Harmony for ANSPs Web User's Guide

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Chapter 1. Getting Started

Harmony for ANSPs Web provides ANSPs and their stakeholders with the capability to monitor demand and capacity at airports and airspaces in the strategic, pre-tactical, and tactical time frames. By integrating flight intent and flight data sources (e.g., marketing data, airline schedule data, flight plan data, and surveillance updates), demand predictions are computed, regularly updated, and displayed to users in order to provide situational awareness.

Overview of Harmony for ANSPs Web

Harmony for ANSPs Web includes the following components and functionality (listed in alphabetical order):

Alerts

- View and acknowledge alerts for changes to Traffic Flow Initiatives (TMIs)
- View and acknowledge alerts for changes to Resources (runway configurations and Flow Constrained Areas [FCAs])
- View and acknowledge alerts for changes to Flights (noncompliance alerts and ISE bridged flights)

COBT Compliance Window

- View Calculated Off Block Time (COBT) compliance in relation to the current time

Data Source Reports

- Super Users and Flow Managers can view Data Source Reports (a count of flights based on the latest sources of data).

Decision Support TMI

- Execute Fix Balancing analysis
- Model Fix Balancing TMI
- Model Route Detour TMI
- Model Level Capping TMI

Demand Graph

- Monitor demand
- View Demand Graphs by various elements (e.g., major, data source)
- Access time-bin-specific Flight Lists
- View demand counts
- Set Capacity
- Access Flight Lists

Edit Mode

- Update flight data (ACID, AC Type, AC Reg)
- Update flight contact information (email address, phone number, mobile carrier)
- Update a controlled flight's ATOT, ALDT
- Update a controlled flight's LOBT (the LIBT is calculated from the LOBT)
- Update a controlled flight's ELOBT (the ELIBT is calculated from the ELOBT) with an option to resume the auto-management of the EL time
- Cancel a flight with slot hold
- Reinstate a controlled flight
- Request an Inter Aircraft Operator Slot Exchange (ISE) on a pre-departure, controlled flight
- Swap two flights in an arrival TMI (GDP-A or GDP-A-RWY) or AFP
- Swap a flight with an unassigned slot in an arrival TMI (GDP-A or GDP-A-RWY) or AFP
- Create a flight from an existing flight
- Swap an active and a pre-departure flight (Super User only)
- Add flights (non-controlled or controlled) to a TMI (Super Users only)
- Cancel any controlled flight (Super Users only)
- Free controlled slots in a TMI (Super Users only)

Flight Data Upload

- Import and upload scheduled flights data, airport slots (strategic slot) data, and post-operational flight data

Flight List

- View Flight Lists and flight details
- Export Flight Lists to a CSV file

Map

- Create and manage FCAs
- Filter the displayed flights with aircraft groupings
- Manage the display of layers (e.g., airports, flights, range rings, FCAs, approach controls, sectors, and flight information regions [FIRs])
- Create and manage range rings
- View weather
- Save map views
- Access Demand Graphs

- Access Flight Lists

Reporting

- Run a Flight History report for a single flight
- Run a Flight Summary report for a range of flights
- Run an Airport Summary report for a graphical view of an airport's data (e.g., demand lead time, resource utilization, data overview, actual demand accuracy, pre-tactical demand, flight planning and schedule matching.
- Run a Benefit Measurement Metrics Report (via the Arrival Delay Dashboard) – to view metrics for determining how much airborne holding and fuel was saved by an implemented Measure (TMI).
- Run a ATFM Measure Performance Report to view departure compliance analysis of a selected measure.

Runway Configuration

- View current and scheduled runway configurations

TMI Parameters Display

- View TMI parameters for actual and scheduled programs

Work Views

- Create Work Views (including Demand Graphs, Flight Lists, and COBT Compliance Windows; or Edit Mode)
- Configure a Work View as the default, which opens when you log in
- Edit Work Views
- Delete Work Views

Scope

This document provides the detailed procedures for using Harmony for ANSPs Web's components. A high-level description of the components is provided, as well as step-by-step details for using the application.

Document Conventions

The following conventions are used in this document:

- **Bold** text is used to indicate on-screen buttons, tabs, and icons. For example: Click **Submit** or click the **Map** icon.
- The **`bold Courier font`** is used to indicate a keyboard key.
  - For example: Press **`Enter`**.
- *Italicized* text is used to indicate the name of menus, fields, dropdown lists, and other labels in the application. For example: Enter the FCA in the *FCA Name* field.

Supported Browsers

Table 1 lists the supported browsers for Windows and Linux.

You are able to use some unsupported browsers; however, performance is not guaranteed.

Table 1: Browser requirements

Operating System	Browser	Version
Windows	Internet Explorer	10 and 11
Windows	Firefox	45 ESR and 52 ESR
Linux	Firefox	45 ESR and 52 ESR

Internet Explorer – Error Messages Settings

Internet Explorer may display Harmony for ANSPs Web messages in "program-like" language instead of the Harmony for ANSPs Web-coded messages. If you experience this and prefer to read Harmony for ANSPs Web's easy-to-understand messages, you must update the *Show friendly HTTP message* setting:

Note that "*friendly HTTP*" sounds like something that would be easy to read; however, the Harmony for ANSPs Web messages are more specific and user-friendly.

To update the setting, complete the following steps:

1. Open *Internet Explorer* > *Tools* > *Internet Options*.

   The Internet Options dialog box opens.

2. Click the *Advanced* tab.
3. Scroll down to the *Browsing* section and locate the *Show friendly HTTP error messages* option (see Figure 1).

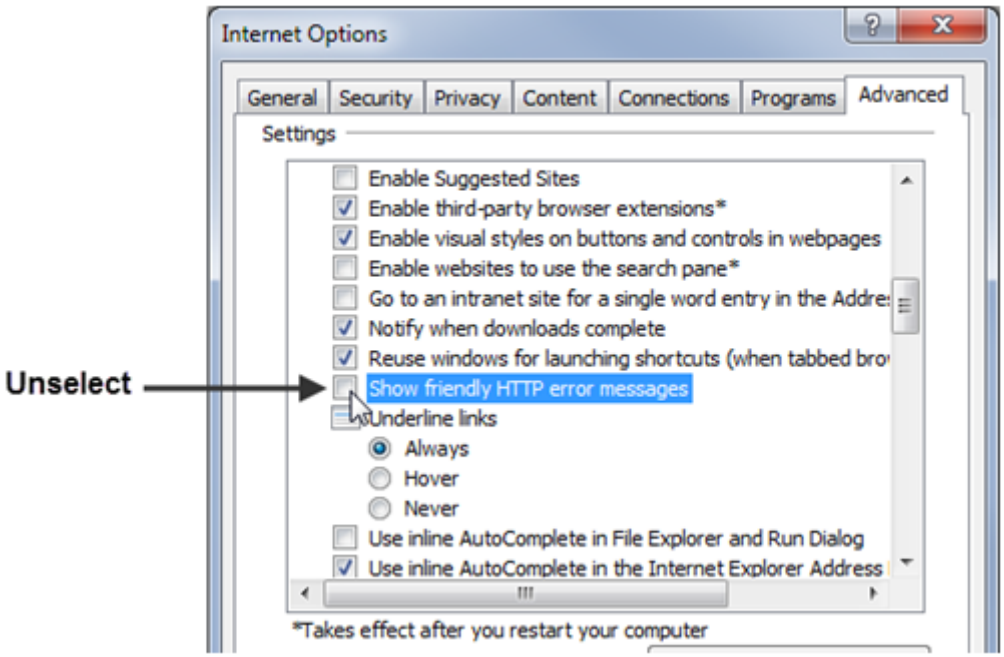


Figure 1: Unselect "Show friendly HTTP error messages" option

4. Unselect *Show Friendly HTTP error messages*.
5. Click **OK**.

   The Internet Options dialog box closes.

   Harmony for ANSPs Web-coded, user-friendly messages will be displayed.

Internet Explorer – Browser Compatibility View Settings

If you are using Internet Explorer, it is necessary to configure the browser's compatibility view settings. This will enable you to successfully access the system where you must change your password upon your initial log in. Specifically, you will:

1. Add *metronaviation.com* as a website that should be displayed in Compatibility View.
2. Unselect the *Display intranet sites in Compatibility View* option.

To update the Compatibility View settings, complete the following steps:

1. Select *Tools* > *Compatibility View settings*.

   The Compatibility View Settings dialog box opens.
2. Make the following updates (see Figure 7):
   - In the *Add this website* field, enter *metronaviation.com*
   - Unselect the *Display intranet sites in Compatibility View* option.

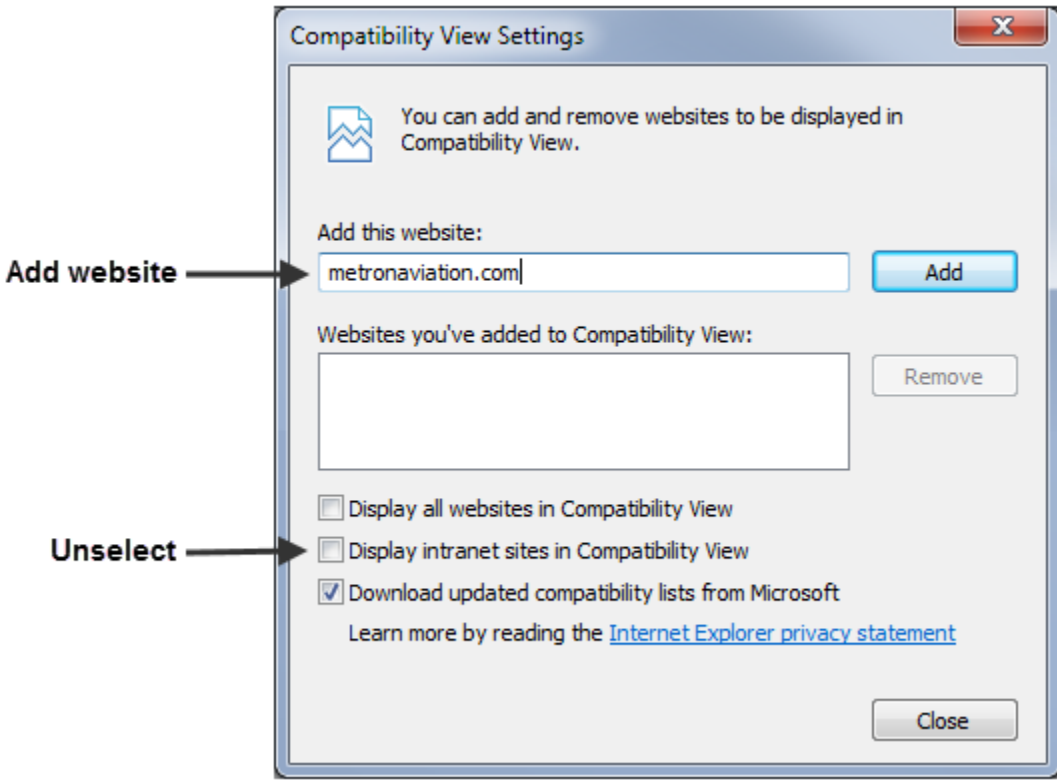


Figure 2: Compatibility View settings

3. Click **Close**.

Firefox – Windows 10 Touch Screen Issue

Some older versions of Firefox on touch screen computers may not operate as expected (e.g., nothing will happen when you click a tool tip or element). The solution is to disable the touch screen feature. Please contact your administrator or designated Information Technology (IT) group to assist you.

Firefox – Login Screen Not Displayed

Some older versions of Firefox used on newer operation systems (e.g., Windows 10) may display a white screen instead of the Login screen. The solution is to clear the offline data cache.

To to clear the offline data cache, complete the following steps:

1. In Firefox, select *Tools* > *Options*.

   As shown in Figure 3, the Options window opens with the General information displayed.

2. In the left-side navigation panel, select *Advanced*.

   The Advanced information is displayed.

3. Towards the top of the screen and below *Advanced* heading, click the *Network* tab.

The *Offline Web Content and User Data* section is displayed at the bottom of the screen and lists the websites that are allowed to store data for offline use (see Figure 3).

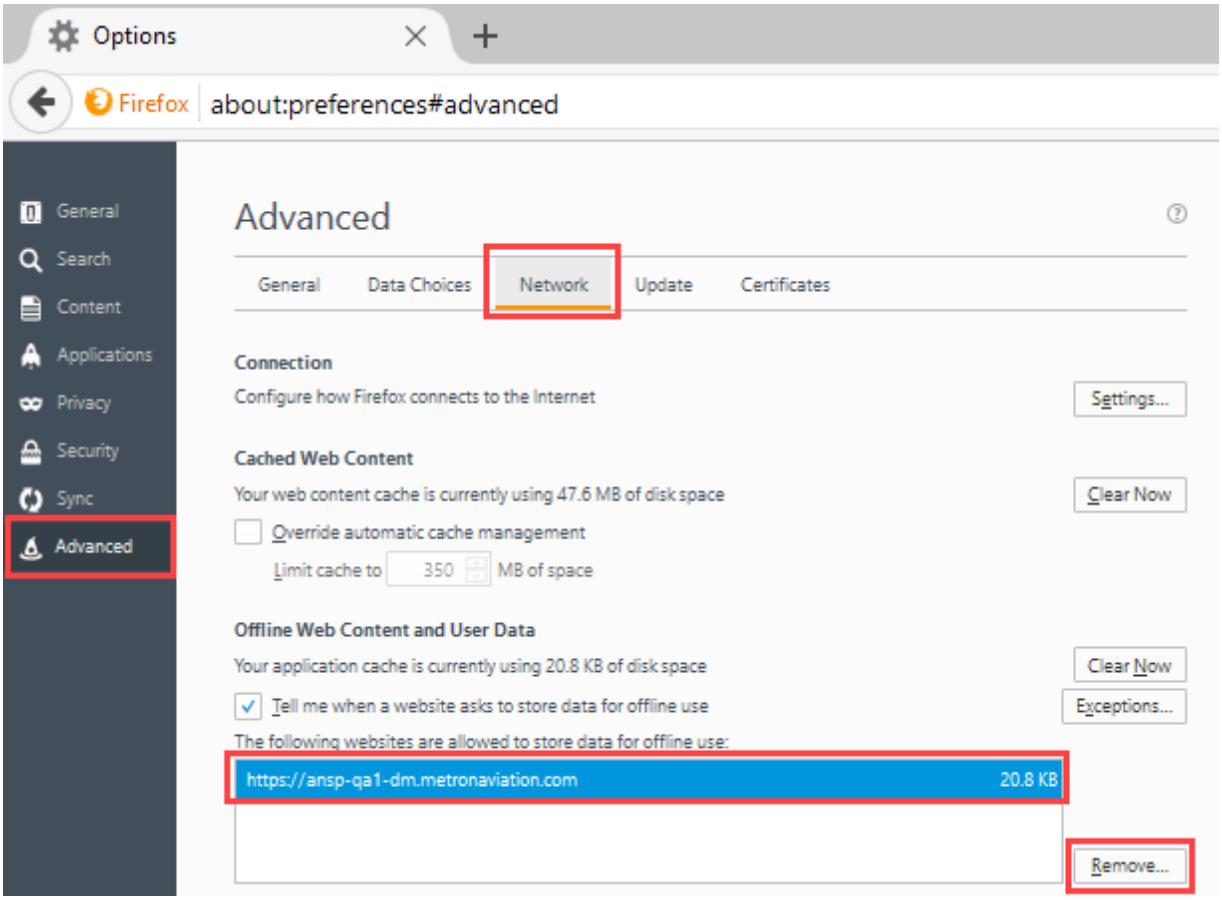


Figure 3: Location of the Offline Web Content and User Data box

4. Select the Harmony for ANSPs Web website listed in the box (similar to the one in Figure 3).

   The **Remove** button is activated.

5. Click **Remove**.

   The confirmation dialog box opens (see Figure 4).

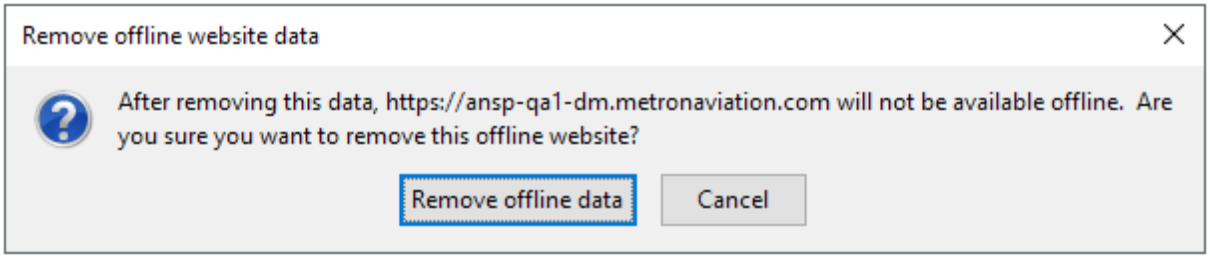


Figure 4: Remove offline website data confirmation dialog box

6. Click **Remove offline data**.

The Harmony for ANSPs Web website is removed from the *Offline Web Content and User Data* box.

7. Click your bookmark or enter the URL for Harmony for ANSPs Web.

   The Login screen is displayed.

Firefox – Toolbar Buttons are Disabled for Touch Screen Computer

Some users with activated touch screen functionality have experienced locked buttons on the Harmony for Web toolbar when they first log in. The solution is to permanently disable the offline cache.

To disable permanently the offline cache, complete the following steps:

1. Open Firefox and enter the following text in the address bar: about:config (see the green circle labelled "1" in Figure 5). Note that this figure also illustrates step 4.

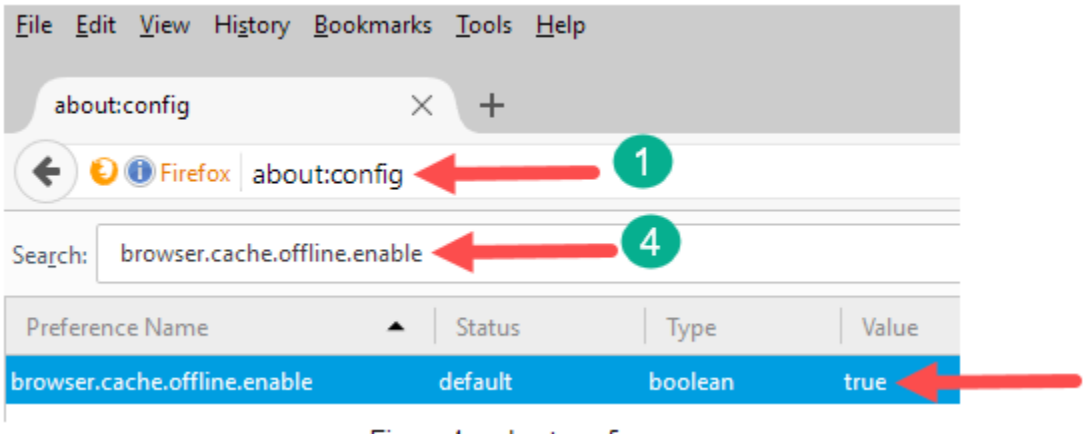


Figure 5: Graphical view of steps 1 and 4; and the resulting filtered list

2. Press the **Enter** key or click the address bar arrow to submit the command.

   A warning about the risks associated with changing advanced settings is displayed.

