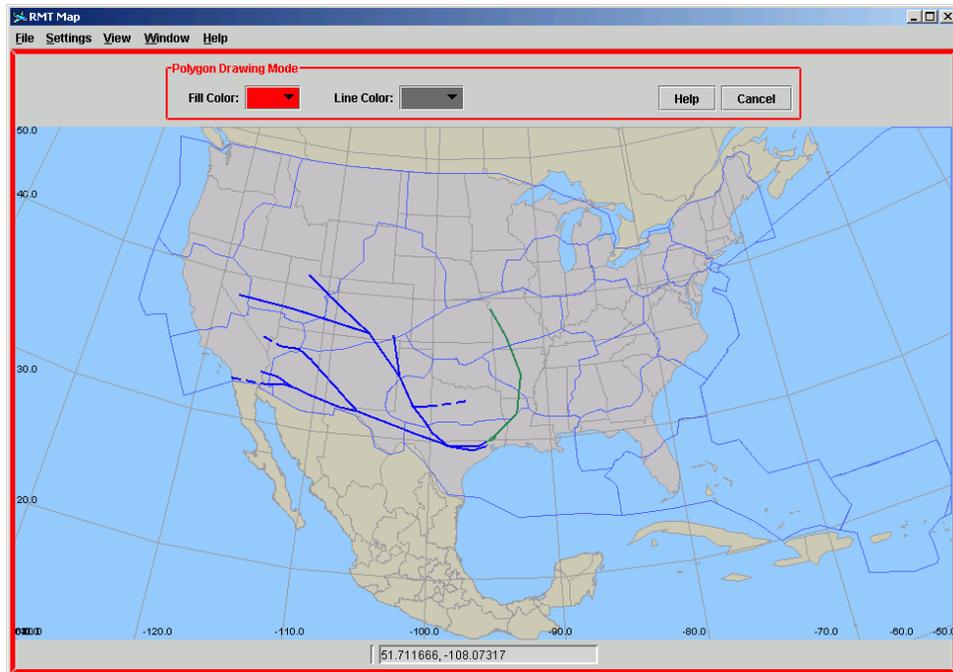


Figure 124: Impacted Area Window

An impacted area can be deleted from a Play definition using the **Delete** button on the Play Editor window.

Update Play Segments

The Playbook administrator can add/modify origin and destination segments by pressing the **New/Update** buttons in the ‘Play Routing’ and ‘Route to Destination’ sections of the Play Editor window. This brings up the **Segment Editor** windows. Please note that the **Arrow** buttons can be used to move segments up and down within the ‘Play Routing’ and ‘Route to Destination’ sections.

Origin/Destination Segment Parameters

- **Origin** – The origin (ARTCC or airport(s)) of the Play segment.
- **Destination** – The destination airport(s) of the Play segment.
- **Route** – The origin/destination segment route string.
- **Origin/Destination Segment Remarks** – Any remarks associated with the segment
- **Start** – The starting point for any different colored Play segments.
- **End** – The ending point for any different colored Play segments.
- **Color** – The assigned color for the Play segment. Note that the default color is brick red.

The segment color can be changed by choosing a “Start” or “End” point along the segment route string, then selecting a different color from the color drop-down box.

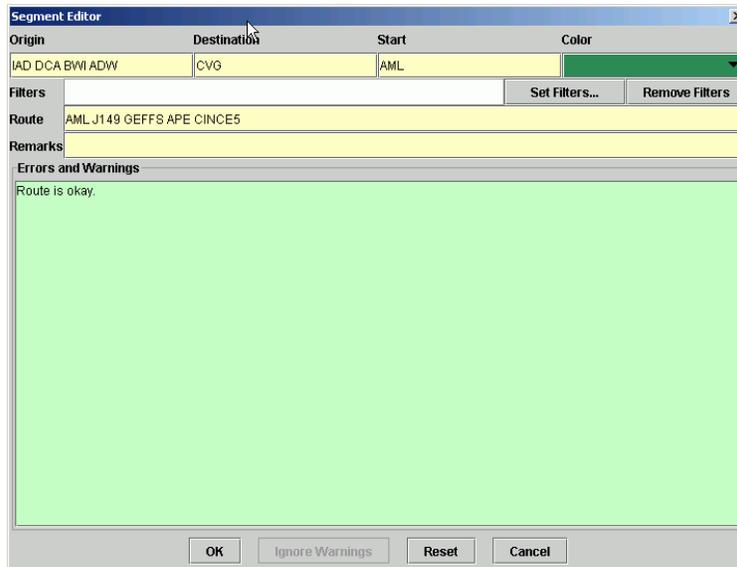


Figure 125: Origin Segment Editor

Filters are removed from origin segments by pressing the **Remove Filters** button on the Origin Segment Editor. Filters are assigned to origin segments by pressing the **Set Filters** button. This brings up the **Flight Filters** window.

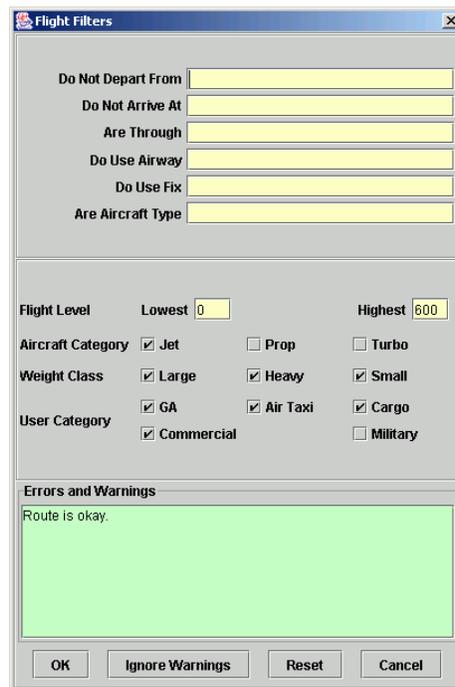


Figure 126: Flight Filters Edit Window

Note that the *Filters* field is limited to 100 characters. If the combination of filters specified in the Flight Filters window exceeds the limit, a warning message appears and filters will be truncated unless action is taken.

Check for Errors

Once you fill in the input fields in the Play Editor, Segment Editor and Flight Filters windows, the **OK** button will change to read **Check**. Click the **Check** button to check your inputs. Problems that are identified on the Segment Editor and Flight Filters windows must be resolved before moving back to the main Play Editor window. You will be notified of any problems with the top-level Playbook information through pop-up warning dialog boxes. Change the necessary input fields and click the Check button again.

Note that the 'Play Routing' and 'Route to Destination' segment sections contain a status field on the Play Editor window; this is similar to Warnings field in the CDRs. Note that this field is only visible to the Playbook administrator. Green signifies that there are no warnings associated with the segment; yellow indicates that there is a warning. Warnings are displayed on the Errors and Warnings section of the Segment Editor and can be 'Ignored' as described in previous sections.

Complete the New Play

Once the Play has been checked, you can click the **OK** button to complete the new Play record. If you still have warning messages and want to proceed without changing the input fields, click the **Ignore Warnings** button. This will create the new route record despite the presence of warnings.

Once you have completed the process, the Play record in the Query Results table will have an "N" in the ModFlag column to denote that a new Play has been added.

Modify Existing Plays

To update a Play that already exists in the Playbook database, first perform a search in the Playbook Tool to find the Play you want to modify. Click the Play you want to modify in the Query Results table so that it is highlighted. Click the **Update** button.