3. Click the **I accept the risk** button to accept the risk. Note that the button's label may be different depending on the version of Firefox.

   A list of preferences is displayed.

4. To filter the list to cache offline settings row, in the Search field, enter the following text: browser.cache.offline.enable (see the green circle labelled "4", as previously shown in Figure 5).

   The list is filtered and displays only the row for the browser cache offline (see blue-highlighted row, as previously shown in Figure 5).

   By default, the value is set to true.

5. In order to disable the offline cache, you need to set the value to false. To do this, right-click the row and select *Toggle* (see Figure 6).

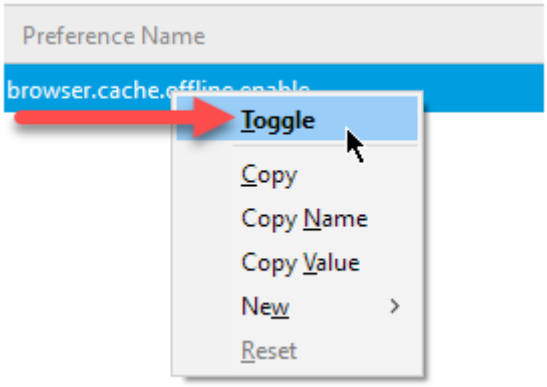


Figure 6: Select Toggle to disable the offline cache

6. The value toggles to false and the offline cache is permanently disabled.
7. To restore the offline cache, repeat the previous steps, and toggle the value to *true*.

Logging into Harmony for ANSPs Web

Access to Harmony for ANSPs Web is via a Single Sign-On (SSO) page. Before logging in, your Administrator will provide a URL to the SSO page (see Figure 7) and login credentials (i.e., username and password).

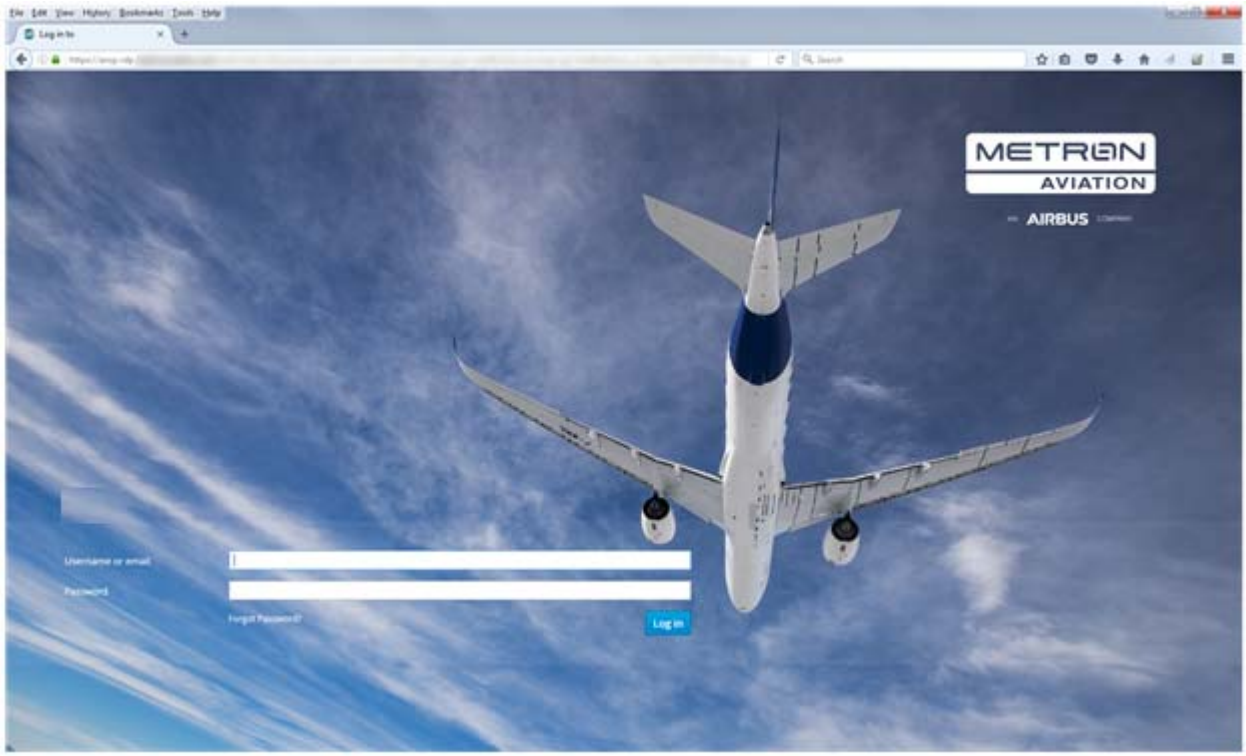


Figure 7: Single Sign-On (SSO) page

To log in for the first time, complete the following steps:

1. Go to the URL provided by your administrator.

The SSO page is displayed (see Figure 7).

2. Enter the username and password provided by your administrator. Note that your username is case-insensitive (i.e., you can enter it in either uppercase or lowercase).

3. Click Log in.

   When you log in for the first time, you will immediately receive a verification email with a link to change your password and verify/update your basic profile settings. **The link will expire five minutes after being sent; therefore, it is imperative that you click the link to verify your email address within five minutes of the sent time.**

   If you do not click the link within five minutes and the link expires, re-enter your login credentials to generate another verification email.

   Note: If you do not receive an email within a minute, check your Junk Email folder. If the verification email is in your Junk E-mail folder, create a rule to ensure future emails are not blocked.

4. Click the link and follow the prompts to change your password and update your basic profile settings. For information about the password criteria, see "Password Criteria" on page 10.

Password Criteria

- Passwords must contain 3 out of 4 of the following categories:
  - Lowercase letters (a-z)
  - Uppercase letters (A-Z)
  - Numbers (0-9)
  - Symbols (e.g., ! . - & ( ) @ ^ < > | / { } [ ])
- Passwords must be changed on a regular basis, at least once every 60 days.
- Your previous twelve passwords are verified and cannot be reused.

Password Error Message

When your password has expired or you enter a new password that does meet the password criteria, the following message is displayed:

Error! Could not modify attribute for DN (uid = username...

Resetting Your Password

You will be prompted to change your password on a regular basis; however, you may need to reset it in between the set intervals (e.g., if you forget your password). The process is similar to when you logged in for the first time.

If you forget your password or want to reset your password, complete the following steps:

1. On the Login page, enter your username and click Forgot Password? (located below the *Password* field).

You will immediately receive a verification email with a link to change your password. **The link will expire five minutes after being sent; therefore, it is imperative that you click the link to verify your email address within five minutes of the sent time.**

If you do not click the link within five minutes, re-click Forgot Password? to generate another verification email.

Note: If you do not receive an email within a minute, check your Junk Email folder. If the verification email is in your Junk E-mail folder, create a rule to ensure future emails are not blocked.

2. Click the link and follow the prompts to change your password. For information about the password criteria, see "Password Criteria" on page 10.

Locked User Accounts

After three successive failed login attempts, your user account will be locked. After 30 minutes, your account will be unlocked. Contact your administrator for assistance.

Bookmarking Harmony for ANSPs Web

The Login screen is an SSO authentication page that is separate from the Harmony for ANSPs Web application domain. **Instead of bookmarking the Login page, bookmark Harmony for ANSPs Web's Home Page after you log in** (see Figure 8). When you click the bookmark, you will be taken to the Login page; however, upon login, the Harmony for ANSPs Web Home Page will open.

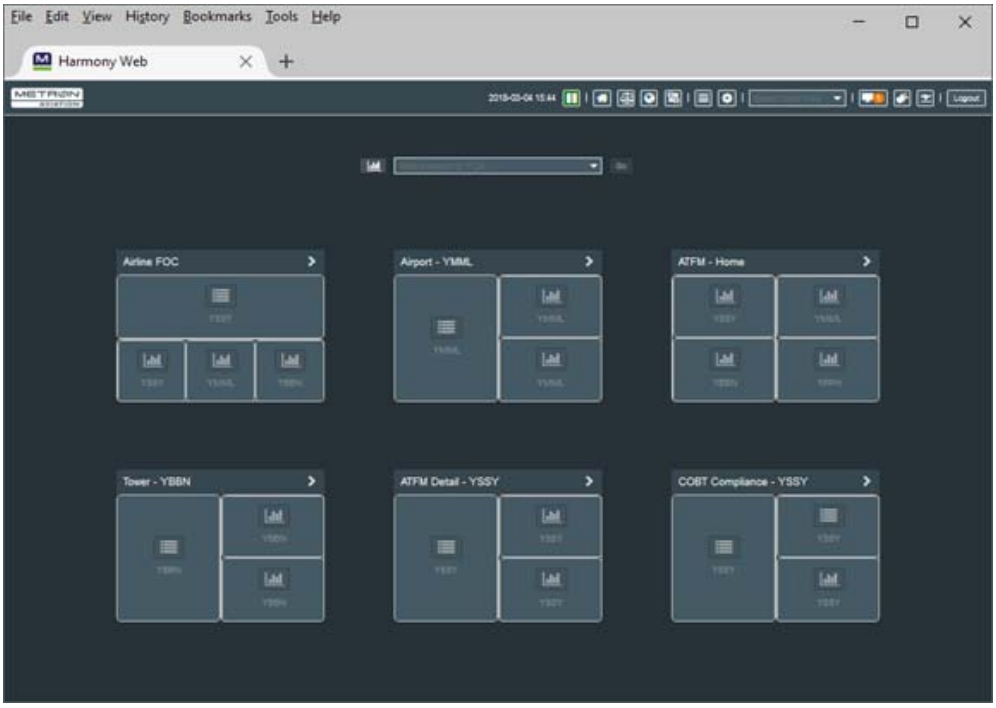


Figure 8: Bookmark the Home Page (not the SSO/Login page)

This page is intentionally blank.

Chapter 2. Home Page

The Home Page is displayed when you first log in (see Figure 9). In the top center of the window (below the main toolbar) is the Module and Element Selection dropdown. Below it are the Work Views (i.e., the blocks below the dropdown). The Work Views on your Home Page will be based on your configuration. For more information about Work Views, see Chapter 4: Work Views. This section provides a high-level overview of the Home Page and the main toolbar.

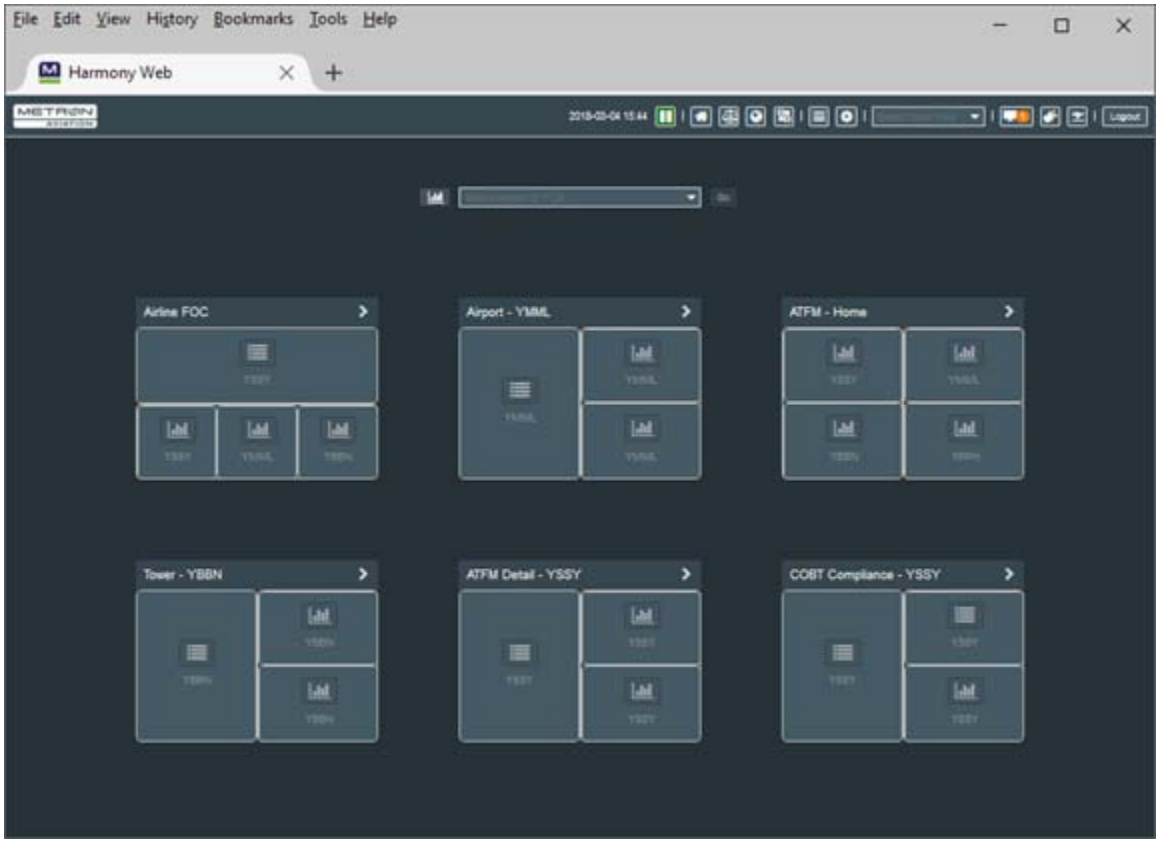


Figure 9: Home Page

Main and Work View Toolbars

At the top of the screen is the main toolbar, which is viewable on every screen. The toolbar displayed on the Home page is shown in Figure 10. For more information about the toolbar elements, see "Main Toolbar Buttons and Controls" on page 17.

Figure 10: Home page toolbar

The Work View has additional functionality; therefore, additional buttons are displayed in the toolbar (see Figure 11). For illustrative purposes, these buttons are denoted with red squares. The **Home** and **Map** buttons are simultaneously displayed and the **Layout Configuration** and **Save Work View** (star) buttons are available.

Figure 11: Main toolbar in a Work View has additional options.

Out-of-Sync Timestamp Alert

A connection issue in which the browser is not getting updates from the server can cause the system timestamp in the toolbar to be out of sync with the actual time. This asynchronous state causes the data to be stale and prevents you from receiving alerts.

After two minutes of this out-of-sync state, the timestamp will blink in red font to alert you to the connection issue (see Figure 12).

Figure 12: Blinking red timestamp alerts you to out-of-sync timestamp

After five minutes of the out-of-sync state, a warning message will notify you that the system time is out of sync and ask whether you want to refresh the browser (i.e., reload application) to try to re-establish the network connection (see Figure 13).

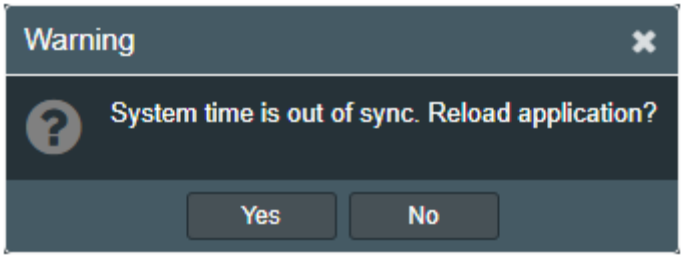


Figure 13: Message after five minutes of out-of-sync state

Note that refreshing the browser will return you to the home screen. The timestamp will continue to blink in red font until the time is synchronized.

Module and Element Selection Dropdowns

At the top of the screen is the Module menu and Element (Airport or FCA) selection dropdown, i.e., *Select Airport or FCA* field (see Figure 14).

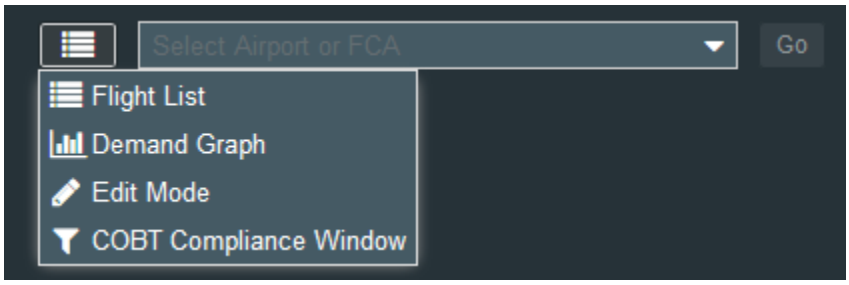


Figure 14: Module selection dropdowns for airport or FCA

The Module Menu is used to open the Flight List, COBT Compliance Window, Edit Mode (i.e., All Flights View and TMI View), and Demand Graph for the selected airport or FCA. This functionality will be reviewed in the following sections:

- Chapter 5: Flight List
- Chapter 6: COBT Compliance Window
- Chapter 7: Edit Mode – All Flights View
- Chapter 8: Edit Mode – TMI View
- Chapter 9: Demand Graph.

Work Views

Below the component dropdown list, are the Work View links (see Figure 15). A Work View can be a either a customized configuration of an Edit Mode Work View for a single airport or FCA, or customized configurations of Flight Lists, Demand Graphs, and COBT Compliance Windows for any combination of airports and FCAs. For more information, see Chapter 4: Work Views.