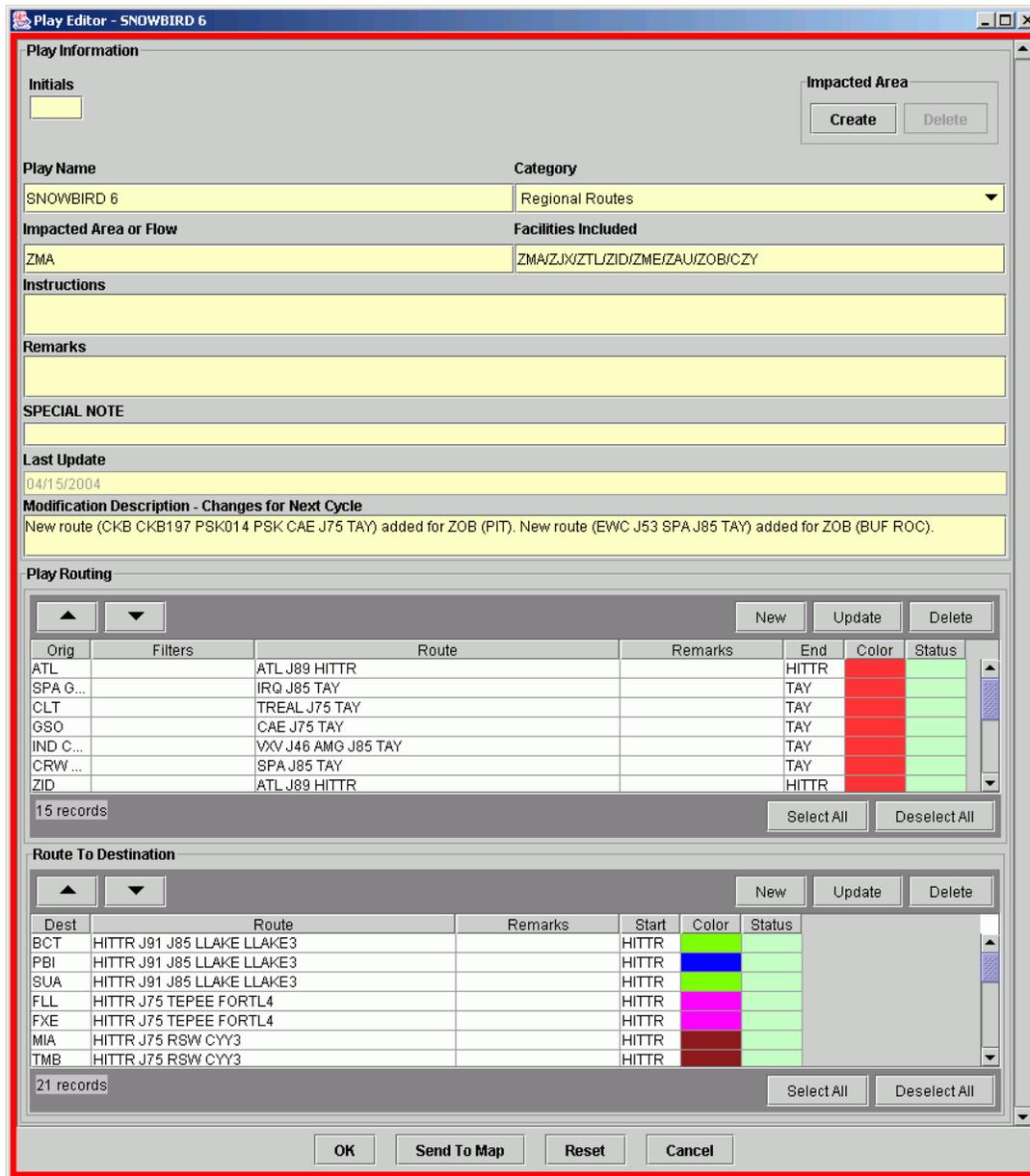


Figure 127: Modify an Existing Play - Play Editor Window

The Play data appears in the Play Editor window. Make the necessary changes to any of the input fields. See a complete description of the input parameters in the “Enter Play Parameters” section on page 132.

Check for Errors

Once you have modified the input fields in the Play Editor, Segment Editor and Flight Filters windows, the **OK** button will change to read **Check**. Click the **Check** button to check your inputs. Problems that are identified on the Segment Editor and Flight Filters windows must be resolved before moving back to the main Play Editor window. You will be notified of any problems with the top-level Playbook information through pop-up warning dialog boxes. Change the necessary input fields and click the Check button again.

Note that the 'Play Routing' and 'Route to Destination' segment sections contain a status field on the Play Editor window; this is similar to Warnings field in the CDRs. Note that this field is only visible to the Playbook administrator. Green signifies that there are no warnings associated with the segment; yellow indicates that there is a warning. Warnings are displayed on the Errors and Warnings section of the Segment Editor and can be 'Ignored' as described in previous sections.

Complete the Modification

Once the Play has been checked, you can click the **OK** button to complete the modification. If you still have error or warning messages and want to proceed without changing the input fields, click the **Ignore Warnings** button. This will update the Play despite the presence of warnings.

The **ModTime** and **Last Update** (effective chart date for the last update to this Play) fields are updated automatically by RMT. Text is automatically placed in the **Modification Description** field if segments are modified or global modifications are applied. This field is used to create the **Playbook Changes for Next Cycle Report**.

Once the modification is complete, the Play in the Query Results table will have an "M" in the ModFlag column to denote that the Play has been changed.

Delete a Play

To delete a Play, you must first perform a search in the Playbook Tool to find the Play(s) you want to delete. Select the record(s) you want to delete in the Query Results table, and then click the **Delete** button.

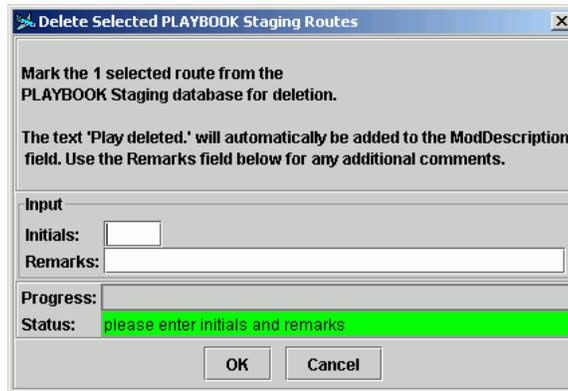


Figure 128: Delete Play Window

To complete the deletion, enter your FAA-assigned initials into the **Initials** field. Note that the text "Play deleted" will be added to the ModDescription field for this Play. Enter any additional comments in the **Remarks** field. Click **OK** to complete the deletion.

The Play(s) you deleted will still be visible in the Query Results table, but the **ModFlag** column will contain a "D" to indicate that the Play has been marked for deletion.

Update Ad Hoc Reroutes

There are create, delete, and modify functions (New, Update, and Delete buttons) within the AD HOC Tool that allow you to work directly in RMT to make any route record modifications. The route modification functions are simple to use and especially useful when you have a few changes to make. If you have many routes to update, you may want to append routes from a file (page 143). It is important to note that you must maintain the ad hoc reroutes (e.g. update the DP/STAR numbers) on the routes that you add to the database. RMT will update the warning messages associated with the ad hoc reroutes as part of the 56-day chart date processing. You can see any associated warning messages for your routes in the Ad Hoc Warning Report (page 58).

Create New Ad Hoc Reroutes

To create a new route in the AD HOC Tool, click the **New** button. This brings up the **Ad Hoc Reroute Editor** window.

Name	Origin	Destination	Dep Fix	Dep Center	Arr Center	Length	Initials

Route String

Traversed Centers

Remarks

Errors and Warnings

Check Ignore Warnings Reset Cancel

Figure 129: Create New Record – Ad Hoc Reroute Editor Window

Enter Route Parameters

To create a new route, you must fill in all required fields. The RMT application will fill in other fields left blank. Note that you can tab through the list of editable fields in the Reroute Editor.

When entering new data, you must adhere to the accepted format. RMT will change all characters to upper case. Spaces separate each element. No leading zeros (0) are permitted. For example, J12 is permitted but J012 is not for Victor or Jet routes. STAR numbers must include a number character. For example, SUNSS5 is permitted but SUNSS* is not. In the Origin, Destination, and Route String fields, you must enter the 4-character ICAO code for foreign cities and cities outside the continental U.S. The 4-character ICAO code is inserted automatically for cities within the continental United States.

Shortcut: If you are creating a new route that is very similar to an existing route, you do not have to fill in all the input fields again. Instead, use the AD HOC Tool to search for the similar existing route. Click the route in the Query Results table so that it is highlighted. Click the New button. The Reroute Editor window appears with the input fields filled in with the existing route data. Simply change the input fields you need to make the new route.

AD HOC Parameters

- **Name (required)** - Enter the ad hoc reroute name: unique name assigned by the creator of the route (30 characters maximum, spaces are not allowed).
- **Route String (required)** - Enter the list of route elements (i.e. fixes and nav aids) that make up the route.
- **Initials (required)** – Note that you are required to enter your initials to modify a route.

- **Origin** – Enter the 3 or 4-character airport code to identify the route’s point of origin (Canadian airports require the 4-character ICAO codes. Anchorage, AK and Honolulu, HI require PANC and PHNL, respectively.). Note that RMT will insert the origin from the route string into this field if it is left blank.
- **Destination** - Enter the 3 or 4-character airport code to identify the route’s destination (Canadian airports require the 4-character ICAO codes. Anchorage, AK and Honolulu, HI require PANC and PHNL, respectively.). Note that RMT will insert the destination from the route string into this field if it is left blank
- **Dep Fix (Departure Fix)** - Enter the departure fix. You may enter a hyphen (-) in this field if there is no real departure fix for the route. Note that RMT will insert the first nav aids or fix from the route string into this field if it is left blank.
- **Remarks** - Use this field to enter any remarks about route changes or new record additions.