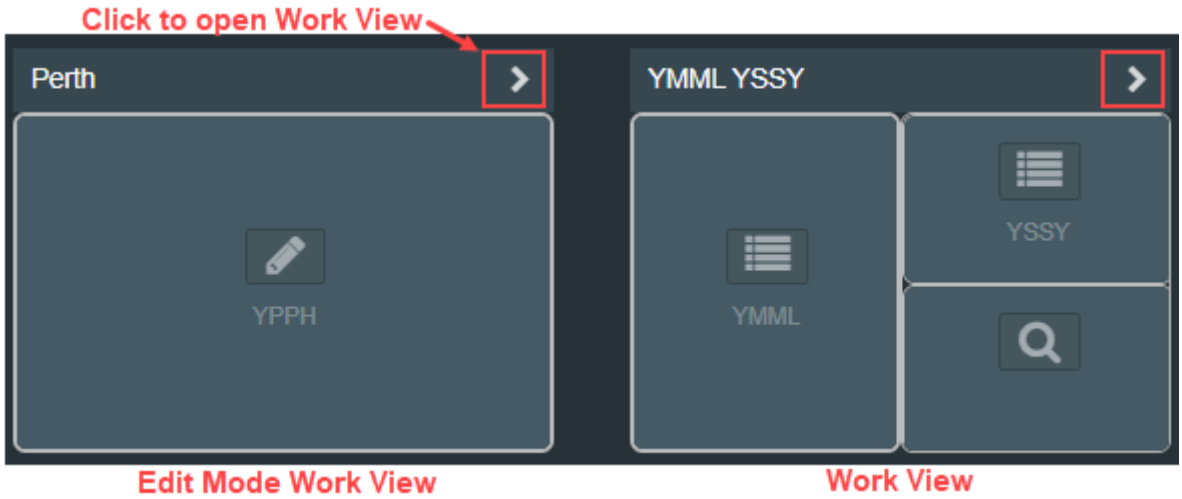


Figure 15: Two types of Work Views

Online Help and About Harmony Web

In the upper right corner of the main toolbar, click  to access the System Settings and online Help and review the software version information (see Figure 16).The *System Settings* option will be covered in Chapter 18: System Settings.

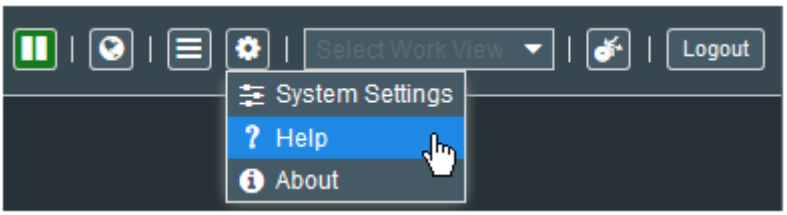


Figure 16: System Settings' options

Displaying Online Help in a Separate Window

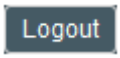
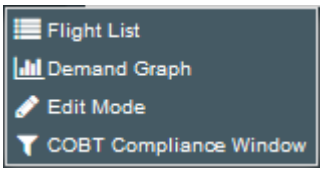
Depending on how your browser is configured, the online Help may open in a new browser tab instead of a separate window. To view the online Help alongside Harmony Web (instead of clicking back and forth between the two tabs), select the *Harmony Web Help* tab and drag it outside the frame of your browser.

Main Toolbar Buttons and Controls

Table 2 describes the buttons, icons, and controls used in the main toolbar on the Home Page and in a Work View.

Table 2: Main Toolbar Buttons and Control

Button	Name	Description
	Timestamp	System's current date and time
	Blinking Red Timestamp	Two minutes after the system time is out of sync with the actual time, the time stamp will blink red. After five minutes of the asynchronous state, a warning message is displayed asking whether you want to refresh the browser to resolve the issue.
	Pause	Pause data updates Toggles with red Paused (Resume Update) button
	Resume Update (displays Paused)	Timestamp that data was paused Click to initialize a data refresh and resume data updates Toggles with green Pause button
	Home	Go to Home Page button displayed on Map and toggles with Map button In a Work View, displays simultaneously with the Map button
	Map	Open Map view button displayed on Home Page and toggles with Home button In a Work View, displays simultaneously with the Home Page button
	Decision Support TMI	Open Decision Support TMI to execute Fix Balancing analysis, and to model Route Detour TMI and Level Capping TMI
	Layout Configuration	Select Work View layout configuration This button is displayed only in Work View.
	Data Tools	Access Flight Data Upload, Reporting, TMI Parameters Display, Runway Configuration, and Data Source Reports
	System Settings	Access System Settings, Help, and About

Button	Name	Description
	Star	Save current Work View This button is only displayed in the toolbar when you are in a Work View.
	Work View	Select existing Work View from dropdown list
	TMI, Resource, and Flight Alerts	Alert icons for TMI, Resource, and Flight events The absence of an orange circle with a number indicates there are not any new or existing unacknowledged alerts.
	Orange Circle with Number on Alerts	Alerts you to new TMI, Resource, and Flight events Displays the total number of new and existing unacknowledged alerts for both FCA and runway configuration events
	Log out	Log out of Harmony Web
	Module Type dropdown	Select an element for the type of module (i.e., Flight List, Demand Graph, Edit Mode, COBT Compliance Window)
	Flight List	Option in the Select Module dropdown In the Work View block, denotes a Flight List module Note that the Flight List icon also identifes a COBT Compliance Window module
	Demand Graph	Option in the Select Module dropdown In the Work View block, denotes a Demand Graph module
	Edit Mode	Option in the Select Module dropdown Denotes an Edit Mode Work View
	Magnifying Glass is a New (undefined) Panel	In the Work View block, denotes an undefined panel (i.e., it is not associated with a Flight List, COBT Compliance Window, or Demand Graph)

Chapter 3. Alerts

Harmony Web users are notified of changes to a TMI (e.g., addition, revision, purge, expiration), flight (e.g., compliance threshold is not met or a flight is bridged), or resource (e.g., an FCA or airport's runway configuration). You are notified of new events that occur after you log in. That is, alerts are not displayed for activities that occurred before you logged in.

Alert Notifications

When a TMI, resource or flight event occurs, the corresponding notification button displays an orange circle with the total number of new and unacknowledged alerts (see Figure 17). The number increases as new events take place and decreases as alerts expire or you clear or acknowledge alerts.

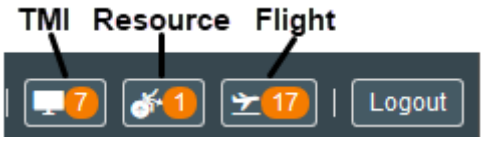


Figure 17: Orange circle shows total number of new and unacknowledged alerts.

Depending on your alert-notification settings, a pop-up with summary alert information is displayed when an event occurs (see Figure 18). The summary includes information such as the time of the event, name of the element (e.g., FCA, airport, flight, TMI), start and end time of the event, whether the TMI is actual or proposed, and action taken. The duration of the pop-up is based on the *Pop-Up Duration* setting in the System Settings' *Alerts* tab. For more information about configuring alert notifications, see "Alerts Settings" on page 215.

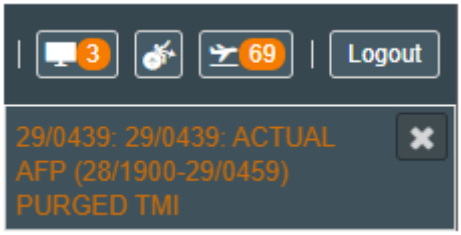


Figure 18: Alert notification pop-up message

The pop-up will expire or you can click  to close the pop-up. Note that this action only closes the pop-up, that is, the alert remains included in the notification count and displayed in the Alerts list.

TMI Alerts

When a TMI is added, revised, purged, compressed, or expired, the event is listed in the TMI Alerts window (see Figure 19).

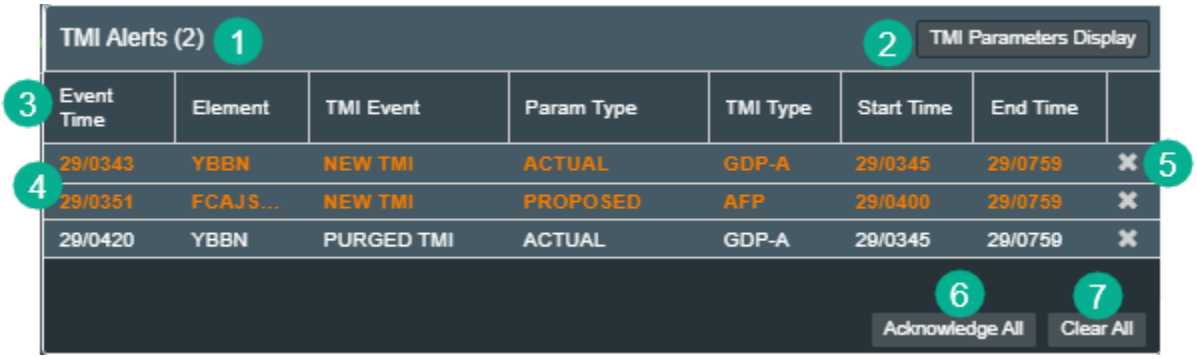


Figure 19: TMI Alerts lists the TMI events

The reference numbers in Figure 19 are described in the following list:

1. The TMI Alerts label parenthetically lists the total number of acknowledged and unacknowledged alerts.
2. The TMI Parameters Display button opens the TMI Parameters window. For more information, see Chapter 15: TMI Parameters Display.
3. The column headers label the data elements, which are defined in Table 3.
4. The text of an unacknowledged event is in orange font. The text of an acknowledged event is in white font.
5. The ✖ button clears an individual event.
6. The Acknowledge All button simultaneously acknowledges all events on the active tab. Once an event is acknowledged, the font color changes to white.
7. The Clear All button simultaneously removes all events from the active tab.

Table 3: TMI Alerts Data Elements

Data Element	Description
Event Time	Time (in DD/HHmm format) that the TMI was added, revised, or purged
Element	Airport code or FCA name
TMI Event	Lists the type of event: – NEW TMI – REVISED TMI – PURGED TMI – COMPRESSED TMI – EXPIRED TMI
Param Type	Indicates whether the TMI event is for an Actual or Proposed TMI

Data Element	Description
TMI Type	Type of TMI (e.g., GDP-A, GDP-D, AFP, GS)
Start Time	Runway configuration start time in DD/HHmm format
End Time	Runway configuration end time in DD/HHmm format

Flight Alerts

Flight Alerts has three tabs, *Compliance Alerts, ISE Bridged Flights*, and *Pop-Up*, which are viewable by all users. For Aircraft Operators, the *Majors only* checkbox is displayed as an indicator that the list is filtered by flights in their major.

Note: The parenthetical numbers in the tab labels represent the *total of both acknowledged and unacknowledged events* for the specified tab.

Viewing Compliance Alerts, ISE Bridged Flights, and Pop-Up Flight Events

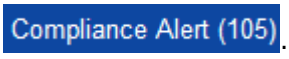
The steps to view the *Compliance Alerts, ISE Bridged Flights,* and *Pop-Up* tabs are similar.

To view the Compliance Alerts, ISE Bridged Flights, and Pop-Up Flights events, complete the following steps:

1. Click the Flight Alerts button 

.

   The Flight Alerts window opens. For more information see Figure 20.

2. To view the *Compliance Alerts* events, click 

.

   The *Compliance Alerts* tab opens and the label color changes to blue, which indicates that the tab is active. For more information, see "Compliance Alert Tab" on page 21.

3. To view the *ISE Bridged Flights* events, click 

.

   The *ISE Bridged Flights* tab opens and the label color changes to blue, which indicates that the tab is active. For more information, see "ISE Bridged Flights Tab" on page 22.

Compliance Alert Tab

The Compliance Alert tab displays alerts for flights with a compliance value less than the early compliance threshold or greater than the late compliance threshold (see Figure 20). Values range from -30 (early minutes) to 30 (late minutes). The default threshold is 5 minutes early and 5 minutes late. For more information about the default settings, see the COBT Compliance Window section in "Alerts Settings" on page 215.

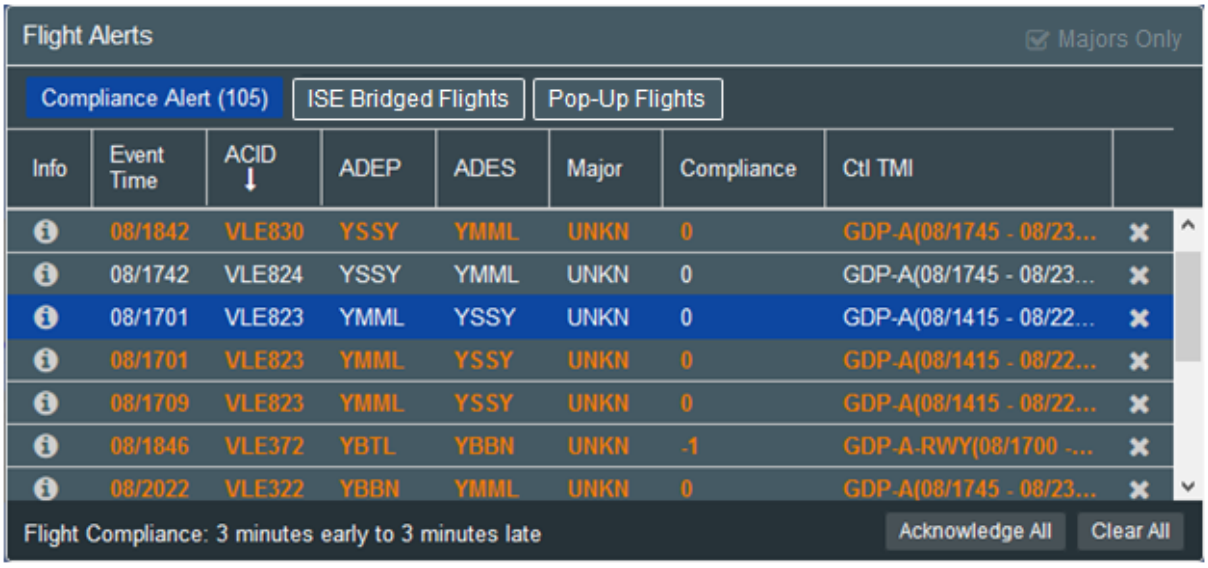


Figure 20: Compliance Alert window

Table 4 lists the Compliance Alert data elements.

Table 4: Compliance Alert data elements

Data Element	Description
Info	Open Flight Details for selected flight
Event Time	Time the flight got its ATOT time
ACID	Aircraft ID
ADEP	Flight's departure airport
ADES	Flight's destination airport
Major	Flight's major
Compliance	ATOT-CTOT
Ctl TMI	Controlling TMI
Majors Only	This is displayed only for Aircraft Operators as an indicator that the list is filtered by flights in their major.

ISE Bridged Flights Tab

The ISE Bridged Flights tab displays alerts for flights that were ISE bridged (see Figure 21).

Figure 21: ISE Bridged Flights window

ISE Bridged Flights Data Elements

Table 5 lists the ISE Bridged Flights data elements.

Table 5: ISE Bridged Flights data elements

Data Element	Description
Info	Open Flight Details for selected flight
Event Time	Time the Flight was ISE bridged
ACID	Aircraft ID
ADEP	Flight's departure airport
ADES	Flight's destination airport
Major	Flight's major
Slot	Slot the flight was ISE bridged into
Ctl TMI	Controlling TMI
Majors Only	This is displayed only for Aircraft Operators as an indicator that the list is filtered by flights in their major.

Pop-Up Flights Tab

The Pop -Up Flights tab displays alerts for pop-up flights (see Figure 22).

Figure 22: Pop-up Flights window

Pop-Up Flights Data Elements

Table 6 lists the Pop-Up Flights data elements.

Table 6: Pop-up Flights data elements

Data Element	Description
Info	Open Flight Details for selected flight
Event Time	Time pop-up flight was triggered
ACID	Aircraft ID
ADEP	Flight's departure airport
ADES	Flight's destination airport
Major	Flight's major
Slot	Slot in which the pop-up flight was put
Ctl TMI	Controlling TMI
Majors Only	This is displayed only for Aircraft Operators as an indicator that the list is filtered by flights in their major.

Resource Alerts

The Resource Alerts window has two tabs, *Airport Event* and *FCA Event*. By default, the window always opens to the *Airport Event* tab. The active tab is denoted by a blue label and the hidden tab is denoted by a gray label (see Figure 23).

Note: The parenthetical numbers in the tab labels represent the *total of both acknowledged and unacknowledged events* for the specified tab.

Figure 23 shows that there are four airport (runway configuration) events and one FCA event. These numbers include both the acknowledged and unacknowledged alerts.

Click the tab label to view the corresponding events.

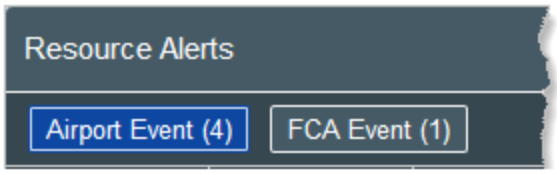


Figure 23: Number is total of acknowledged and unacknowledged events

Viewing Airport and FCA Events

The steps to view the *Airport Event* and *FCA Event* tabs are similar.

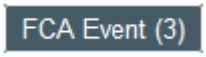
To view the Airport and FCA events, complete the following steps:

1. Click the **Resource Alerts** button  .

   The Resource Alerts window opens. For more information, see "Resource Alerts" on page 24.

2. To view the *Airport Event* tab, click  .

   The *Airport Event* tab opens and the label color changes to blue, which indicates that the tab is active. For more information, see "Airport Event Tab" on page 25.

3. To view the *FCA Event* tab, click  .

   The *FCA Event* tab opens and the label color changes to blue, which indicates that the tab is active. For more information, see "FCA Event Tab" on page 27.

Airport Event Tab

When a runway configuration is added, updated, or deleted, the event is listed on the *Airport Event* tab (see Figure 24).