RMT will fill in the Departure and Arrival Centers for the airports specified in the Origin and Destination fields if they are not filled in by the user. Note that route **Length** and **Traversed Centers** are calculated by the RMT trajectory maker and are visible in the Reroute Editor but are not input by the user.

To clear your input fields, click the **Reset** button. Note that this will clear *all* the input fields.

Check for Errors

Once you fill in the input fields, click the **Check** button. Any warnings or errors found are displayed in the **Errors and Warnings** section of the Reroute Editor window. Read messages carefully to see if any changes are necessary in the input fields before completing the new route record. Change the necessary input fields and click the Check button again. Short descriptions of the warning/error messages are provided under **Help > Show Warning/Error Messages**. A complete list is also provided in the Appendix.

Note that some Canadian and Mexican location data has been incorporated into RMT (obtained from the ETMS grid files). You may still find some airports, nav aids, and fixes that are not yet included in the database. A “WARNING_UNKNOWN_ELEMENT” message will appear stating that “The specified element was not found in any of the NFDC tables.” If the message is generated because of a Canadian element, you can ignore the message.

The RMT route checking also includes a file with valid Canadian & Mexican element names that RMT does not have the corresponding latitude/longitude positional data for. This will allow for significantly fewer warning messages as the routes are entered into RMT. A warning message, “WARNING_NO_COORDINATES”, is provided in the “Warnings Field” that shows that there is missing data when the corresponding route is drawn on the map.

Several warning message check the “flyability” of the route. For example, a warning message is displayed if elements on the route string field are further than 600 miles apart. Another warning message is displayed if an element appears more than once on a route string.

The RMT 1.50 route checking capability has been enhanced to provide two new warning messages; DP/STAR transition problems and invalid airway intersections. These warnings are listed in the Ad Hoc Warnings field.

Note that the “Warnings field” is used to create the Ad Hoc Warnings Report that will be used for ad hoc reroute database maintenance.

Complete the New Route Record

Once the route has been checked, you can click the **OK** button to complete the new route record. If you still have error or warning messages and want to proceed without changing the input fields, click the **Ignore Warnings** button. This will create the new route record despite the presence of warnings.

Modify Existing Routes

To update a route that already exists in the ad hoc reroute database, first perform a search in the AD HOC Tool to find the route you want to modify. Click the route record you want to modify in the Query Results table so that it is highlighted. Click the **Update** button.

The screenshot shows the 'Ad Hoc Reroute Editor' window. It contains a table with the following data:

Name	Origin	Destination	Dep Fix	Dep Center	Arr Center	Length	Initials
CID_DEN_FIL1	KCID	KDEN	DSM	ZAU	ZDV	605	

Below the table, the following fields are visible:

- Route String: KCID DSM J10 OBH LBF SAYGE5 KDEN
- Traversed Centers: ZAU ZDV ZMP
- Remarks: RECORD READ FROM FILE: NEW ROUTE

The 'Errors and Warnings' section is highlighted in yellow and contains the following text:

```
--- WARNINGS ---  
(1) WARNING: WARNING_UNKNOWN_ELEMENT  
The element SAYGE5 was not found in any of the NFDC tables.
```

At the bottom of the window, there are four buttons: Check, Ignore Warnings, Reset, and Cancel.

Figure 130: Modify an Existing Record – Ad Hoc Reroute Editor Window

The route record data appears in the Reroute Editor window. Make the necessary changes to any of the input fields. See a complete description of the input parameters in the “Enter Route Parameters” section on page 139.

Check for Errors

Once you fill in the input fields, the **OK** button will change to read **Check**. Click the **Check** button to check your inputs. Any problems are displayed in the **Errors and Warnings** section of the Reroute Editor window. Read the messages carefully to see what changes you should make

to the input fields before completing the modification. Change the necessary input fields and click the Check button again.

See “Check for Errors” on page 112 for a description of the RMT route checking capabilities.

Complete the Modification

Once the route has been checked, you can click the **OK** button to complete the modification. If you still have error or warning messages and want to proceed without changing the input fields, click the **Ignore Warnings** button. This will update the route record despite the presence of warnings.

Delete Ad Hoc Reroutes

To delete an ad hoc reroute, you must first perform a search in the AD HOC Tool to find the route(s) you want to delete. Select the record(s) you want to delete in the Query Results table. To select more than one route record, Ctrl-click multiple route records; click a route record and then shift-click another route record to select a range; or click and drag over a range of route records.

You may want to delete all your ad hoc records in the database and reload based on the current chart date’s data. First perform a query with all search parameters blank to display all your routes into the Query Results table. Click **Select All** to highlight all the routes in the Query Results table.

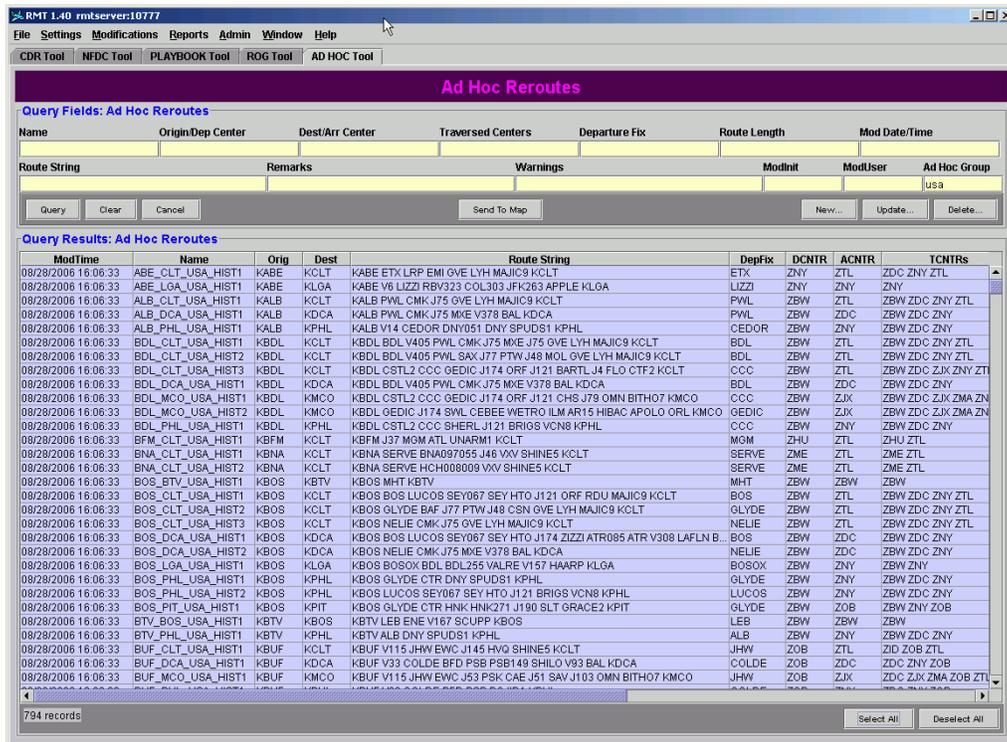


Figure 131: Deleting Ad Hoc Reroutes

Once you select the route record(s) to delete, click the **Delete** button. The **Delete Records** window appears. In this window, you are asked if you really want to delete the selected route(s).

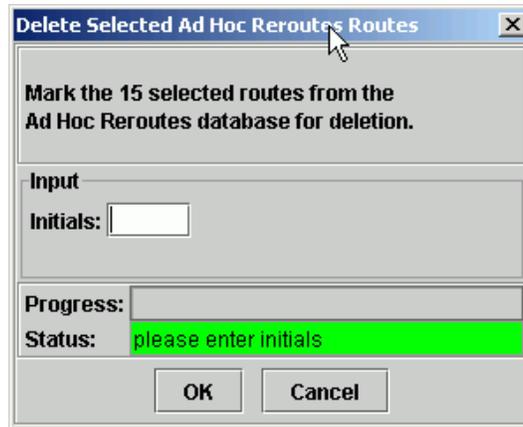


Figure 132: Delete Ad Hoc Reroutes

To complete the deletion, enter your initials into the **Initials** field. Click **OK** to complete the deletion. The record(s) you deleted are deleted immediately from the ad hoc reroutes table.

If you decide you do not want to delete the route record(s), click **Cancel** in the Delete Records window. The window will close and no action is taken on the selected route record(s).

Appending Ad Hoc Reroutes from a File

Ad hoc reroutes can be added to the database using a comma-delimited text file.

Import an ASCII File

An ASCII file can be created in any text editor but to import a file into the ad hoc reroute database, it must follow specific guidelines.