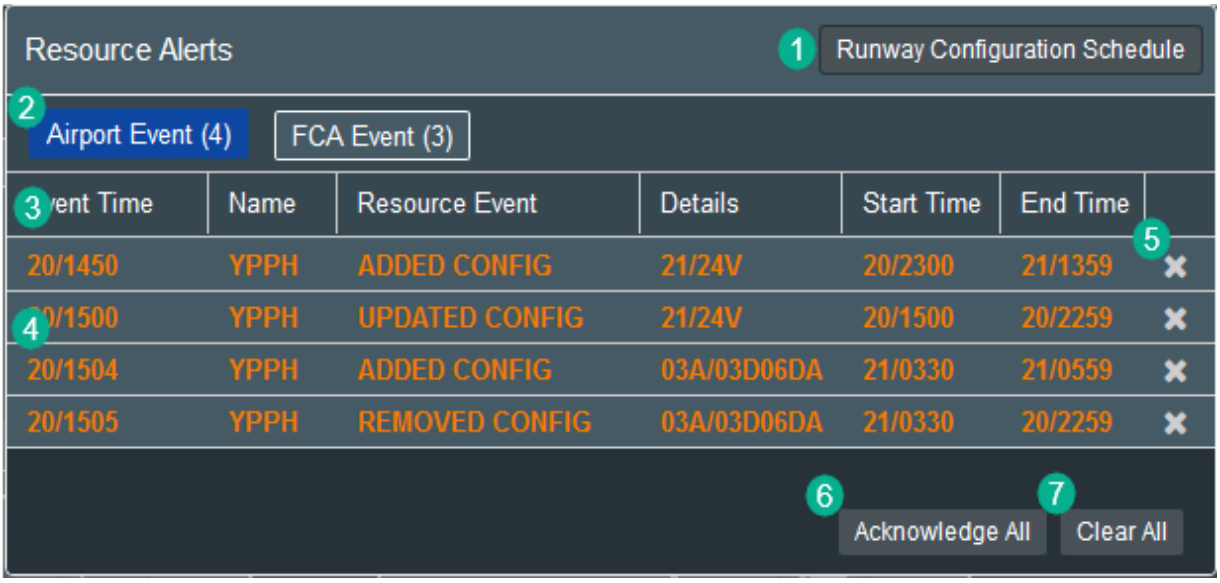


Figure 24: Airport Event tab lists the runway configuration events

The reference numbers in Figure 24 are described in the following list:

1. The Runway Configuration Schedule button opens the Runway Configuration window. For more information, see Chapter 16: Runway Configuration.
2. Alert tabs
   - The *Airport Event* tab parenthetically lists the total number of acknowledged and unacknowledged runway configuration events. The blue-colored *Airport Event* tab indicates that it is the active tab.
   - The *FCA Event* tab parenthetically lists the total number of acknowledged and unacknowledged FCA configuration events. The gray-colored *FCA Event* tab indicates that it is not the active tab.
3. The column headers label the data elements, which are defined in Table 7.
4. The text of the unacknowledged events is in orange font. The text of acknowledged events is in white font.
5. The ✖ button clears an individual event.
6. The Acknowledge All button simultaneously acknowledges all events on the active tab. Once an event is acknowledged, the font color changes to white.
7. The Clear All button simultaneously removes all events from the active tab.

Table 7: Airport Event data elements

Data Element	Description
Event Time	Time (in DD/HHmm format) that the runway configuration was added, updated, or deleted
Name	Airport code
Resource Event	Lists the type of event: – ADDED CONFIG – UPDATED CONFIG – REMOVED CONFIG
Details	Name of the runway configuration
Start Time	Runway configuration start time in DD/HHmm format
End Time	Runway configuration end time in DD/HHmm format

FCA Event Tab

When an FCA is added, updated, or deleted, the event is listed on the *FCA Event* tab (see Figure 25).

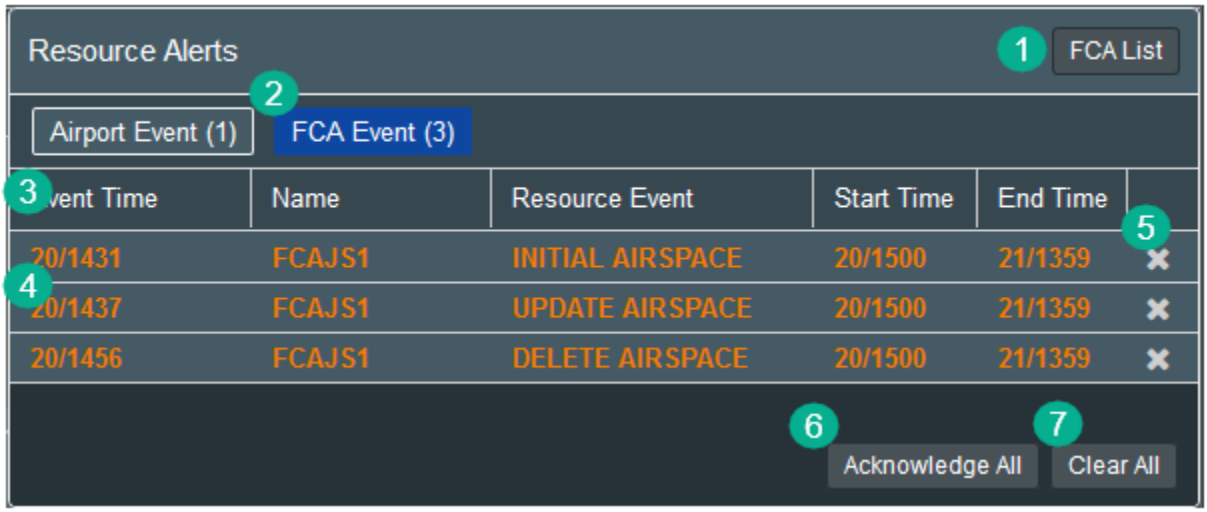
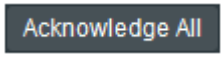


Figure 25: FCA Event tab lists the FCA events

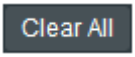
The reference numbers in Figure 25 are described in the following list:

1. The FCA List button opens the Map for a view of the FCA's location.
2. The *FCA Event* tab parenthetically lists the total number of acknowledged and unacknowledged FCA events. The blue-colored *FCA Event* tab indicates that it is the active tab.
3. The column headers label the data elements, which are defined in Table 8.
4. The text of the unacknowledged events is in orange font. The text of acknowledged events is in white font.

5. The  button clears an individual event.

6. The 

button simultaneously acknowledges all events on the active tab. Once an event is acknowledged, the font color changes to white.

7. The 

button simultaneously removes all events from the active tab.

Table 8: FCA Event data elements

Data Element	Description
Event Time	Time (in DD/HHmm format) that the FCA was added, updated, or deleted
Name	FCA Name
Resource Event	Lists the type of event: – INITIAL AIRSPACE – UPDATE AIRSPACE – REMOVE AIRSPACE
Start Time	FCA start time in DD/HHmm format
End Time	FCA end time in DD/HHmm format

Clearing (permanently moving) Events

You can clear (permanently remove) a single event or simultaneously clear all the events from the active window or tab. Clearing events permanently removes them. If you want to retain the event for the duration of your current session, acknowledge the event instead of clearing it. For more information, see "Acknowledging Events" on page 29.

Clearing (permanently removing) a Single Event

Clear a single event by clicking the **X** (delete) button.

To clear (permanently remove) a single event, complete the following steps:

1. Click the **Alerts** button 

, 

, or 

.

   The selected Alerts window opens.

2. If the window has two tabs (e.g., Resource Alerts has an Airport Event tab and FCA Event tab), click the tab that contains the events you want to remove.

   The selected tab is displayed

   The tab label color changes to blue.

3. Select the event that you want to remove permanently from the list.

   The row is highlighted blue (see Figure 26).

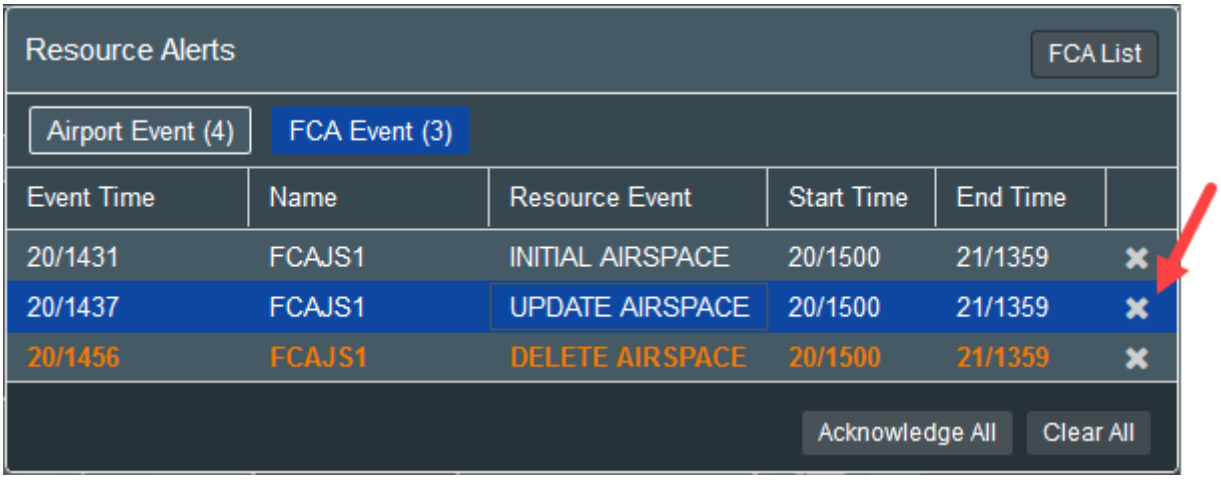


Figure 26: Selected row is highlighted blue

4. At the end of the row, click ✖.

   The event is permanently removed from the list.

   The event count that is parenthetically listed in the tab's label decreases by one.

   If the alert was unacknowledged (font was orange), the **Alerts** button's orange-encircled number decreases by one.

Clearing (permanently removing) all Events

Permanently remove from the active window or tab all events by clicking the **Clear All** button.

To clear (permanently remove) all events, complete the following steps:

1. Click the **Alerts** button 32, 4, or 103.

   The selected Alerts window opens.

2. In the lower left corner of either the active window or tab, click Clear All.

   All event notifications are removed from the selected tab.

   The number of events and the parentheses are removed from the tab's label.

   The **Alerts** button's orange-encircled number decreases by the number of unacknowledged alerts that was removed.

Acknowledging Events

You can acknowledge a single event or simultaneously acknowledge all the events on the selected tab.

Acknowledging a Single Event

Acknowledge a single event by selecting it.

To acknowledge a single event, complete the following steps:

1. Click the **Alerts** button 

, or .

   The selected Alerts window opens.
2. If the window has two tabs, click the tab that contains the events you want to remove.

   The selected tab is displayed.
3. Select the event that you want to acknowledge.

   The row is highlighted blue and the orange font changes to white (see Figure 26).

   On the **Alerts** button, the orange-encircled number decreases by one.

   Note that the parenthetical number in the tab's label remains the same because this count includes the total of acknowledged and unacknowledged alerts.

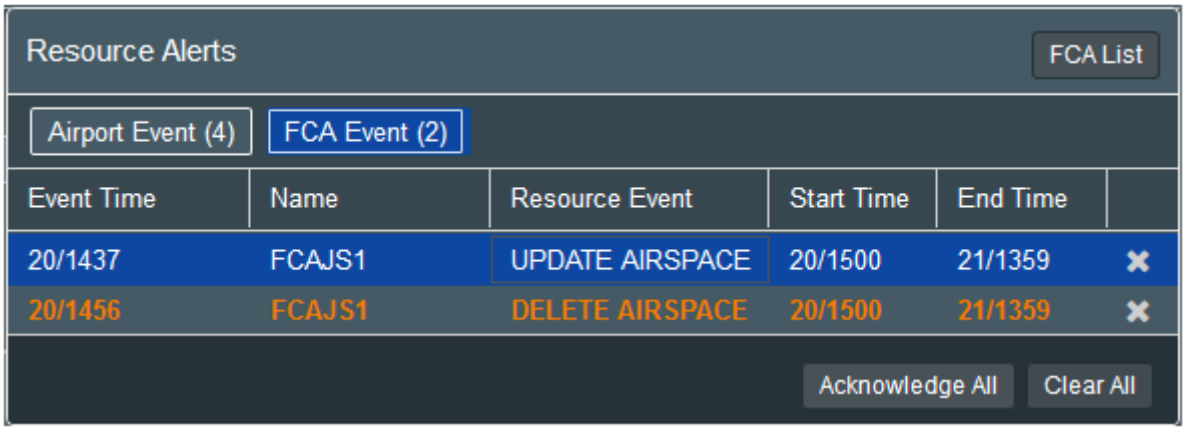


Figure 27: White font indicates the alert has been acknowledged

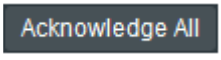
Acknowledging all Events

Acknowledge all the events on the selected tab by clicking the **Acknowledge All** button.

To acknowledge all events, complete the following steps:

1. Click the **Alerts** button 

, or .

   The Alerts window opens.
2. In the lower left corner of window or active tab, click 

.

   The orange font of all unacknowledged events changes to white font.

   On the **Alerts** button, the orange-encircled number decreases by the number of unacknowledged alerts that was acknowledged.

Closing an Alerts Window

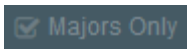
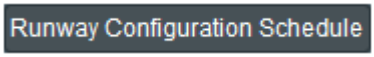
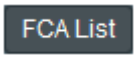
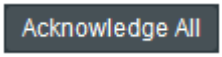
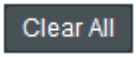
To close the Alerts window, click anywhere outside of the Alerts window frame.

Alerts Buttons and Controls

Table 9 describes the buttons, icons, and controls used in Alerts.

Table 9: Alerts buttons, icons, and controls

Button	Name	Description
TMI Parameters Display	TMI Parameters Display	Open the TMI Parameters Display window
Airport Event	Airport Event	Display the Runway Configuration events The blue label indicates the tab is active
FCA Event	FCA Event	Display the FCA events The gray label indicates the tab is not active.
Airport Event (4)	Airport Event (alert count)	The number in parentheses is a total count of all acknowledged and unacknowledged Airport Event alerts. The gray label indicates the tab is not active.
FCA Event (3)	FCA Event (alert count)	The number in parentheses is a total count of all acknowledged and unacknowledged FCA Event alerts. The gray label indicates the tab is not active.
Compliance Alert	Compliance Alert	Display the Compliance events The blue label indicates the tab is active.
Compliance Alert (105)	Compliance Alert (alert count)	The number in parentheses is a total count of all acknowledged and unacknowledged Compliance Event alerts. The blue label indicates the tab is active.
ISE Bridged Flights	ISE Bridged Flight	Display the ISE Bridged Flights events The gray label indicates the tab is not active.
ISE Bridged Flights (5)	ISE Bridged Flight (alert count)	The number in parentheses is a total count of all acknowledged and unacknowledged ISE Bridged Flights alerts. The blue label indicates the tab is active.
Pop-Up Flights	Pop-Up Flights	Display the Pop-Up Flights events The gray label indicates the tab is not active.
Pop-Up Flights (82)	Pop-Up Flights (alert count)	The number in parentheses is a total count of all acknowledged and unacknowledged Pop-Up Flights alerts. The blue label indicates the tab is active.

Button	Name	Description
	Majors Only	This is displayed only for Aircraft Operators as an indicator that the list is filtered by flights in their major.
	Information / Flight Details	Open the Flight Details for the selected flight
	Runway Configuration Schedule	On the Airport Event tab, open the Runway Configuration window (For more information, see Chapter 16: Runway Configuration)
	FCA List	On the FCA Event tab, open the Map for a view of the FCA's location
	Acknowledge All	On the selected tab, marks all events as read, which changes the font to white and subtracts the events from the Resource Alert button's count.
	Clear All	Permanently remove all events on the active tab
	Close	Remove the selected event Close the pop-up alert
	Cancel	Close the Resource Alert window

Chapter 4. Work Views

A Work View is a saved layout of Flight Lists, COBT Compliance Windows, and Demand Graphs for any combination of airports and FCAs (see Figure 28). It can include up to four of these components (Flight Lists, COBT Compliance Windows, or Demand Graphs). An Edit Mode Work View is a saved layout for a single airport or FCA (see Figure 29). When you log in for the first time, the Home Page displays system-defined Work Views (see Figure 28). You can use these Work Views or create and save new Work Views that are customized to your preferences.

The Work View provides a visual summary of its components. It displays the layout configuration, the name of the airports/FCAs, and a Flight Detail icon (which also depicts a COBT Compliance Windows module) or Demand Graph icon. For Edit Mode Work Views, a single Edit Mode (pencil) icon is displayed.

The following Work View example includes the following (see Figure 28):

- The name of the Work View in the heading (i.e., Airline - YMML).
- A right-facing caret ( ) in the heading, which you click to open the Work View.
- The example Work View has three modules; however, you can have up to four modules. Each module is each labelled with the name of its element (airport/FCA) or your customized name and has an icon representing the type of module:
  - Flight List ( ) on the left side
  - Demand Graph ( ) on the upper left
  - New Panel ( ) on the lower right (for more information about the New Panel, see "Creating Work Views" on page 34).

Figure 28: Work View Example

The Edit Mode Work View shows a single Edit (pencil) icon (see Figure 29).

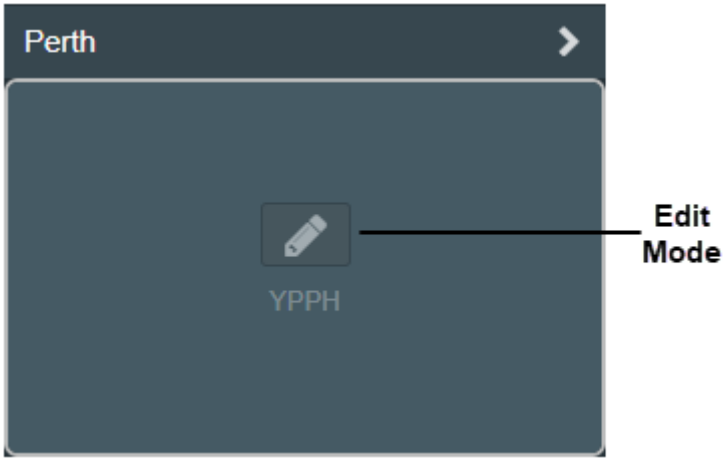


Figure 29: Edit Mode Work View

Opening a Work View

You can open the Work View using one of the following methods:

- Click directly on the (caret) on the right side of the heading (as previously shown in Figure 28 and Figure 29).
- In the toolbar, click the dropdown arrow Select Work View, and select the Work View from the list of monitored Work Views, or enter the first letter(s) of the Work View name to search the quick filter list.

Creating Work Views

You can create a Work View starting with a single Demand Graph, Flight List, or Edit Mode. You also can change an existing Work View and save it with a new name.

> **Note:** Work View deletions are executed in the System Settings component. For information about deleting Work Views, see "Deleting Work Views" on page 211 in Chapter 18: System Settings.

To create a Work View from a single component, complete the following steps:

1. From the Home Page Module menu, select Fight List, Demand Graph, COBT Compliance Window, or Edit Mode, and from the dropdown list, select the airport/FCA. You also can enter the first letter(s) of the airport/FCA to search the quick filter list (see Figure 30).