Ad Hoc Required ASCII Columns

To import an ASCII file into the AD HOC Tool, insert a header line with the column names listed and the required columns. You can put the required columns in any order. Note that RMT automatically fills in the remaining fields (e.g. DCNTR, ACNTR, TCNTR, DepFix, Length, and ModTime, ModInit, ModUser).

1. **Name** - The ad hoc reroute name (30 characters maximum, spaces are not allowed).
2. **Orig (Origin)** - The 3 or 4-character origin airport code. (Canadian airports must be 4 characters).
3. **Dest (Destination)** - The 3 or 4-character destination airport code (Canadian airports must be 4 characters).
4. **Route String** - List of elements that make up the route.

Select **Modifications > Append Routes from File**. The **Ad Hoc Load DB From ASCII File** window pops up. In this window you need to specify the file to use for the import.

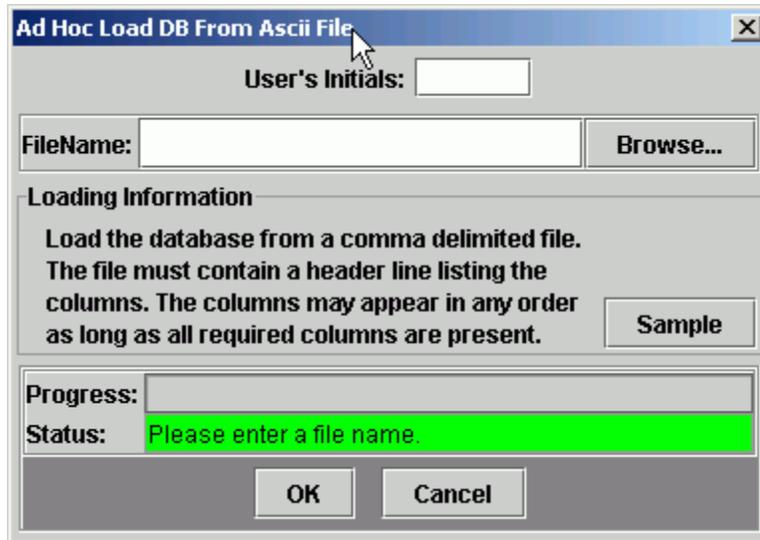


Figure 133: Load Ad Hoc Reroutes From ASCII File

Click **OK** to import the file and **Cancel** to quit the operation without starting the import. When your file begins importing, the Progress field informs you of the import status.

Error Checking Your Imported File

RMT provides warning messages if problems are found during the validation process. Certain warnings can be “ignored” and the routes can be entered into the database. Other errors are more serious and the routes cannot be entered without modification. A complete list of error and warning messages is available through **Help > Show Warning/Error Messages**. A list is also provided in the Appendix.

See previous description of the RMT error checking capabilities on page 112.

Files Created During the Error Checking Process

RMT creates four ASCII files during the error-checking process. The routes in your file will be saved to one of the four files generated by RMT.

1. **Check** - the word "check" is appended to your original file name and becomes a separate file (i.e. my_routes.txt.check). This file contains all routes that you should look over before importing them into the database.
2. **Good** - The word "good" is appended to your original file name and becomes a separate file (i.e. my_routes.txt.good). The 'good' file contains all routes that were validated and are ready to be loaded into the database with no further changes.
3. **Loaded** - The word "loaded" is appended to your original file name and becomes a separate file (i.e. my_routes.txt.loaded). The 'loaded' file contains all routes that passed the error-checking process and were loaded into the database.
4. **Reject** - The word "reject" is appended to your original file name and becomes a separate file (i.e. my_routes.txt.reject). The "reject" file contains all routes that you reject from the import process and decide to exclude from the database.

These text files (ASCII) can be read into the tool at a later time using the **Modifications > Append Routes from File** option. The “check” and “reject” files include the error/warning

messages described below. These files can be used to identify problem routes that may need to be changed in you ad hoc file. You can find these files in the same directory as the original file that you are reading in to the RMT Tool.

Once the import process is complete, a **File Statistics** window opens to tell you how many route records were good and how many records had potential problems. From the File Statistics window, you can see into which group your route records are placed.

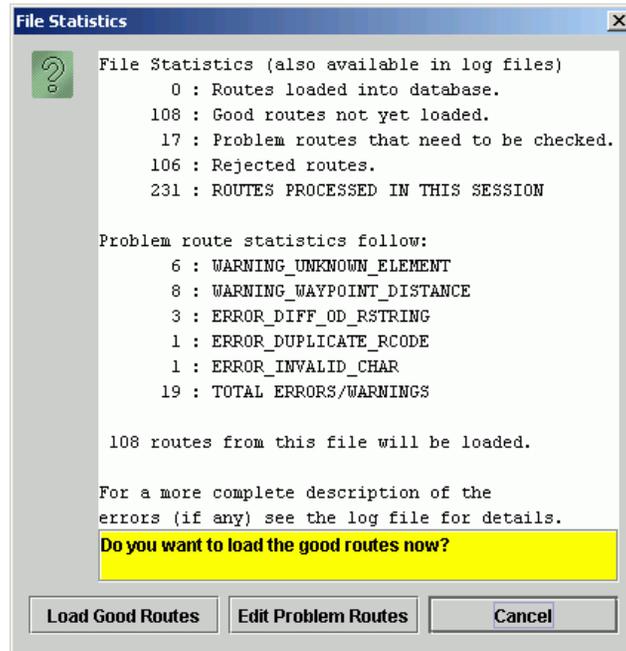


Figure 134: File Statistics After First Pass of Import

In Figure 134, the user completed the first phase of importing an ad hoc file, the verification process. You can see that 108 of the routes are good and ready to be loaded. However, 17 routes have potential problems that the user needs to check.

Load Good Routes

Once the AD HOC Tool completes the first phase of the import, you can load good routes into the database. There are two ways to load your good routes into the database, depending on whether you wish to load the routes immediately or wait to load them at another time.

- To load your good routes immediately, click **Load Good Routes** in the File Statistics window. This will load your good routes immediately, giving you the import status and final statistics at the end of the import.
- To wait and load your good routes at another time, close the File Statistics window. At any other time you can choose **Modifications > Append Routes From File** in the AD HOC Tool. Use the Browse button in the **Ad Hoc Load DB From ASCII File** window to locate the appropriate '.good' file. This file contains only good routes that are ready to be loaded into the database. For example, if your original file was GW_ROUTES.txt, the file you will load will be GW_ROUTES.txt.good. Complete the rest of the information in the Load DB From ASCII File window and click OK to perform the import. At the end of the import, a File Statistics window pops up. You should see all the routes marked as "good" in the File Statistics window. Click **Load Good Routes** at the bottom of the File Statistics window.

Once you load your good routes, you should see the number of loaded routes listed as "Routes loaded in the database" in the File Status window. These routes will now be in the ".loaded" file in the same directory as your original imported file. The ".good" file should be empty.

Edit Problem Routes

Once the AD HOC Tool completes the verification process, you can edit any problem routes. There are two ways to edit problem routes, depending on whether you wish to edit the routes immediately or wait to edit them at another time.

- If you wish to edit your routes immediately, click the **Edit Problem Routes** button in the File Status window. This brings up the Ad Hoc Reroute Editor and allows you to make the necessary changes to each problem record.
- To wait and edit the routes, close the File Status window by clicking Cancel. When you wish to edit the routes, look for the appropriate file ending in ".check." In the AD HOC Tool, select **Modifications > Append Routes From File** and select the .check file as the file to be loaded. Fill in the appropriate information in the **Ad Hoc Load DB From ASCII File** window and click OK to run another loading pass. The File Status window that results from this action should list all your routes as "Problem routes that need to be checked" and give details of the problems found in the route records. From the File Status window, click **Edit Problem Routes**. This brings up the **Reroute Editor** and allows you to make the necessary changes to the record.
- If you wish to edit the route records directly in the file outside of the AD HOC Tool, you can open the ".check" file in any text editor. For example, if you knew that there was a recurring typographical error, you could open the file in a text editor to conduct a Search and Replace action to fix the error. You could then perform another loading pass in the AD HOC Tool using the edited file.

When you choose to edit routes in the AD HOC Tool, the **Ad Hoc Reroute Editor** window pops up, see Figure 135. In this window you can modify the route record, ignore any warnings, or reject the route.