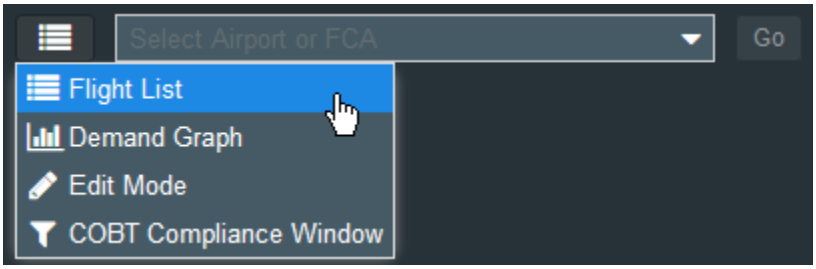


Figure 30: Select a module and airport or FCA

The selected element opens.

2. In the main toolbar, click  and select the layout configuration (see Figure 31). Note that the Layout Configurations button is not displayed for Edit Mode Work Views because an Edit Mode Work View can be configured for only one instance of Edit Mode for a single airport or FCA.

Figure 31: Layout configurations for non-Edit Mode Work Views

The Work View displays the selected configuration (see Figure 32).

The undefined panels are labelled *New Panel* and display the *Module and Element* selection dropdowns.

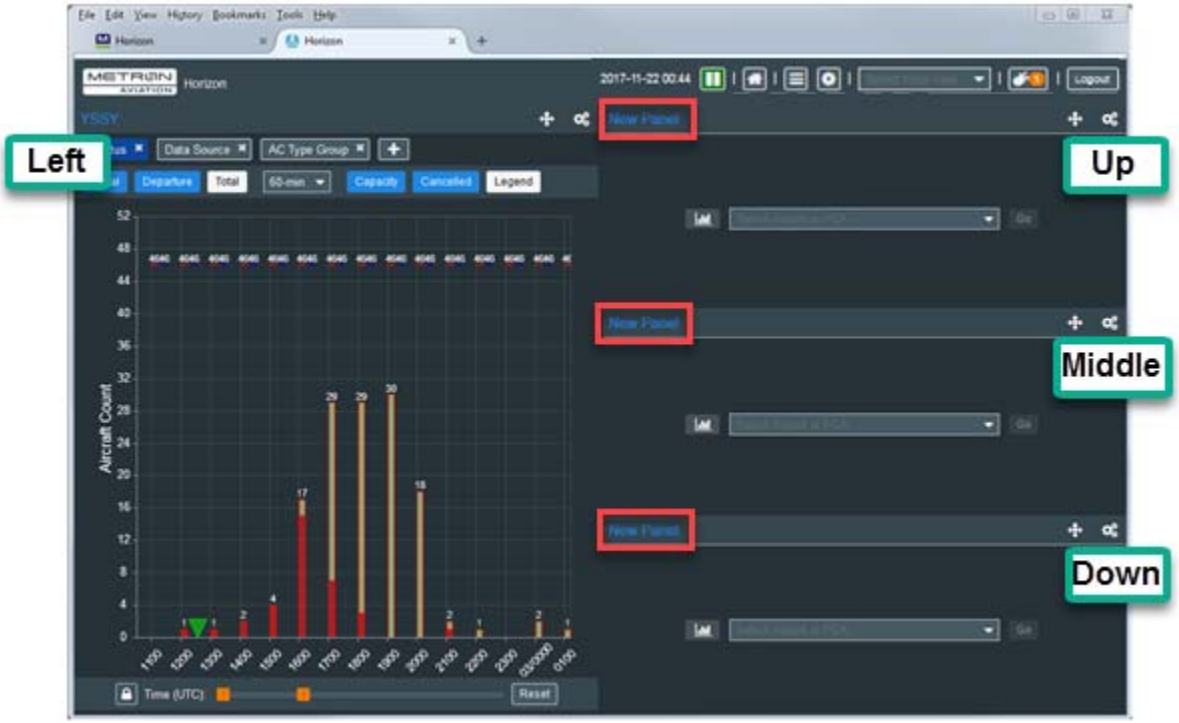


Figure 32: New layout configuration with three New Panels

3. In each *New Panel*, select either Flight List, Demand Graph, or COBT Compliance Window, and from the dropdown, select an airport or FCA, and click Go.
   The selected module and element opens.
4. To rename the panel, double-click the name, *New Panel.*
   New Panel is highlighted white (see Figure 33).

Figure 33: Double-click to highlight and rename New Panel.

5. Enter the new name.
6. To save your changes to the Work View, click (located in the main toolbar).
   The Save Work View dialog box opens (see Figure 34).

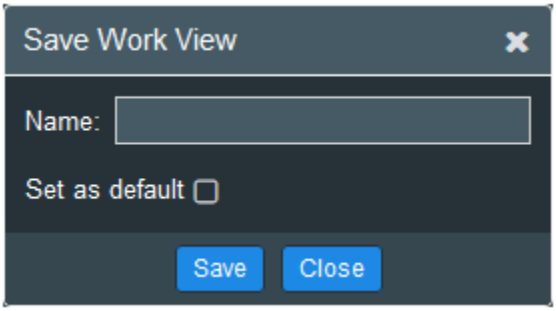
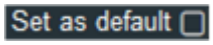


Figure 34: Save Work View dialog box

7. Enter a unique Name in  . It is important to enter a unique name because if enter an existing work view name, it will update the existing work view instead of creating a new one.

8. Select  to save the Work View as the default Work View that will open when you log in.

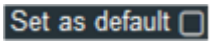
   Note: You can also configure the default status of an existing Work View in the Systems Settings component. For additional information, see "Work Views Settings" on page 211 in Chapter 18: System Settings.

9. Click  .

   A success message is displayed.

   The Work View is added to the Home Page.

   The Work View is added to the Work View list in System Settings, and the Home Page *Select Work View* dropdown list and quick filter list.

   If you selected  , the Work View will open when you log in.

Moving Panels

You can move panels to a new location within a Work View layout.

To move a panel, complete the following steps:

1. Click  in the upper right corner of the module.

   A dropdown with the available move options is displayed (see Figure 35). The displayed options are relevant to the panel's position. For example, a panel that is on the bottom will not include the *Bottom* option.

Figure 35: Move options for panel located on the bottom, right side

2. To save your changes to the Work View, click  (located in the main toolbar).

   The Save Work View dialog box opens.

3. Click Save.

   Note: If the Work View is system-defined, you will be prompted to rename the Work View in 

.

   A success message is displayed.

   The Work View layout is saved.

   If you saved a new Work View, it is added to the Work View list in System Settings, and the Home Page *Select Work View* dropdown list and quick filter list.

Changing the Layout Configuration

You can select a different layout configuration for a Work View. You can change the configuration to one with the same number of modules, or you can change the configuration to one with fewer modules. When changing to a configuration with fewer modules, you must reset the panels that you do not want to include. This will enable the system to identify the active modules to keep in the new configuration.

The following two sets of steps explain how to change the layout for each scenario.

To change the layout configuration to one with the same number of modules, complete the following steps:

1. In the main toolbar, click  .

   The list of layout configurations is displayed.

2. Select a configuration that has the same number of modules.

   The new configuration is displayed.

3. To save your changes to the Work View, click  (located in the main toolbar).

   The Save Work View dialog box opens.

4. Click Save.

   Note: If the Work View is system-defined, you will be prompted to rename the Work View in Name:.

   The layout configuration is saved.

   A success message is displayed.

   If you saved a new Work View, it is added to the Work View list in System Settings, and the Home Page *Select Work View* dropdown list and quick filter list.

To change the layout configuration to one with fewer modules, complete the following steps:

1. Reset the panel for each component that you do not want to include in the new configuration (see Figure 36). For example, if you are going from four panels to two panels, you must reset two panels so that only two panels remain active,

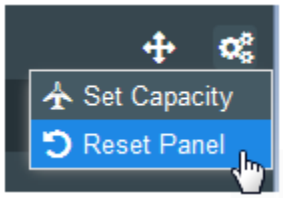


Figure 36: Reset the panel

2. In the main toolbar, click .

   The list of layout configurations is displayed.

3. Select the configuration that has fewer components.

   The panel that was reset is removed.

   The new configuration is displayed.

4. To save your changes to the Work View, click (located in the main toolbar).

   The Save Work View dialog box opens.

5. Click Save.

   Note: If the Work View is system-defined, you will be prompted to rename the Work View in Name:.

   The layout configuration is saved.

   A success message is displayed.

   If you saved a new Work View, it is added to the Work View list in System Settings, and the Home Page *Select Work View* dropdown list and quick filter list.

Editing Work Views

You can update an existing Work View.

To update an existing Work View, complete the following steps:

1. From the Home page or Select Work View dropdown list in the Main toolbar, select a Work View.

   The Work View opens.

2. Update the Work View (e.g., show new columns).

3. Click click  (located in the main toolbar).

   The Save Work View dialog box opens.

4. Click  .

   A warning message is displayed alerting you that the Work View name already exists (see Figure 37).

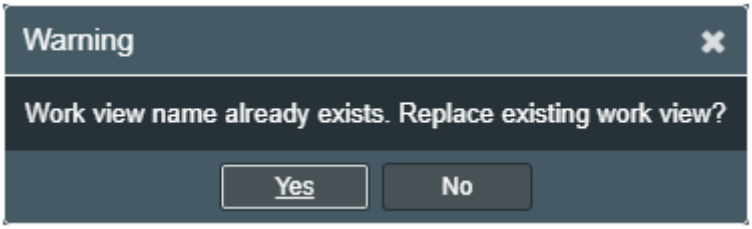


Figure 37: Warning message when saving updates

5. Click **Yes** to save the changes.
6. If you click **No**, you are returned to the Save Work View dialog box to enter a new name.

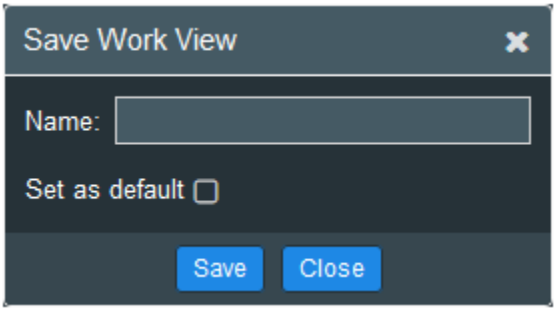


Figure 38: Save Work View dialog box

7. Enter the new name and click **Save**.

   The new Work View is displayed on the Home page.

Renaming Modules

You can rename the title of modules in a Work View in order to make the names more descriptive.

To rename the titles, complete the following steps:

1. Double-click the title.

   The title is highlighted white (see Figure 39).

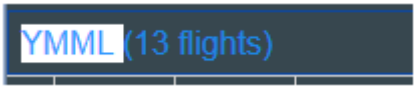


Figure 39: Rename title

Note that the flight count (e.g., 13 flights) in the Flight List title cannot be edited as it is system-generated,

2. Enter the new title. The title can only contain a-z, A-Z, 0-9, -, and /.

3. To save your changes to the Work View, click  (located in the main toolbar).

   The Save Work View dialog box opens.

4. Click 

.

   Note: If the Work View is system-defined, you will be prompted to rename the Work View in 

.

   The layout configuration is saved with the new title.

   A success message is displayed.

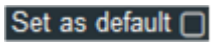
   If you saved a new Work View, it is added to the Work View list in System Settings, and the Home Page *Select Work View* dropdown list and quick filter list.

Work Views Buttons and Controls

Table 10 describes the buttons, icons, and controls used in Work Views.

Table 10: Work Views Buttons and Controls

Button	Name	Description
	Demand Graph	Select a Demand Graph Indicates a Demand Graph module
	Flight List	Select a Flight List Indicates a Flight List module

Button	Name	Description
	New Panel	Indicates a New Panel (undefined module)
	Edit Mode	Indicates an Edit Mode Work View
	Element dropdown	Lists the monitored airports and FCAs
	Go	Open selected module and element (airport/FCA)
	Move	Move the panel to the left, right, top, or bottom This is only displayed in a Work View with multiple elements.
	Flight List or Demand Graph Tools	Open tools for the Flight List or Demand Graph
	Star	Main toolbar Save current Work View
	Layout Configuration	Displayed in the Main toolbar (except for Edit Mode Work Views). Select Work View layout configuration .
	Set as default	Save Work View dialog box Save Work View as default view that opens when you log in
	Save	Save Work View dialog box Save the updates
	Close	Save Work View dialog box Close without saving the updates

Chapter 5. Flight List

The Flight List lists flights for the selected airport or FCA (see Figure 40). You can view flight summaries and flight details for each flight. The flight data is refreshed by the system at a configured interval. The Flight List Tools include the functionality to configure which columns are displayed; filter fights by different data types including aircraft, route, and times; export the Flight List to a CSV file, and reset panels to change the Work View.

Edit Mode is a Flight List Tool that provides the capability to update a flight's data (ACID, AC Type, AC Reg) and contact information (email address, phone number, mobile carrier); cancel a flight; reinstate a cancelled flight; and update a flight's times (LOBT, LIBT, AOBT, AIBT). For more information about Edit Mode, see Chapter 7: Edit Mode – All Flights View and Chapter 8: Edit Mode – TMI View.

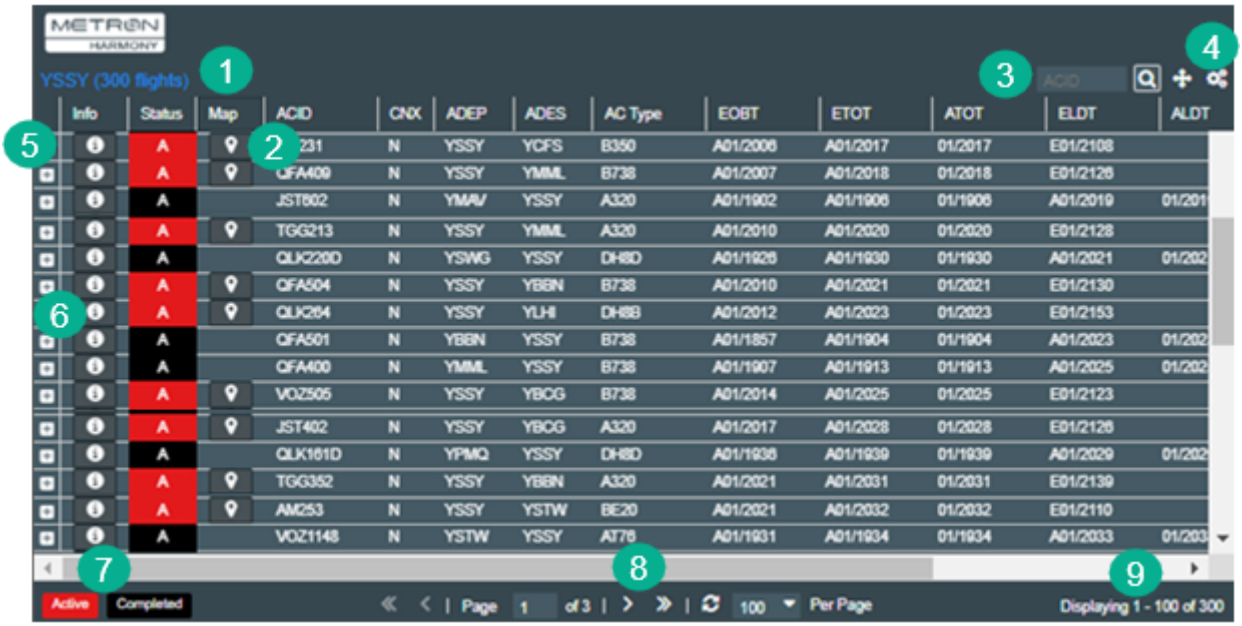


Figure 40: Flight List

Flights for an aircraft operator's major are in bold font.

The reference numbers in Figure 40 are described in the following list:

1. Airport or FCA name and total flights (see "Renaming Flight Lists" on page 60)
2. Map location pin opens Map and displays flight's trajectory (see "Viewing Harmony Trajectory for Airborne Flights" on page 47 and "Viewing Airborne Flight's Harmony Trajectory" on page 127 in Chapter 11: Map).
3. Flight search by ACID
4. Flight List Tools controls
    - Manage Columns (see "Managing Columns (Flight List Tool)" on page 48)
    - Filter (see "Filtering (Flight List Tool)" on page 52)

- Export (.csv) (see "Exporting Flight List to CSV File (Flight List Tool)" on page 58)
- Edit Mode (see Chapter 7: Edit Mode – All Flights View and Chapter 8: Edit Mode – TMI View)
- Reset Panel (see "Resetting the Panel (Flight List Tool)" on page 59)

5. Click the + or - to show or hide the flight summary (see "Viewing Flight Summary" on page 45)
6. Opens the Flight Details (see "Viewing Flight Details" on page 45)
7. Legend for flight statuses (i.e., Active and Completed)
   - Active = Active (i.e., has an ATOT but no ALDT): A
   - Completed = Completed (i.e., has an ALDT): A
8. Pagination controls (see "Viewing Multiple Pages of Data" on page 44)
9. Range of flights displayed in the active window and the total number of flights

Viewing Multiple Pages of Data

Some flight records span multiple pages. Centered below the Flight List are the page controls for viewing the different pages of data (see Table 11). Use the controls to navigate the pages and define the number of records displayed on each page.

Table 11: Page controls

Control	Name	Description
«		Display the first page of the data. This button is not enabled if you are viewing the first page.
‹		Display the previous page of data. This button is not enabled if you are viewing the first page.
Page 1 of 1	Total Pages	Display the current page number and the total number of pages. To view a specific page, enter the page number and press the Enter key.
›	Next Page	Display the next page of data. This button is not enabled if you are viewing the last page.
»	Last Page	Display the last page of data. This button is not enabled if you are viewing the last page.
⟳	Refresh	Refresh only the Flight List data. This differs from your browser's F5, Ctrl+F5, and Refresh button functionality as they refresh the entire Harmony Web web application.
100 Per Page	Records per Page	Define the number of records displayed on the page. Use the dropdown menu to select 50, 100, 250, or All.

Control	Name	Description
Displaying 1 - 13 of 13	Total Records	Display the displayed range of records and the total number of records.

Viewing Flight Summary

The Flight Summary contains the ACID (FID), ADED/DRwy/DFix, ADES/ARwy/AFix, Major, Flight State, AC Reg, AC Type, AC Type Group, EOBT, ETOT, ELDT, EIBT, and FPL Route.

The Flight Summary for an FCA contains two additional elements, EENTRY and EEXIT.

To view the flight summary, complete the following steps:

1. In the first column, click ⊞.

   The panel expands and displays the flight summary (see Figure 41).

   The Expand button toggles to ⊟.

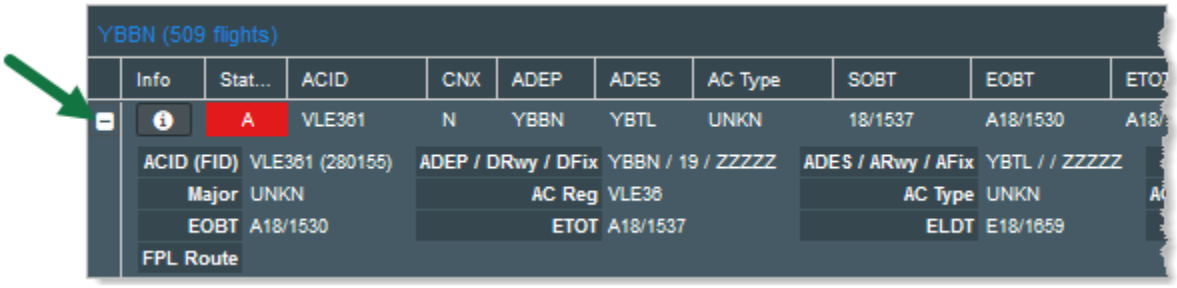


Figure 41: Flight Summary expand/collapse toggle button

   The Flight Summary displays the ACID (FID), ADED/DRwy/DFix, ADES/ARwy/AFix, Flight State, Delay TOD (LTOD in minutes), Major, AC Reg, AC Type, AC Type Group, EOBT, ETOT, ELDT, EIBT, and FPL Route.

2. Click ⊟ to close the Fight Summary panel.

   The Flight Summary panel closes.

   The Collapse button toggles to ⊞.

Flight List Status

The flight list statuses are A (Active), P (Planned), C (Controlled/Cancelled), S (Scheduled), and L (Airline).

Viewing Flight Details

The Flight List displays the elements that are configured by default or customized by you. You can view additional information in the Flight Details component.

To view the Flight Details, complete the following steps:

1. In the *Info* column, click  .

   The Flight Details opens (see Figure 42).

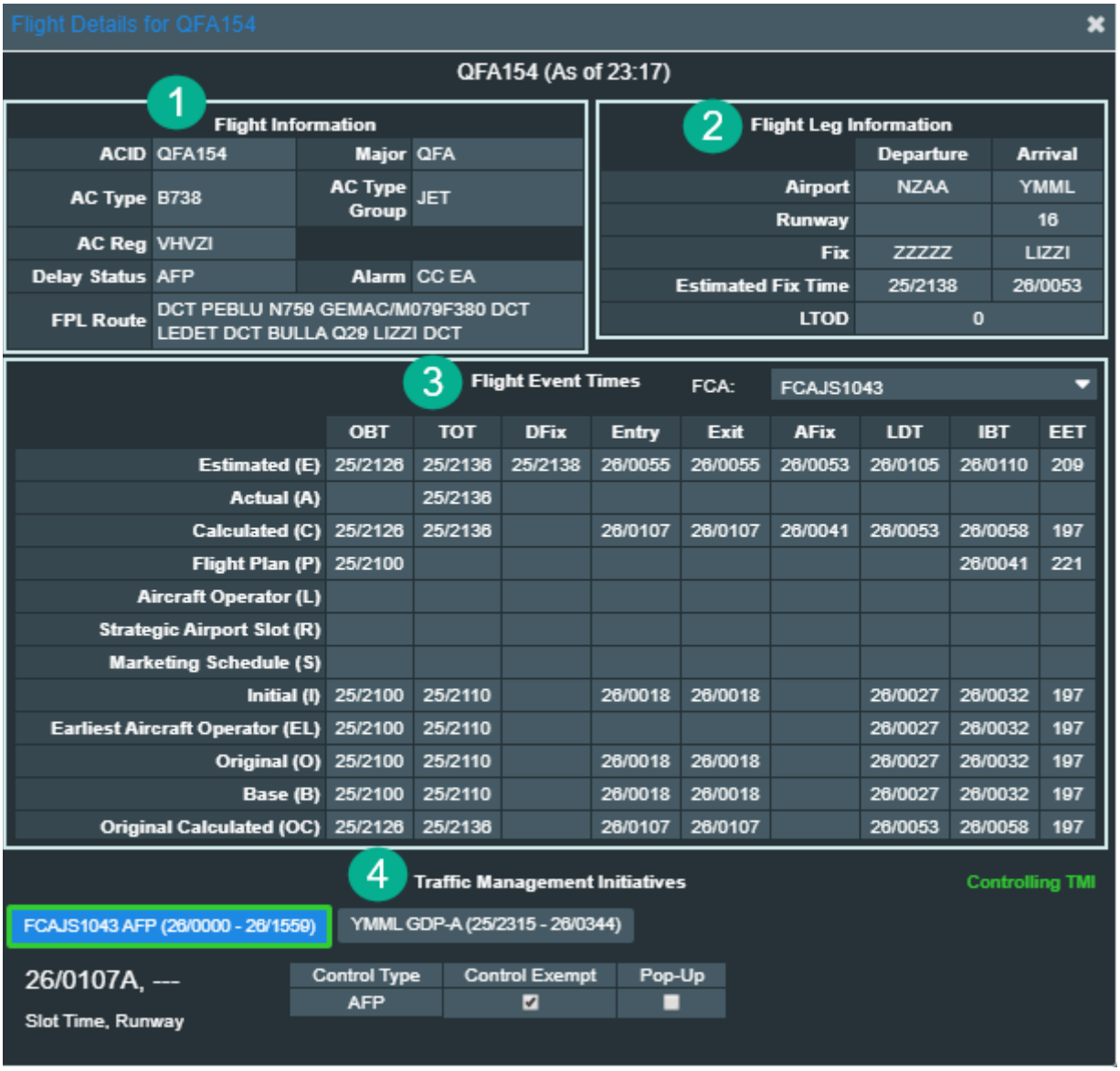


Figure 42: Flight Details window

The window is divided into the following four panels (as numbered in the image):

1. **Flight Information**: ACID, Major, AC Type, AC Type Group, AC Reg, Delay Status, Alarm, and FPL Route
2. **Flight Leg Information**: (Departure and Arrival): Airport, Runway, Fix, Estimated Fix Time, and LTOD

3. **Flight Event Times**: For detailed information, see Appendix A: Flight Details Data Elements.
4. **Traffic Management Initiatives**: For controlled flights, Name of TMI (outlined in green if it is the controlling TMI), Slot Time, Runway (for Runway GDPs), Control Type, Control Exempt and Pop-Up indicators. This section is not displayed for uncontrolled flights. As you click each TMI, the Slot Time, Runway information updates for the selected TMI.

Viewing Harmony Trajectory for Airborne Flights

If an airborne flight's Harmony trajectory is available,  will be displayed in the Map column. Clicking the icon will open the map with the trajectory displayed for the flight. For more information, see "Viewing Airborne Flight's Harmony Trajectory" on page 127 in Chapter 11: Map.

To view Harmony trajectory, complete the following steps:

1. In the Map column, click  .

   The Map opens with the flight's ACID and Harmony trajectory displayed (see Figure 43).

   - The solid portion is the completed great-circle distance (GCD) line to the ADEP.
   - The dotted portion is the projected trajectory, which is based on the Harmony trajectory.

   Note: Based on the available adaptation data, the Harmony trajectory could differ from the flight plan (FLP) route.

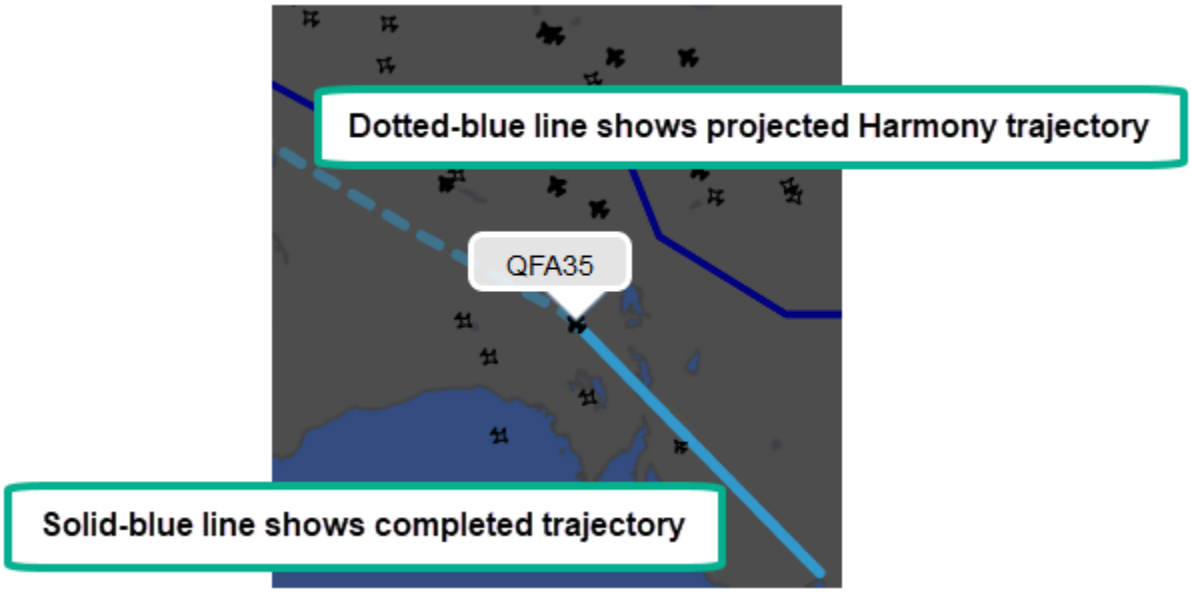


Figure 43: Harmony trajectory for selected flight

Managing Columns (Flight List Tool)

The default, displayed columns are configured in System Settings; however, you can use the Manage Columns tool to customize which columns are displayed in your Work Views and in which order. The column order can also be changed directly in the Flight List. For a listing of the columns in the Flight List, see Appendix B: Flight List Data Elements.

Manage Columns Tool

Use the Manage Columns Tool to add/remove columns and to select the order of displayed columns.

To add and remove columns using the Manage Columns tool, complete the following steps:

1. Click  .

   The list of Flight List tools is displayed.

2. Select 

.

   The Add/Remove Columns component opens. Figure 44 shows the columns for an airport flight list and Figure 45 shows the columns for an FCA flight list.

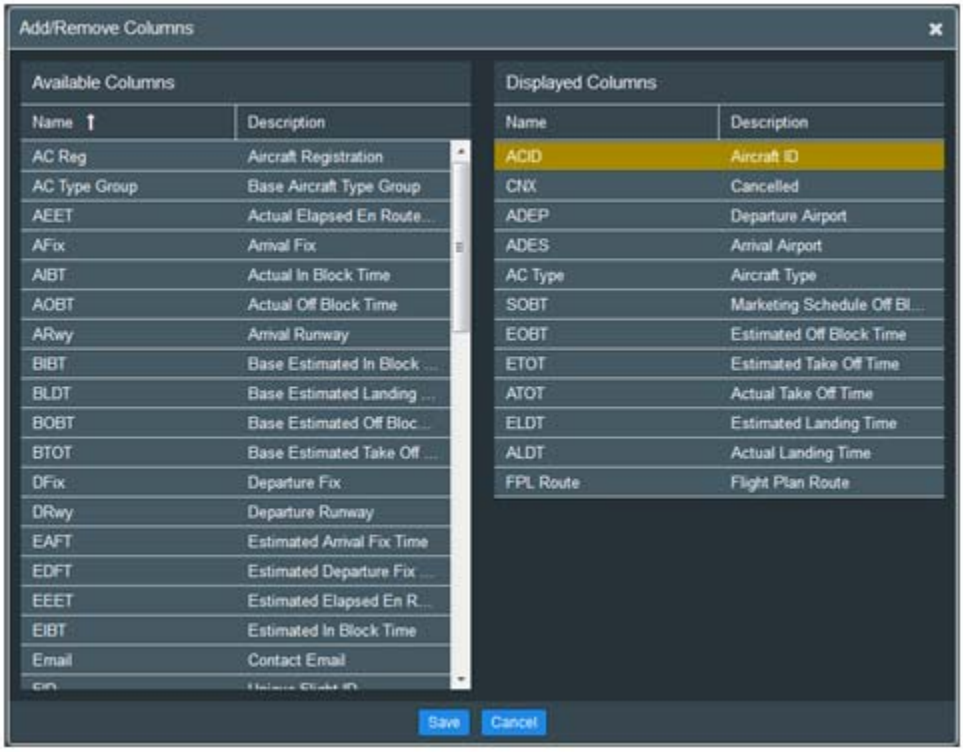


Figure 44: Add/Remove Columns component for an airport flight list

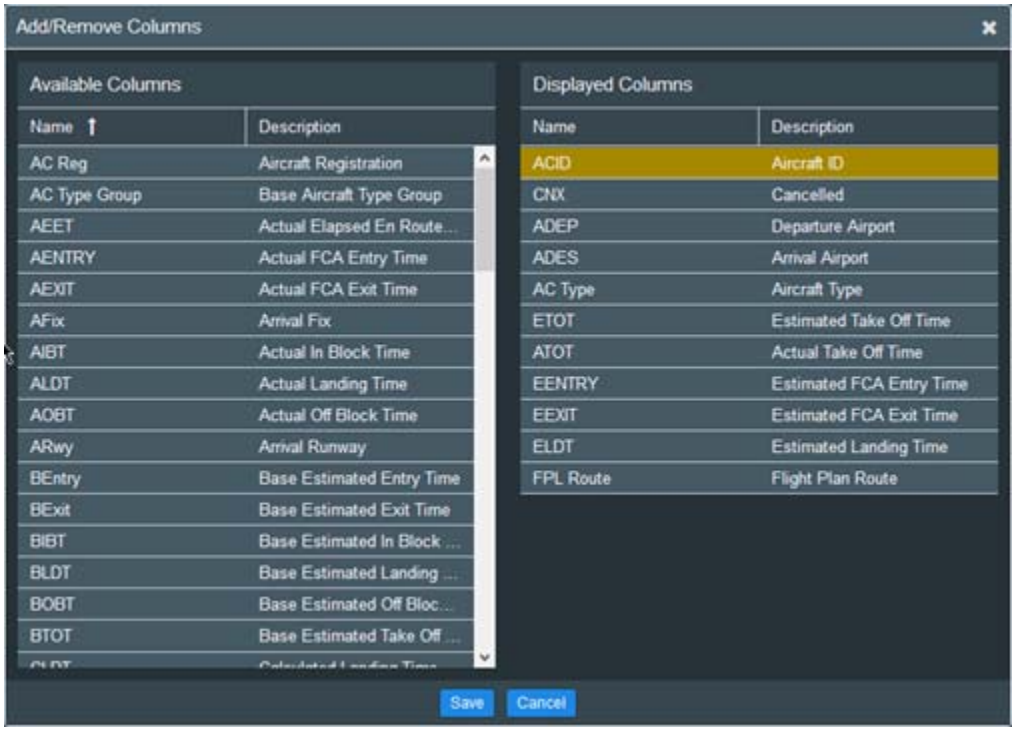


Figure 45: Add/Remove Columns for an FCA flight list

The *Available Columns* panel (on the left side) lists all columns that are not displayed.

The *Displayed Columns* panel (on the right side) lists all displayed columns.

ACID is highlighted as a visual indicator that it must always be displayed (i.e., cannot be moved to the *Available Columns* panel.

3. Select the column that you want to move, hold down the left mouse button, drag the column to the other panel, and once you position the column, release the mouse button.

   Note: By default, the *Available Columns* list is always sorted alphabetically. You cannot change the order.

4. To change the order of the *Displayed Columns*, select, drag, and drop the column in the desired location.

5. Click Save.

   Note: This saves your updates until you close the Work View/Flight List. Continue to the next step to save your updates for future use.

   The Add/Remove Columns component closes.

   The Flight List columns reflect your updates.

   To save your changes, click  (located in the main toolbar). The Save Work View dialog box opens (see Figure 46).

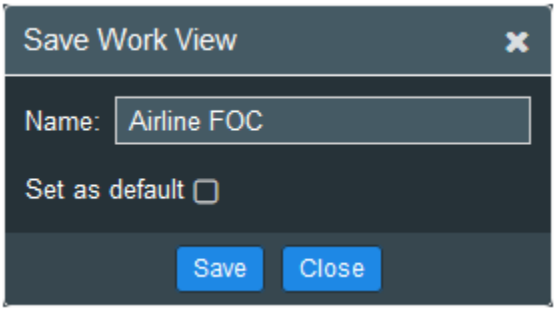
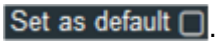


Figure 46: Save Work View dialog box

6. If this is a system-defined Work View, rename it in 

and if you want this to be the default Work View that opens when you log in, select 

.

7. Click 

.

   A success message is displayed.

   If you saved a new Work View, it is added to the Work View list in System Settings, and the Home Page *Select Work View* dropdown list and quick filter list.

   If you set this as the default Work View, it will open the next time you log in.

Positioning Columns on the Flight List

Use the drag-and-drop method to change the order of displayed columns.

To change the order of the columns on the Flight List , complete the following steps:

1. Select the column with your left mouse and hold down the mouse button as you drag the column to the desired location (see Figure 47).

   The name of the column being moved is displayed.

   A green arrow denotes the current location as you drag the column.

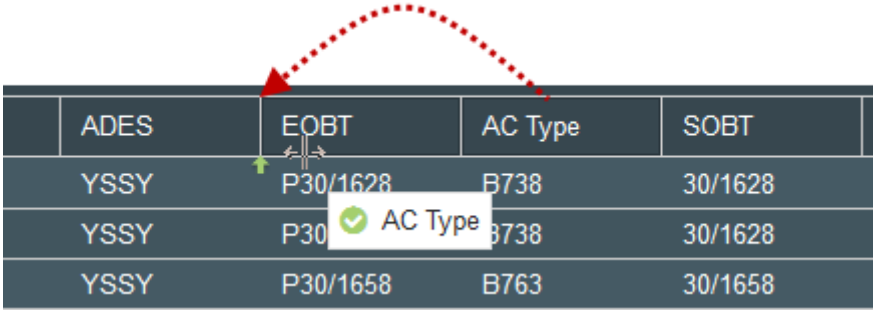


Figure 47: Drop and drag column to new position.