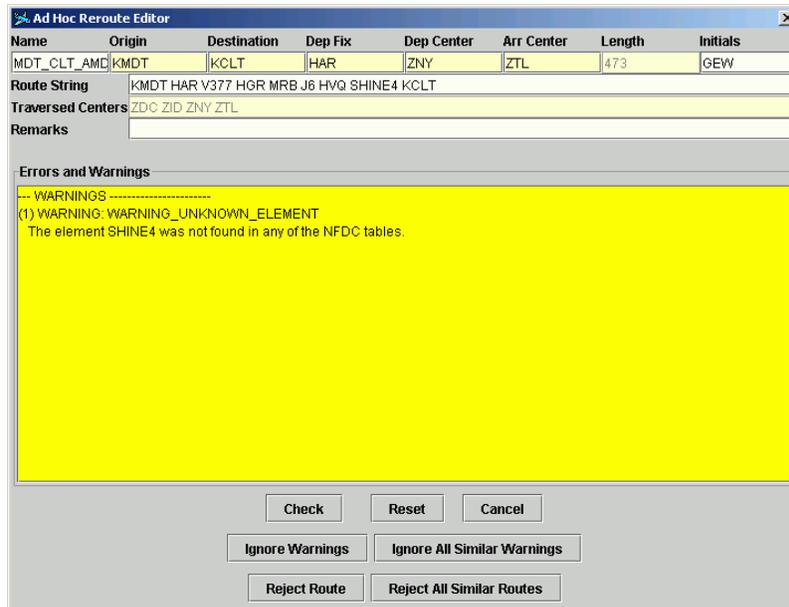


Figure 135: Ad Hoc Reroute Editor

Fixing Ad Hoc Reroute Records

When the Reroute Editor window opens, the fields are already filled in with the information for the first problem route. In the **Errors and Warnings** section of the Reroute Editor window, you can view the specific problems found in the route. Read the error/warning message and make the appropriate change to the route record by typing new information into one of the fields. For the example in Figure 135, you see the “WARNING_UNKNOWN_ELEMENT” message. Change SHINE4 to SHINE5, then click **Check** again to recheck the route. The warning message has changed to “Route is okay”. If the route has more than one problem listed in the Errors and Warnings section, you will need to make multiple corrections before you see that your route is okay. Once you are satisfied with the results, click the **OK** button to go to the next problem route. Click **Reset** to return the fields in the Reroute Editor window to their original values. This will cause the original error/warning messages to appear. Click **Cancel** to close the window without taking any action.

Ignore Warnings

At times the AD HOC Tool may indicate a problem with a route record when the record is actually valid. Remember, the validation against the NFDC tables is provided to help prevent erroneous data from being entered into the database and facilitate the verification process. This process is continually being enhanced; check your warning messages carefully. In the Reroute Editor window, you can choose to ignore the messages in the Errors and Warnings section, which tells the AD HOC Tool to mark the route records as "good" and ready to load.

To ignore the warnings for a single route, click **Ignore Warnings** in the Reroute Editor window. To ignore a specific warning that appears in many route records, click **Ignore All Similar Warnings** in the Reroute Editor window. Note that if a record has more than one warning/error message, it will still appear in the Reroute Editor window for you to fix unless you have chosen to ignore all the different types of warnings/errors that appear in that route record.

Please note that the **Ignore All Similar Warnings** processing has been modified. Previously, you could choose to “Ignore All” token not found warnings. Now “Ignore All Similar Warnings” ignores each instance of the specified element not found. This will help to identify typos in the input files and will speed up the verification process.

Reject Routes

You can choose to reject route records, which would prevent them from being loaded into the database. To reject a single route, click **Reject Route** in the Reroute Editor window. To reject all routes with a similar warning/error message, click **Reject All Similar Routes**. Any rejected routes will be placed in a file marked ".reject." For example, you could reject all routes missing a destination.

Once you are finished editing and rejecting routes, the File Status window will appear again with the latest statistics about the route record groupings. You can choose to Load Good Routes from this window or start the process over again if necessary.

Database Loading Report

RMT generates an “Ad Hoc Reroutes Database Loading Report” for users as routes are read into the AD HOC Tool. The report lists how many routes were loaded/rejected in the current session and lists any warnings/error messages found during the loading process. This report also contains a summary of routes loaded to help the user verify that the file was processed correctly. The report is first displayed on the screen and then may be saved to a file.

The screenshot shows a window titled "Report - Loading" with a close button (X) in the top right corner. The main content area displays the following information:

Ad Hoc Reroutes Database Loading Report

Current Time: 12/11/2006 01:41 GMT
Center: All Centers

File Statistics

96 : Routes loaded into database.
135 : Rejected routes.
231 : ROUTES PROCESSED IN THIS SESSION

Loaded Routes Summary

New Routes (N)	96
Total Loaded Routes (N,D,M,-)	96

Warnings in Loaded Routes

# Warnings	# Routes	Warning Type	Elements
15	11	WARNING_AIRWAY_ELEMENT	CRL/J548, HLN/J70, JHW/J584, MULLR/V143, SLT/J548, THS/J110, VBI/J500, YCF/J588, YMS/J531, YXC/J500, YYN/J500
5	5	WARNING_NO_COORDINATES	GOPEV
3	3	WARNING_UNKNOWN_ELEMENT	CETUS2, SHAF5
76	76	WARNING_WAYPOINT_DISTANCE	ABR/JHW/853, BFF/JOT/678, BIL/BUF/1289, BIL/GEP/641, BIL/HAR/1412, BIL/ITH/1389, BIL/JHW/1284, BKE/DPR/682, BOY/FOD/615, BZN/KEMAN/1404, BZN/MSP/755, CZI/BUF/1206, DBS/FSD/666, DIK/GRB/625, DTA/JHW/1517, DTA/JST/1543, EPH/DLH/1106, EPH/JHW/1724, FAR/ECK/634, GTF/DLH/783, GTF/GEP/758, GTF/HAR/1532, HLE/FSD/759, HLE/HOXIE/1597, HLE/SLT/1597, HLN/FOD/789, HLN/GEP/779, IDA/CRL/1256,

At the bottom of the window, there are two buttons: "Save..." and "Close".

Figure 136: Ad Hoc Reroutes Database Loading Report

ATCSCC Administrator Functions

There are certain functions that only the ATCSCC administrator can perform, e.g. sending messages through RMT to active users and updating the NFDC tables. The administrator functions are all available from the **Admin** menu and are visible only to the ATCSCC administrators.

Only the ATCSCC administrator can perform the functions listed in this chapter.

Send a Broadcast Message

Sending a message to RMT users is a useful way to distribute important information immediately. For example, the CDR or Playbook database may be offline for a certain time period while it is being updated. Active users would need to know this information.

The ATCSCC administrator can send RMT-related messages to all active RMT users by using the Broadcast Message function. Active RMT users are those currently logged in to the system. To broadcast a message, select **Admin > Broadcast a Message**. The **Broadcast Message** window appears. Type any text into the window for your message. To send the message click **OK**. To close the window without sending a message click **Cancel**.

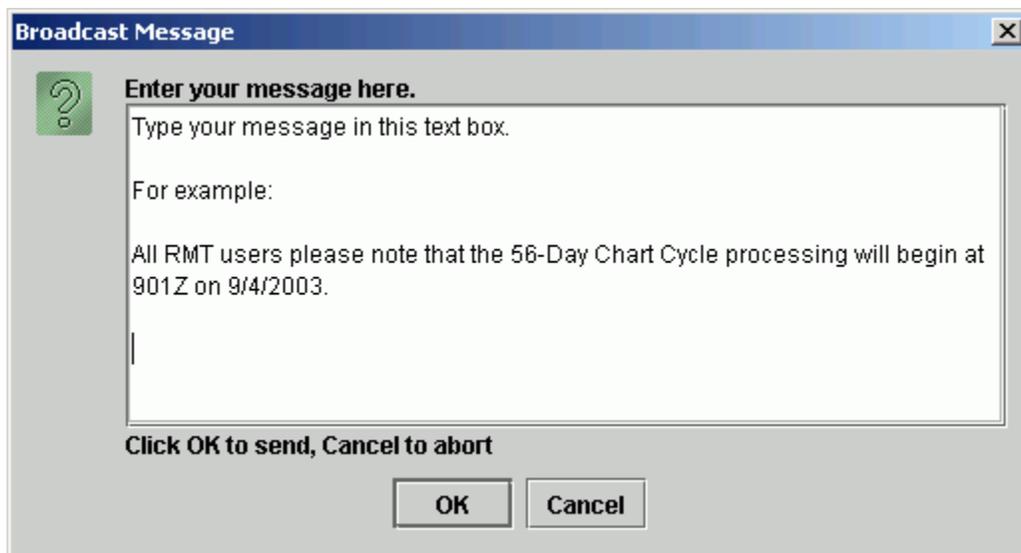


Figure 137: Broadcast a Message

CDR and Playbook Tool Administrator Functions

There are several administrator functions in the CDR and Playbook Tools that allow the ATCSCC administrator to make changes and manage the databases.

Change Staging Verification

The CDR and Playbook staging databases are either in a "verified" or "not verified" state, depending on whether the routes in the databases have been reviewed for errors or not. As the ATCSCC administrator, you can change the status of the staging database in either the CDR or Playbook Tools. To change the status of a database, make sure you are in the correct tool (CDR

or Playbook). Select **Admin > Change Staging Verification**. RMT displays a prompt window that informs you of the current status of the database and asks if you wish to change the status. If you wish to change the status, click **Yes**. To leave the status as is, click **No**.



Figure 138: Changing the Status of the CDR Staging Database

CDR Tool Administrator Functions

Several administrator functions are available only in the CDR Tool window.

Refresh Database Records

The administrator can update (or refresh) the CDR warning messages as necessary. To refresh the database, select **Admin > Refresh Database**. Note this may take a while depending on how many CDRs are contained in the database.

Save Database Records

The ATCSCC administrator can save the CDR staging or operational database to a file outside of RMT. This can be especially helpful if the database ever needs to be reloaded. To save the database, first make sure you are in the CDR Tool window and have selected either the *Operational* or *Staging* database radio button. Select **Admin > Save Database** and the Save Database window should appear. Note that the window will be named according to the database you are saving. For example, in, the window is labeled “Save CDR Staging Database” because the user is downloading all routes in the CDR staging database. In this window, enter a file location and name for the saved database. If you wish to save the global modifications in addition to the CDR routes in the database, check the *Save Global Modifications* checkbox and enter a file location and name for the saved global modifications. Note that historical CDR records may be saved along with the current active records.

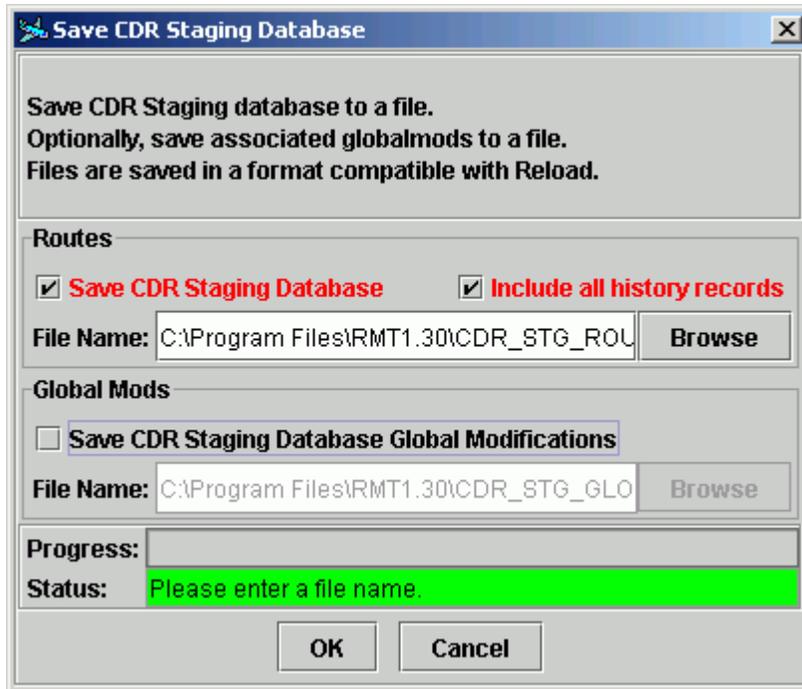


Figure 139: Save CDR Database Window

Delete Database Records

If either the CDR staging or operational database needed to be reloaded for some reason, only the ATCSCC administrator can delete all the database records and perform the reload. To delete all the route records in the CDR database, select **Admin > Delete Database**. The Delete Database window appears. Note that the window will be named according to the database you are deleting. You can delete the CDR routes and the associated global modifications by clicking in the appropriate checkbox (Figure 140). To perform the deletion, click **OK**. To close the window without deleting any records, click **Cancel**.

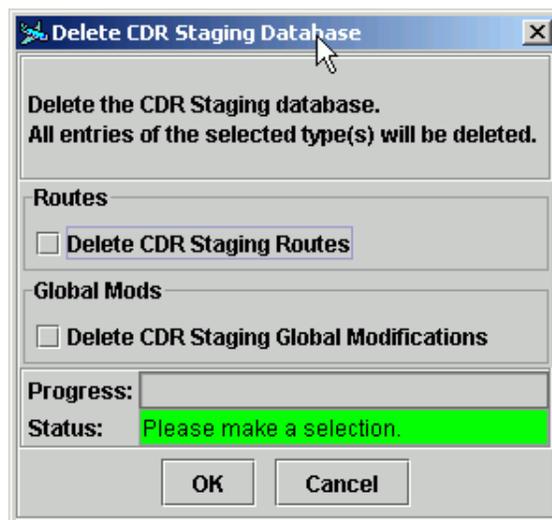


Figure 140: Delete CDR Staging Database Window

Reload Database Records

The CDR route databases and global modifications can be reloaded using an ASCII file created specifically to reload the database. See the “Save Database Records” section on page 150.

To reload the database, select **Admin > Reload Database** and the Reload Database window should appear (Figure 141). In this window, enter the file location and name for the saved database text files.

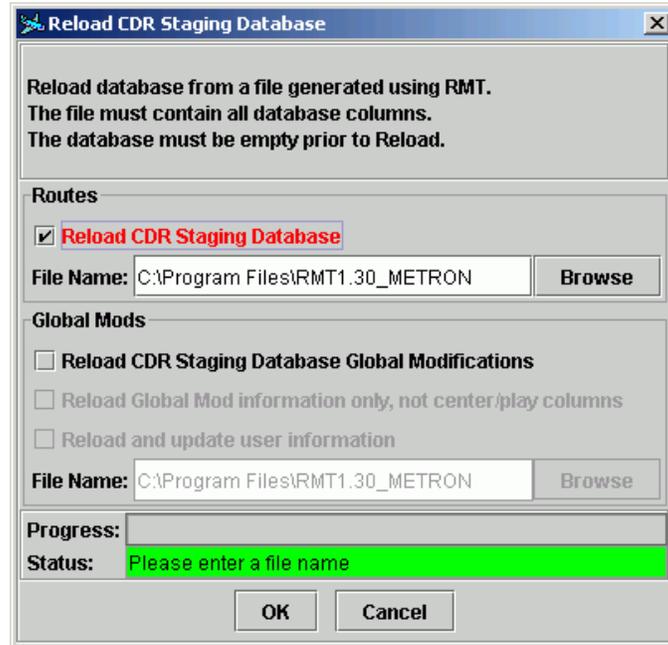


Figure 141: Reload CDR Staging Database Window

Several options are provided for reloading the global modifications. These options allow data saved from one tool (e.g. CDR) to be loaded into another tool (Playbook) without retyping the information.

- Select the **Reload CDR Database Global Modifications** checkbox to load all the information from a saved global modification file (See “Save Database Records” section above). Note that this file includes the status or color of the boxes for each center/Play that indicate if routes have been updated with the global mod.
- Select the **Reload Global Mod information only, not center/play columns** checkbox to load only the general global modification information found on the left side of the Global Modifications tab. The modifier’s initials, user type and modification time are preserved along with the name change information. The database structure is slightly different in the CDR and Playbook databases. This option allows the general global modification information to be read into the different tools in the appropriate format. The status boxes are ‘recalculated’ after the global modifications file is loaded into the database (See “Recalculate/Refresh the Global Modifications Table” on page 108).
- Select the **Reload and update user information** checkbox to load only the OrigVal and FinalVal global name change information. Your user initials, user type and the current modification time will replace the original information in the Global Modifications tab.

Copy Staging Databases to Operational Databases

The staging databases are copied to the operational database every 56 days on the published chart date. The ATCSCC administrator is the only user who can initiate the copy process. The database copy can be set to occur automatically at 901Z on the chart date or can be manually overridden.

Automatically Copy the Databases

RMT contains a function to automatically copy the CDR staging databases to the operational databases every 56 days on the specified chart date. The automatic copy is set to OFF by default.

If the automatic copy function is off, you can turn it back on by selecting **Admin > Change Auto Staging -> Op**. A server message pops up to tell you that the automatic staging to operational database copy has been turned on.

Manually Copy the Databases

The ATCSCC administrator could theoretically copy the staging database to the operational database at any time (under normal circumstances this would only happen on the chart date). Once the automatic copy function is off, you can manually copy the data in the staging database to the operational database. To perform the transfer, select **Admin > Copy Staging -> Operational**. The **Staging to Operational** window pops up (Figure 142). In freeze date field, type the date on which the route records were frozen for the current database transfer. Any route records modified after the date you enter will not be transferred to the operational database. By default, the freeze date is set to the day before the chart date.