2. Release the mouse button.

   The column is in its new position.

3. To save your changes, click  (located in the main toolbar).

   The Save Work View dialog box opens (see Figure 48).

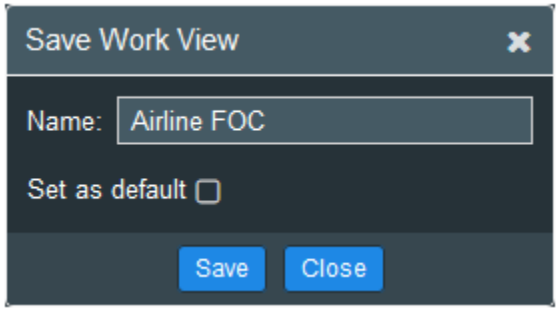


Figure 48: Save Work View dialog box

4. Click  .

   Note: If the Work View is system-defined, you will be prompted to rename the Work View in  .

   A success message is displayed.

   If you saved a new Work View, it is added to the Work View list in System Settings, and the Home Page *Select Work View* dropdown list and quick filter list.

Searching for a Flight

You can search for a specific flight within the current screen. To search all the flights in the Flight List, it is recommended that you change the display to *All* so that all flights are on accessible on one screen. Note that you will need to use the scroll bar to view all the flights.

To search all the flights for a flight, complete the following steps:

1. At the bottom of the Flight List, change the **Per Page** to *All* (see Figure 49).

Figure 49: Select All to display all flights.

2. To refresh the current view to include all the flights on one screen, click  .

   The Flight List will display all the flights on one screen and the Display Counter will reflect the total flight count (see Figure 50).

Figure 50: Flight Counter indicator that all flights are displayed

3. In the Flight Search tool (located below the **Logout** button), enter the partial or complete ACID for the flight of interest (see Figure 51).

Figure 51: Flight Search tool

The flights meeting the search criteria are denoted with orange font (see Figure 52). Use the scroll bar to review all the flights.

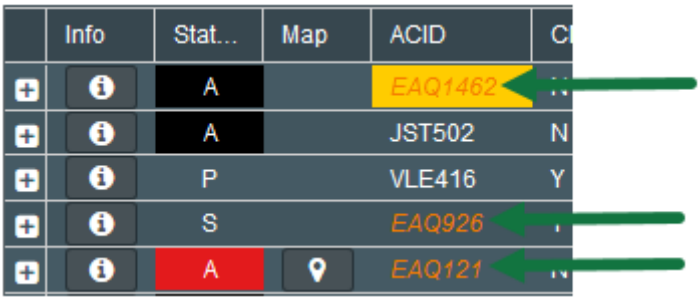


Figure 52: Orange font denotes search results

Filtering (Flight List Tool)

The Flight List data can be filtered by data elements which have been grouped into Aircraft, Route, and Times (see Figure 53).

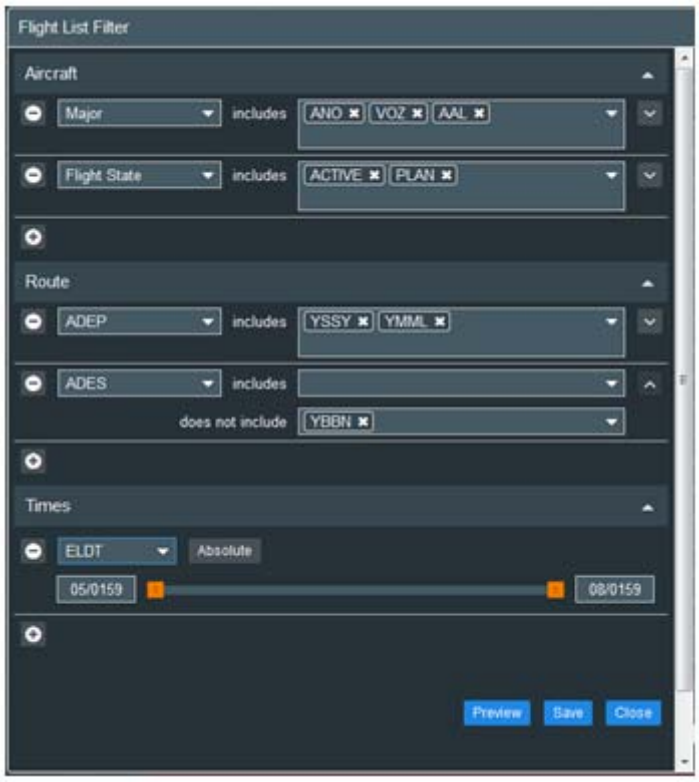


Figure 53: Flight List Filter panel

AND/OR Operators

AND/OR operators work as follows:

- The OR statement consists of the multiple values within the *"includes*" or "*does not include*" fields. That is, the data does not have to meet all the listed criteria.
- The AND statement is a joining of the set of *"includes/does not include*" criteria within an individual data element group (i.e., Aircraft, Route, and Times). That is, the resulting data needs to satisfy both the inclusion and exclusion criteria.
- As you add new filters within a data element group, the filter criteria is joined by AND to the other data element groups.

To filter the Flight List, complete the following steps:

1. From Flight List Tools ( ), select Filter .

   The Flight List Filter window opens (see Figure 54).

   - On the left side, the panel contains the controls to filter by Aircraft, Route, and Times.
   - On the right side, the preview Flight List is displayed.

Figure 54: Flight List Filter window

Before proceeding, it is useful to understand the functionality of the controls (see Table 12).

Table 12: Aircraft Group controls

Control	Name	Description
	Collapse	Collapse the panels (Aircraft, Route, Vertical Limits, or color).

Control	Name	Description
	Expand	Expand the panel (Aircraft, Route, Vertical Limits, or color).
	Remove	Remove a criterion row.
	Add	Add an *inclusion* criterion row (i.e., *includes*).
	Down Caret	Show an *exclusion* criterion row (i.e., *does not include*).
	Up Caret	Hide an empty exclusion criterion row

2. In the *Aircraft* panel dropdown list, select a criterion (see Figure 55).

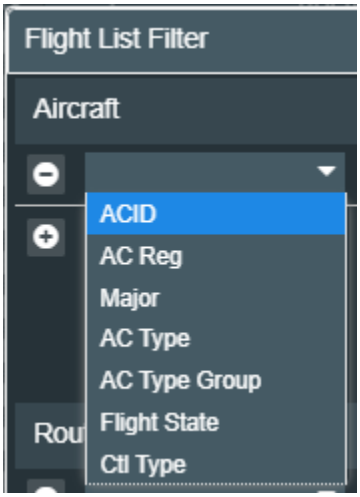


Figure 55: Aircraft filtering criteria

3. Following the selected criterion is the "*includes*" field where you either use your keyboard to enter the criterion or select the criterion from a list that corresponds with the selected filter criterion.
    - If you select *ACID* or *AC Reg*, use your keyboard to enter the values that you want to include. Separate multiple ACIDs with a space—do not use any punctuation. You can enter letters, numbers, and the wildcard asterisk (*). The asterisk can be used as the first or last character. For example, *AL123*, AAL456*, or *AAL7890.
    - If you select *Major*, *AC Type, AC Type Group*, or *Flight State*, from the dropdown list, select the pre-defined value (see Figure 56). Note that *Major, AC Type, and Flight* fields have quick filters, that is, if you enter the first letter(s), the list will filter by the criteria you entered.

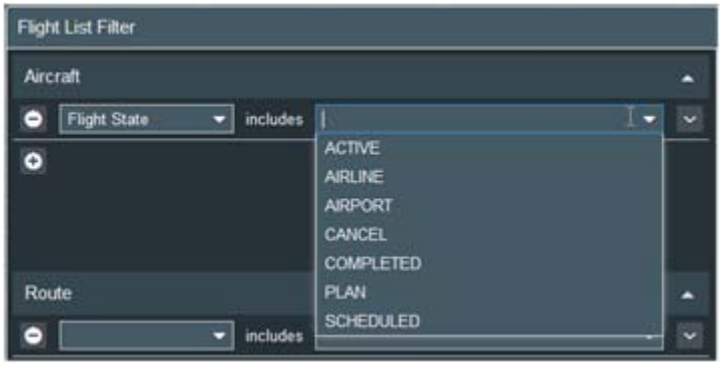


Figure 56: Flight State filtering

4. In the *Route* panel, you can filter by routing elements.
    - From the *Route* dropdown, select *ADEP*, *ADES*, or ADES - ADEP), AFix, or DFix (see Figure 57).

Figure 57: Route element filtering

    - From the *includes* dropdown list, select the corresponding value(s) that you want to include. The *ADES - ADEP* filter allows you to filter by specific ADES or ADEP (see Figure 58). Note that the *ADEP*, *ADES*, and *ADEP - ADES* fields have quick filters; if you enter the first letter(s), the list will go to the matching values.

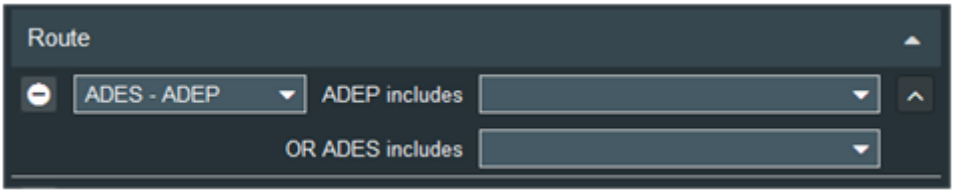


Figure 58: ADES - ADEP filter

5. You can also exclude certain criteria. To exclude an element, click  .(located adjacent to the element dropdown list).

   The "*does not include*" row is displayed (see Figure 59).

   The  toggles to  .

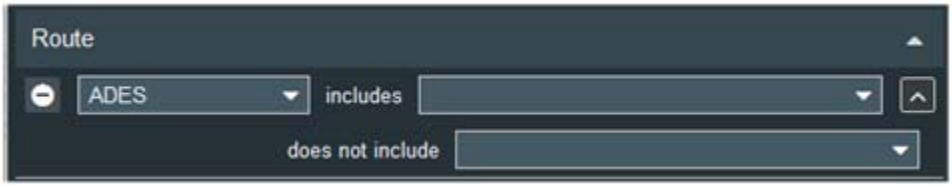


Figure 59: Click down caret to display exclusion row.

6. Following "*does not includes*" is the field where you either use your keyboard to enter the criteria or select the criteria from a list or a quick filter that corresponds with the entered filter criterion. If this is coupled with inclusion criteria, the two are joined by an *AND,* which the resulting data needs to satisfy both inclusion and exclusion criterion.
7. In the *Times* panel, you can filter by times (see Figure 60).

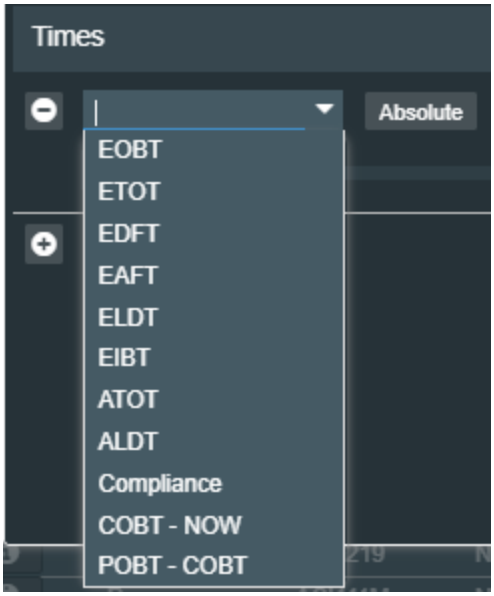


Figure 60: Times filtering

8. When you select a time, click Absolute or Relative and use the thumbs to select the absolute or relative time range.

   The Absolute times are in DD/HHMM format (see Figure 61).

Figure 61: Time range slider – Absolute

   The Relative times are relative to the current system time and are formatted in minutes (i.e., not HHMM format) (see Figure 62).

Figure 62: Time range slider – Relative

9. To add another row for additional criteria, click . Adding additional rows joins this statement with the rest of the filter with an *AND* operator so the resulting data must meet all criteria in each of the rows.

   An empty row is displayed.

10. To delete a row, click .

    The row no longer is displayed.

11. When you finish adding the filtering criteria, click Preview.

    The Flight List in the right panel is filtered.

    The filter elements are displayed below the airport/FCA name (see Figure 63).

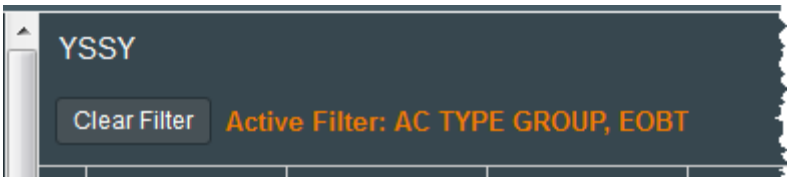


Figure 63: Element criteria in heading

12. Click Save.

    Note: This saves your updates until you close the Work View. Continue to the next step to save your updates for future use.

    The Flight List Filter window closes.

    The Flight List is filtered and the filter criteria is listed in orange font below the airport/FCA name.

13. To save your changes, click (located in the main toolbar).

    The Save Work View dialog box opens (see Figure 64).

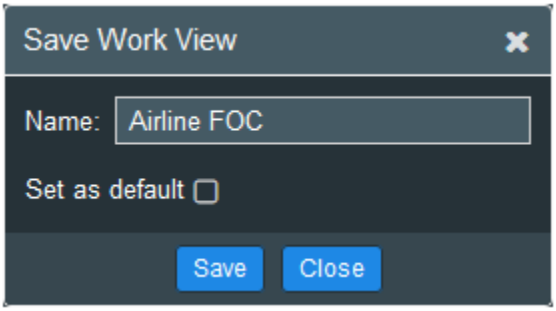


Figure 64: Save Work View dialog box

14. Click Save.

    Note: If the Work View is system-defined, you will be prompted to rename the Work View in Name:.

    A success message is displayed.

    If you saved a new Work View, it is added to the Work View list in System Settings, and the Home Page *Select Work View* dropdown list and quick filter list.

Clearing the Filter

To clear the Flight List's filter, click Clear Filter (located before the filter criteria).

Exporting Flight List to CSV File (Flight List Tool)

You can export a Flight List to a CSV file.

To export the Flight List to a CSV file, complete the following steps:

1. From Flight List Tools ( ), select Export (.csv).

   A CSV file is created with the format: *flight-list-[name]-YYYYMMDDhhmm.csv*

   A dialog box with file save/open options opens (see Figure 65). This dialog box will vary depending on your browser and operating system.

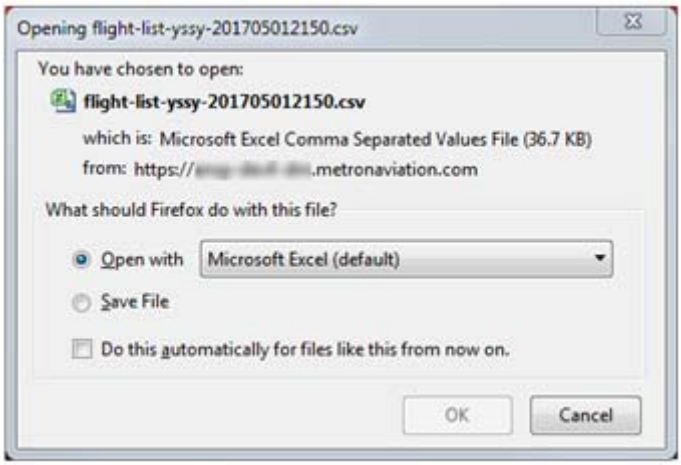


Figure 65: Example of save dialog box

2. Select the option appropriate for your needs and click **OK**.

   The CSV file will be saved to your default folder for downloads.

Resetting the Panel (Flight List Tool)

The Reset Panel option closes the Flight List and displays the Module dropdown menu so you open another Flight List, Demand Graph, or COBT Compliance Window. For more information about how this functionality can be used, see "Changing the Layout Configuration" on page 38 in Chapter 4: Work Views.

To reset the panel, complete the following steps:

1. From Flight List Tools ( ), select Reset Panel .

   The Flight List closes.

   A new panel with the header *New Panel* is opened and the Module dropdown menu is displayed (see Figure 66).

Figure 66: New Panel

2. From the Module dropdown menu, select either Flight List, Demand Graph, or COBT Compliance Window.
3. From the dropdown list, select an airport or FCA.
4. Click Go.

   The selected Flight List, Demand Graph, or COBT Compliance Window opens.

5. To save your changes, click  (located in the main toolbar).

   The Save Work View dialog box opens (see Figure 67).

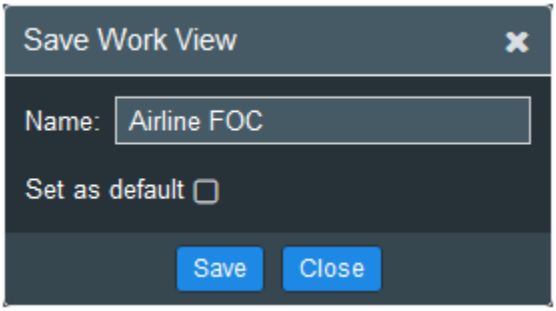


Figure 67: Save Work View dialog box

6. Click Save.

   Note: If the Work View is system-defined, you will be prompted to rename the Work View in 

.

   A success message is displayed.

   If you saved a new Work View, it is added to the Work View list in System Settings, and the Home Page *Select Work View* dropdown list and quick filter list.

Renaming Flight Lists

You can rename Flight Lists to make the name more descriptive.

To rename Flight Lists, complete the following steps:

1. Double-click the module name.

   The name is highlighted white (see Figure 68).

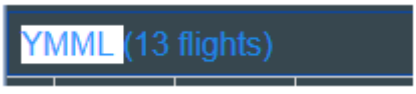


Figure 68: Rename Flight List

Figure 69: Rename module

Note: The flight count (e.g., 13 flights) in the Flight List name cannot be edited as it is system-generated,

2. Enter the new name.
3. To save your changes to the Work View, click  (located in the main toolbar).

   The Save Work View dialog box opens.
4. Click  .

   Note: If the Work View is system-defined, you will be prompted to rename the Work View in  .

   The Flight List name is saved to the Work View.

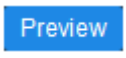
   A success message is displayed.

   If you saved a new Work View, it is added to the Work View list in System Settings, and the Home Page *Select Work View* dropdown list and quick filter list.