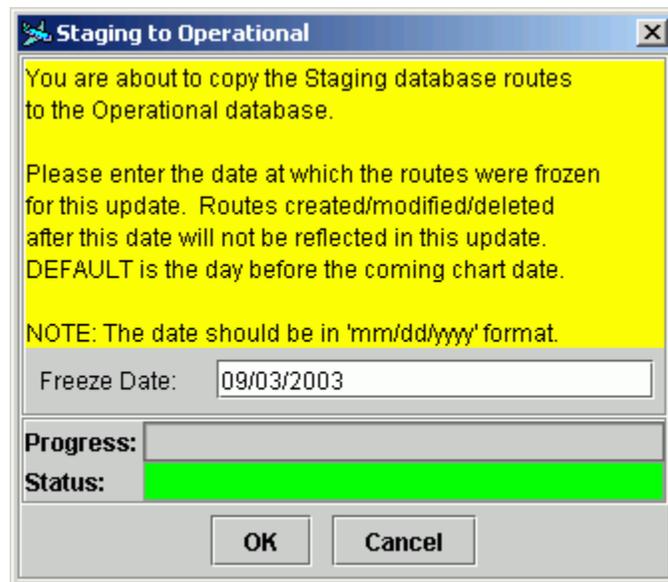


Figure 142: Copy Staging to Operational Database

Once you enter the freeze date, click **OK** to perform the copy. The copy progresses and pertinent status messages appear in the bottom of the window.

To close the window without performing the transfer, click **Cancel**.

NFDC Tool Administrator Functions

The National Flight Data Center (NFDC) regularly publishes data files with flight-related reference data. This data is used to update much of the data used by the RMT program, including location and name information for airports, fixes, and navaids. The information in the NFDC tables is also used to validate route elements entered by RMT users and display elements on the RMT Map.

Only the ATCSCC administrator can update the NFDC reference tables.

Update NFDC Reference Tables

To update the NFDC database, select **Admin > Update Database from CD**. The **Load DB From File** window appears (Figure 143). Type in the location of the data files or use the Browse button to find the directory. Click all of the information tables you want to update. Any table option with a checked box next will be included in the update.

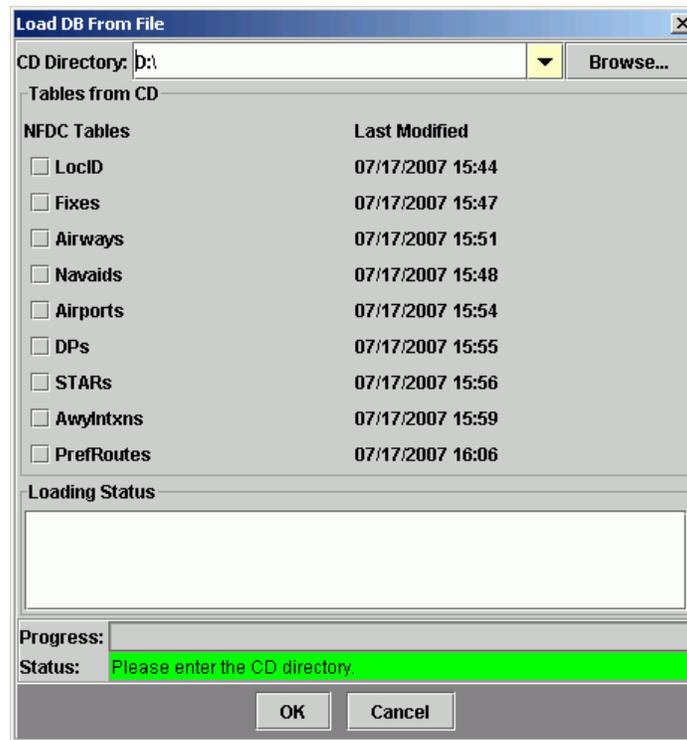


Figure 143: Update NFDC Tables

Reference table options include:

- LocID
- Fixes
- Airways
- Navaids
- Airports
- DPs
- STARS
- AwyIntxns
- PrefRoutes

Once you have selected the desired table options, click **OK** to perform the update. The bottom of the Load DB From File window will show specific loading progress messages as well as track the total progress of the update. Pertinent status messages are displayed at the very bottom of the window. Status messages include instructions on performing the update and warning messages.

Playbook Tool Administrator Functions

Playbook Plays are assigned to a category based on the type of Play. Only the Playbook administrator can update the Playbook categories table and Playbook Plays. Please note that the 56-Day chart cycle processing for the Playbook database is done outside the RMT Tool.

Manage Playbook Categories

To update the Playbook categories table, select **Admin > Manage Categories**. The **Manage Categories** window appears (Figure 144). Buttons to perform the two available functions are shown on the left, a current list of category names is provided in a table on the right side of the window. Category names are color coded by status (red designates staging Play categories, blue designates operational categories) for easy identification by the Playbook Administrator.

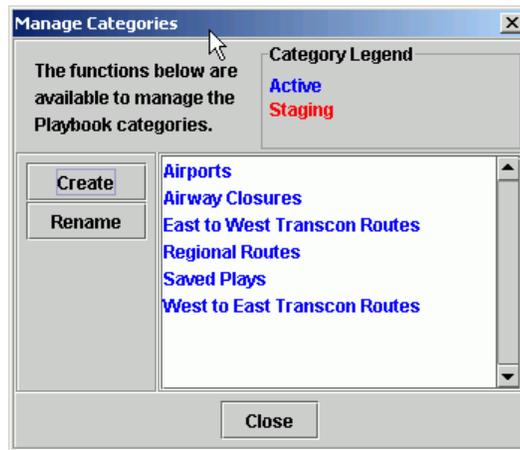


Figure 144: Playbook Manage Categories Window

To create a new Playbook category, click **Create** to bring up the **Create Category** window (Figure 145). Type the name in the *New Category* field. Please note that a new category name must be created using the Create function before it can be associated with a Play. See “Update Playbook Plays” on page 129.

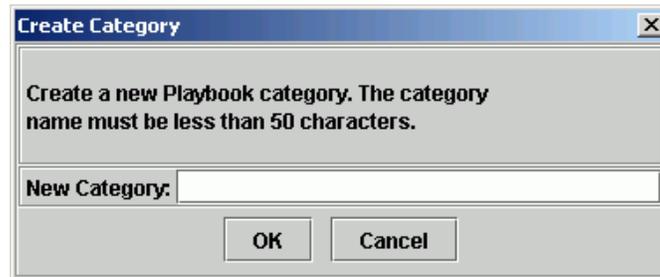


Figure 145: Create Playbook Category Window

To rename an existing category, select a category name from the table in the **Manage Categories** window and press the **Rename** button. Type the new name of the category in the *New Category* field and click **OK**.

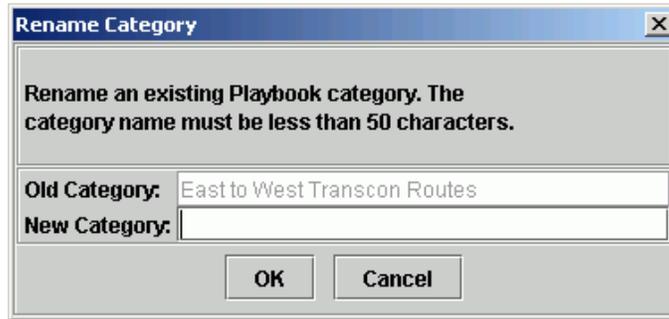


Figure 146: Playbook Rename Category Window

Note that Play categories can not be deleted through RMT.

ROG Tool Administrator Functions

One ROG specific administrator function is available in the ROG Tool window.

Change Early Intent Status

The **Admin > Change Sub-Carrier EI Status** menu option allows the RMT administrator to enable or disable the capability for carriers to submit EI messages for their sub-carriers. Note that a similar parameter is set on the CCSD. Select **Admin > Change Staging Verification**. RMT displays a prompt window that informs you of the current status and asks if you wish to change the status. If you wish to change the status, click **Yes**. To leave the status as is, click **No**.

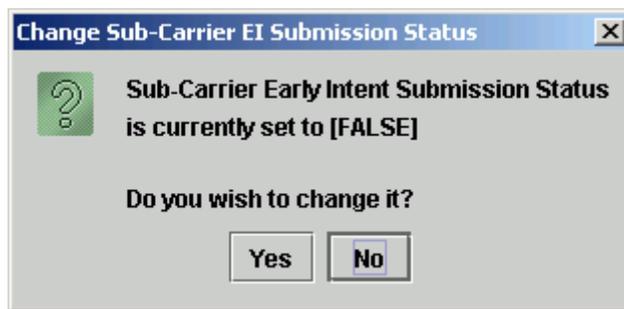


Figure 147: Change Sub-Carrier EI Submission Status Window

Ad Hoc Reroutes Tool Administrator Functions

Several database administration functions are available to the RMT administrator in the Ad Hoc Reroutes Tool window.

Refresh Database Records

The administrator updates (or refreshes) the ad hoc reroutes warning messages as part of the 56-day Chart Date processing. To refresh the database, select **Admin > Refresh Database**. Note this may take a while depending on how many ad hoc reroutes are contained in the database.

Save Database Records

The ATCSCC administrator can save the ad hoc reroutes database to a file outside of RMT. This can be especially helpful if the database ever needs to be reloaded. To save the database, first make sure you are in the AD HOC Tool window. Select **Admin > Save Database** and the Save Ad Hoc Reroutes Database window should appear. In this window, enter a file location and name for the saved database.

Delete Database Records

If the ad hoc reroutes database needed to be reloaded for some reason, only the ATCSCC administrator can delete all the database records and perform the reload. To delete all the route records in the ad hoc reroutes database, select **Admin > Delete Database**. The Delete Database window appears. To perform the deletion, click **OK**. To close the window without deleting any records, click **Cancel**.

Reload Database Records

The ad hoc reroutes database can be reloaded using an ASCII file created specifically to reload the database. See the “Save Database Records” section on page 157. To reload the database, select **Admin > Reload Database** and the Reload Database window should appear. In this window, enter the file location and name for the saved database text files.

Appendix

This appendix contains hardware requirements, descriptions of the RMT configuration files and the Error and Warning messages found during route checking in the various tools.

Hardware Requirements

Your computer should meet the following requirements in order to run the RMT application:

Memory - 128 Mb minimum. 256Mb recommended.

Disk space - 160Mb.

Ability to run Java Runtime Environment 1.5_0_11 or higher.

RMT Client Configuration Files

The main RMT client configurations files are found in the following directory: C:\Program Files\RMT1.50\config. Configuration files include the main client configuration file (rmt_client.ini) and the etmsrules.xml file that controls the parsing of the FEA/FCA definition files. These two files should not be edited by the user. Your local configuration file is found in your home directory. Any settings saved from the RMT Tool windows are saved in your local file.

RMT Aliases

The standard RMT aliases can be found in the RMT client configuration file:

```
QUERY_ALIASES
{
    DCMETRO          IAD | DCA | BWI
    NYMETRO          LGA | JFK | EWR | PHL
    WAS              IAD | DCA | BWI
    CHI              ORD | MDW
}
```

You may create aliases for searches you perform on a regular basis in the *rmt_user_aliases.ini* file located in your home directory. See the “Create an Alias for a Group of Airports” section on page 36 for more information.

```
# This is the RMT Aliases file.
#
# The '#' sign indicates a comment.
# The ':' is required following the alias name
# Additional aliases can be added using the following format:
# Alias_Name:      value
#
#UPSTATENY:  BUF | ROC
#GWELEMENTS:  TNV LOA
```

Error and Warning Messages

RMT provides some route validation and verification processing. A complete list of warning and error messages generated by the tool as CDRs, Playbook Plays and ad hoc reroutes are entered into RMT are provided in the following sections.

Warning Messages

RMT provides user warning messages if problems are found during the validation process. Certain warnings can be “ignored” and the routes can be entered into the database.

All users can see any warning messages associated with a route in the **Warnings** information column in the CDR Query Results table. This field is used to create the Warnings Report that can help administrators in the validation process. This field also helps to identify routes that contain elements that may be missing from the map. This list can also be accessed through **Help > Show Warning/Error Messages**.

WARNING_AIRWAY_ELEMENT	The specified element was not found in the specified airway definition.
WARNING_CDR_RCODE_IO	The CDR Route Code should not have 'I' or 'O' in positions 7 or 8.
WARNING_DIFF_DFIX	The element in the Departure Fix field was not found on the Route String.
WARNING_DP_STAR_POSITION	The specified element is a valid DP/STAR but was not found in the expected position in the Route String.
WARNING_DUPLICATE_ELEMENT	The specified element was found more than once on the Route String.
WARNING_GLOBALMOD_FINALVAL	The global name change specified will be effective on the next chart date. RMT does not currently contain the latitude/longitude data for the new element for the RMT Map.
WARNING_GLOBAL_ORIGVAL	There is a global name change for the specified element effective on the next chart date.
WARNING_MISMATCH_ACNTR	The Airport/Center information entered does not match what is currently in RMT.
WARNING_NO_COORDINATES	The specified element is a known element name, but no latitude/longitude information is available for the RMT Map.
WARNING_NO_DFIX	The departure fix is missing.
WARNING_UNKNOWN_ARPT	The specified airport was not found in the NFDC airports table.
WARNING_UNKNOWN_ELEMENT	The specified route element was not found in any of the NFDC tables.
WARNING_WAYPOINT_DISTANCE	There are waypoints on the route that are further than 600 nautical miles apart.
WARNING_INVALID_DPSTAR_TRANS	The specified element is not a valid transition point for the specified DP or STAR.
WARNING_INVALID_AWYINTXN	The specified airways do not meet at a valid airway intersection point.

Error Messages

RMT provides error messages to administrator users if problems are found as routes (CDRs, Plays or ad hoc reroutes) are entered into RMT through either the screen or loaded from a file. These errors must be resolved before the routes are allowed into the database.

The list of potential error message is available for administrator users through **Help > Show Warning/Error Messages**.

ERROR_CDR_BAD_RCODE	Invalid CDR Route Code: Route Codes must be 8 characters in length.
ERROR_CDR_DIFF_DEST	Characters 4-6 of the Route Code do not match the 3-character destination airport code.
ERROR_CDR_DIFF_ORIG	Characters 1-3 of the Route Code do not match the 3-character origin airport code.
ERROR_NO_COORDREQ	The Coordination Required field must be filled in.
ERROR_NO_NAVREQ	The NavReq field must be filled in.
ERROR_STEREO_EXTRA_I_LINE	A Route Code (I line) was found without a matching route string (W line) at the specified line.
ERROR_STEREO_EXTRA_W_LINE	A route string (W line) was found without a matching Route Code (I line) at the specified line.
ERROR_STEREO_INCOMPLETE_ROUTE	An incomplete route was found at the specified line.
ERROR_STEREO_MISSING_PAREN	The closing parenthesis ')' on the specified line is missing.
ERROR_STEREO_NULL_ROUTE	There is no route string information for the Route Code near the specified line
ERROR_ASCII_FIELDS	The number of fields in the ASCII file does not match what was expected by RMT.
ERROR_FILE_PARSE	There was an error parsing the file near the specified line number.
ERROR_FILE_MISSING_RCODE	The Route Code could not be extracted from the file.
ERROR_DCNTR_PERMISSIONS	The departure Center does not have permission to modify routes from the specified airport.
ERROR_DIFF_OD_RSTRING	The origin/destination parsed from the Route String does not match the origin/destination field.
ERROR_DUPLICATE_RCODE	The specified Route Code already exists in the database.
ERROR_EMPTY_FIELD	The specified field contains no information.
ERROR_INVALID_CHAR	An invalid character was found in the specified field.
ERROR_INVALID_PLAYNAME	The specified Associated Play Name was not found in the Playbook database.

ERROR_MISMATCH_DCNTR	The airport/Center information does not match what is currently in RMT.
ERROR_MISSING_PREFIX	The specified airport is unknown to RMT, the 4-character ICAO airport code is missing.
ERROR_NUM_CHARS_ORIG_FIELD	The Origin field must be 3 or 4 characters in length (4 characters for intl cities).
ERROR_NUM_CHARS_DEST_FIELD	The Destination field must be 3 or 4 characters in length (4 characters for intl cities).
ERROR_NUM_CHARS_ORIG_RSTRING	The origin parsed from the route string is not 3 or 4 characters in length (4 characters for intl cities).
ERROR_NUM_CHARS_DEST_RSTRING	The destination parsed from the route string is not 3 or 4 characters in length (4 characters for intl cities).
ERROR_TOO_MANY_CHARS	Too many characters were entered for the specified input field.
ERROR_UNKNOWN_ACNTR	The responsible Center information is not currently contained in RMT for the specified airport.
ERROR_UNKNOWN_DCNTR	The responsible Center information is not currently contained in RMT for the specified airport.

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