Flight List Buttons and Controls

Table 13 describes the buttons, icons, and controls used in the Flight List.

Table 13: Flight List Buttons and Controls

Control	Name	Description
	Flight List Tools	Access the Flight List Tools
	Search	Search for the specified ACID
	Star	Save current Work View
	Expand	Display Flight Summary
	Collapse	Hide Flight Summary
	Information/Flight Details	Open Flight Details for the selected flight
	Map Location Pin	Open flight's trajectory on Map
	Save	Save updates
	Cancel	Cancel updates
	Close	Close without saving the updates
	Preview	Preview filtered data

Control	Name	Description
	X	Close dialog box or window
	Active Flights	Denotes active flights
	Completed Flights	Denotes completed flights

Chapter 6. COBT Compliance Window

The COBT Compliance Window displays the COBT compliance in relation to the current time (see Figure 70). This window is intended to provide users a view of which flights are currently in their compliance window. This view is a preconfigured flight list that filters the selected airport/FCA's flight list by COBT-Now (current time) and Flight State.

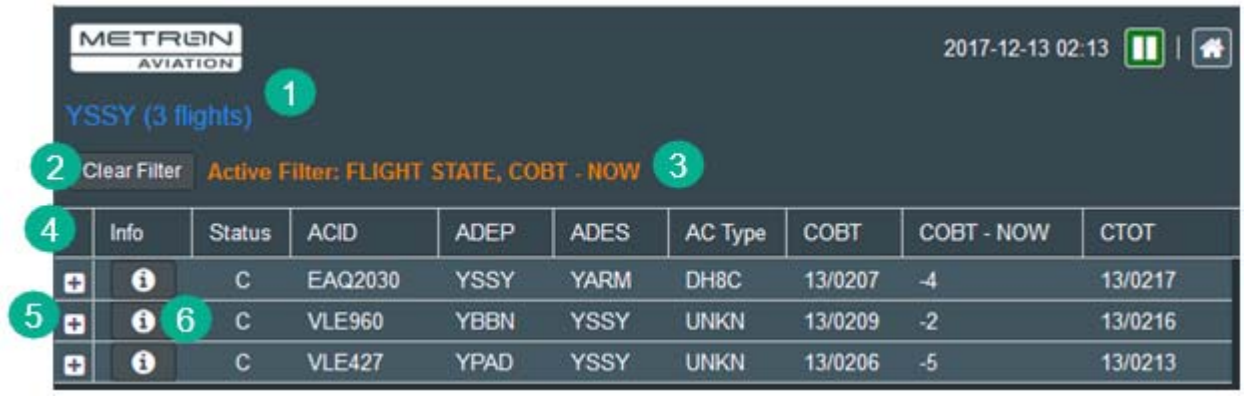


Figure 70: The COBT Compliance Window

The reference numbers in Figure 70 are described in the following list:

1. Airport or FCA name and total of its filtered flights in parenthesis
2. Clear Filter – Display unfiltered Flight List
3. Active Filter – Lists the elements to the filter
4. Column headers – Identify data elements (for more information, see "COBT Compliance Data Elements" on page 64)
5. ⊞ or ⊟ – Expand the row to view the Flight Summary or collapse the open Flight Summary panel
6. ⓘ – Open Flight Details window

To view the COBT Compliance Window, complete the following steps:

1. On the Home Page, select COBT Compliance from the dropdown and select an FCA or airport (see Figure 71).

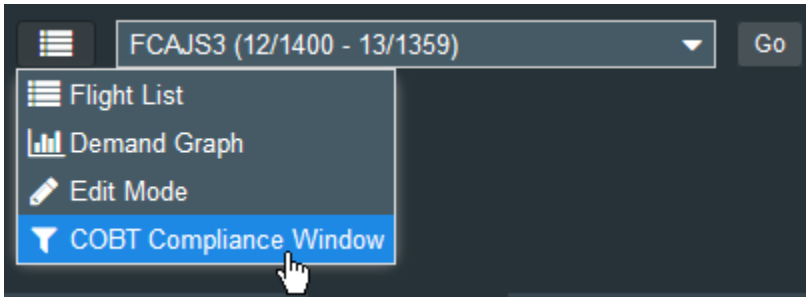


Figure 71: Open from Home Page

The COBT Compliance Window opens with the flight list filtered by COBT-Now (current time) and Flight State (as shown in Figure 70). For more information about the data elements, see "COBT Compliance Data Elements" on page 64.

COBT Compliance Data Elements

Table 14 describes the COBT Compliance Window's data elements, including the Flight Summary panel.

Table 14: COBT Compliance Window Data Element

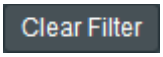
Data Element	Description
INFO	Open Flight Details
STATUS	Flight's status A (Active), P (Planned), C (Cancelled), S (Scheduled), and L (Airline)
ACID	Aircraft ID
ADEP	Departure Airport
ADES	Arrival Airport
AC Type	Aircraft Type
COBT	Calculated Off Block Time
COBT-NOW	Calculated Off Block Time - Current time (in minutes)
CTOT	Calculated Take Off Time
FID	Flight ID
ADEP/DRwy/DFix	Departure Airport/Departure Runway/Departure Fix
ADES/ARwy/AFix	Arrival Airport/Arrival Runway/Arrival Fix
Flight State	Current state of the flight (e.g., Active, Airline, Airport, Cancel, Completed, Planned, Scheduled, Controlled)
Delay TOD (LTOD)	Time Out Delay with Length of Time Out Delay (LTOD) in minutes,
Major	Flight's Major
AC Reg	Aircraft Registration
AC Type Group	Aircraft equipment classification (e.g., Heavy, Light, Jet, Turbo, Unknown)
EENTRY	Estimated Entry
EEXIT	Estimated Exit
EOBT	Estimated Off Block Time

Data Element	Description
ETOT	Estimated Take Off Time
ELDT	Estimated Landing Time
EIBT	Estimated In Block Time
FPL Route	Lists the Flight Plan Route from ADEP to ADES

COBT Compliance Window Buttons and Controls

Table 15 describes the buttons used in the COBT Compliance Window.

Table 15: COBT Compliance Window Buttons

Button	Name	Description
	Clear Filter	Save system settings for all tabs and closes System Settings
	Expand	Expand the row to view the Flight Summary panel
	Collapse	Collapse the open Flight Summary panel
	Flight Information	Open Flight Details for selected flight

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Chapter 7. Edit Mode – All Flights View

The Edit Mode All Flights View provides a view of the uncontrolled and controlled flights for airports and FCAs for the selected airport or FCA.

Depending on your role, you have varying levels of permission to update flight data and contact information; cancel and reinstate flights; update a flight's Actual times (AOBT, AIBT), and Aircraft Operator times (LOBT and LIBT), and earliest Aircraft Operator times (ELOBT and ELIBT); request ISE, and add a flight to an TMI. For more information about permissions, see Appendix C: User Roles and Permissions.

Edit Mode provides the following capabilities to update flights:

- Update flight data (ACID, AC Type, AC Reg)
- Update flight contact information (email address, phone number, mobile carrier)
- Cancel a flight
- Reinstate a flight
- Update a flight's LOBT (the LIBT is calculated from the LOBT)
- Update a flight's ATOT, ALDT
- Update a ELOBT (the ELIBT is calculated from the ELOBT) with an option to resume the auto-management of the EL time
- Add flights (non-controlled or controlled) to a TMI (Super Users only)

Opening Edit Mode

Edit Mode is accessed from the Flight List Tools ( ) or the Home Page's Element Module dropdown menu (see Figure 72).

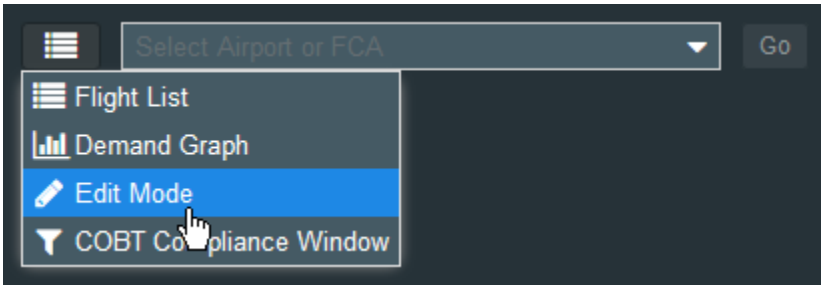


Figure 72: Edit Mode selection

Edit Mode's Views of Flights

Edit Mode has two views:

- **All Flights** – Lists all uncontrolled and controlled flights.

- **TMI View** – Lists the controlled flights and slots associated with the selected TMI. For more information, see Chapter 8: Edit Mode – TMI View.

All Flights View

When you open Edit Mode for an airport or FCA that does not have a TMI, the *All Flights* view is displayed by default (see Figure 73).

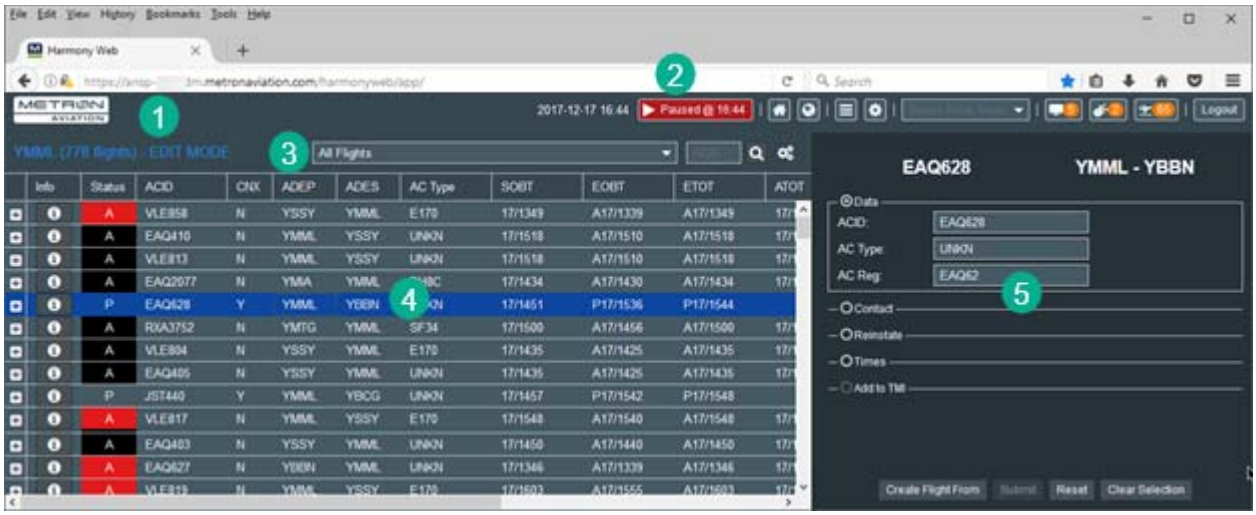


Figure 73: Edit Mode's All Flights view

The reference numbers in Figure 73 are described in the following list:

1. **Flight List label** – Lists the airport or FCA, number of controlled and uncontrolled flights, and EDIT MODE label.
2. 

– When you select a flight in the *All Flights* view, the data update is paused and at the top of the window, the **Paused** button displays the time the data was paused. To to initialize a data refresh and resume the updates, click 

. The button toggles to the  .
3. **All Flight/TMI** dropdown – Select *All Flights* to view all flights for the selected airport/FCA; or select a TMI/FCA to view its flights and unassigned slots.
4. **All Flights view** – List of all number of controlled and uncontrolled flights for the selected airport or FCA.
5. **Edit Mode action panel** – When you select a flight in the *All Flights* view, the Edit Mode action panel opens to the right of the Flight List (also shown in Figure 74). Only one panel can be open at a time. Clicking a panel's radio button will close any open panel before opening the selected panel.

Figure 74: Edit Mode action panel for All Flights view

The reference numbers in Figure 74 are described in the following list:

1. The ACID and departure and arrival airports are listed (i.e., ADEP - ADES).
2. **Data** – Update the *ACID*, *AC Type*, and *AC Reg*. For more information, see "Updating Flight Data" on page 70.
3. **Contact** – Update the *Email*, *mobile number*, and *mobile carrier*. For more information, see "Updating Contact Information" on page 71.
4. **Cancel/Reinstate** – The displayed label depends on the status of the selected flight. If you select a cancelled flight, the label reads **Reinstate**. If you select a flight eligible for cancellation, the label reads **Cancel**.

   Super Users and Flow Managers can cancel and reinstate any flight. Aircraft Operators can cancel and reinstate only flights in their major and subcarriers. Flights for an aircraft operator's major are in bold font. For more information, see "Cancelling a Flight" on page 72 and "Reinstating a Cancelled Flight" on page 73.
5. **Times** – Update ATOT, ALDT, ELTOT, ELOBT, LOBT, and LIBT in the Times panel. (For more information, see "Updating Times" on page 74.)
6. **Add to TMI** – Super Users can add the selected flight to a TMI. For more information, see "Adding a Flight to a TMI (Super Users only)" on page 75.
7. Create Flight From – Create a flight from an existing flight. For more information, see "Creating a Flight from Existing Flight" on page 76.

Note: When you update a panel, you must submit your updates before updating another panel. While the system will allow you to update multiple panels, it will submit only the modifications to the last panel that you updated. For example, if you update the L Time and then update the contact information, when you click **Submit**, only the contact updates will be submitted.

Updating Flight Data

You can update a flight's ACID, AC Type, or AC Reg in the Data panel (see Figure 75). This panel is grayed out for active flights. If adding an AC Type, it must be already be included in your Adaptation data.

Figure 75: Data panel

To update the flight's data, complete the following steps:

1. Select an inactive flight.

   The ACID, AC Type, and AC Reg fields in the Data panel are activated.

2. Update the data.

   The **Submit** button is activated as soon as you change the data.

   Note: Before updating another panel (e.g., Contact or Times) you must submit these changes.

3. Click Submit.

   The panel is replaced with a collapsed Status panel.

   The flight being updated is briefly highlighted brown in the flight list and the panel to visually mark the data that is being processed (see Figure 76).

   The status shows *Pending* and then updates to *Success*. A is displayed in the *Status* column as a visual indicator that the final status has been returned.

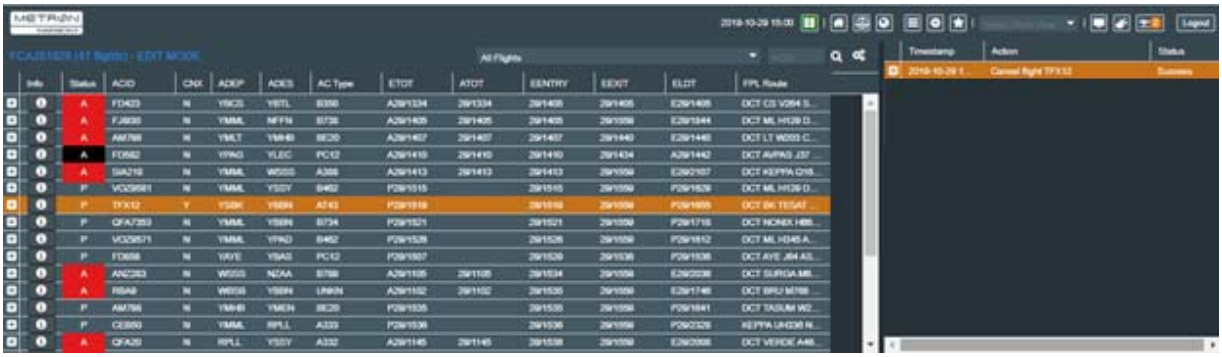


Figure 76: Flight being updated is briefly highlighted brown

4. Click ⊞ to expand the panel (see Figure 77).

   The button toggles to ⊟.

   The panel lists the timestamp, the action, the status, and the updated data.

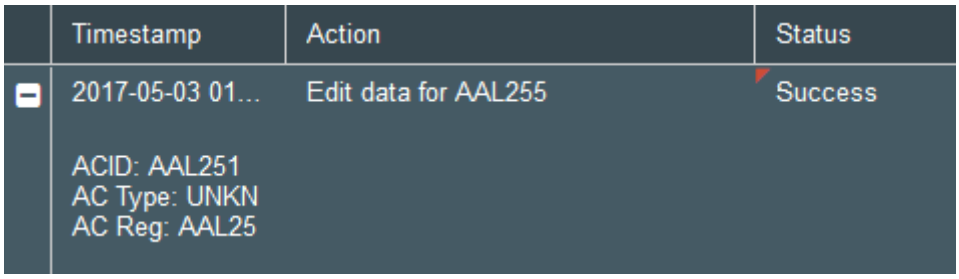


Figure 77: Status panel

Updating Contact Information

You can update an inactive flight's contact information (see Figure 78). The contact information is grayed out for active flights.

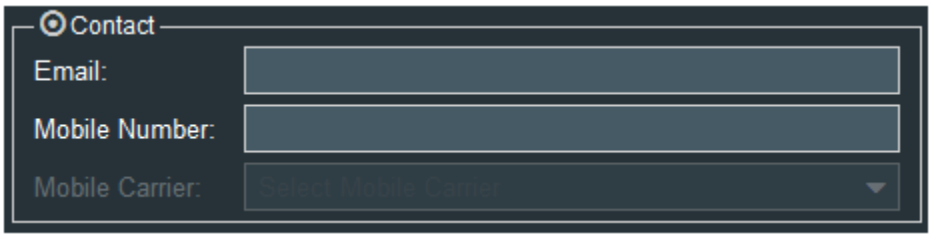


Figure 78: Contact panel

To update the contact information, complete the following steps:

1. Select an inactive flight.
2. Click the **Contact** radio button.

   The *Email* and *Mobile Number* fields are activated.

3. Enter an Email and/or Mobile Number.

   If you enter a Mobile Number, the *Mobile Carrier* field is activated.

4. Select a *Mobile Carrier* from the dropdown list.

   Note: Before updating another panel (e.g., Data or Times,) you must submit these changes.

5. Click Submit.

   The panel is replaced with a collapsed Status panel.

   The flight being updated is briefly highlighted brown in the flight list and the panel to visually mark the data that is being processed (see Figure 76).

   The status shows *Pending* and then updates to *Success*. A ◤ is displayed in the *Status* column as a visual indicator that the final status has been returned.

6. Click ⊞ to show the status details.

   The button toggles to ⊟.

Cancelling a Flight

You can cancel flights in the Cancel panel. Your user role determines which flights you can cancel:

- Super Users can cancel a flight in any state (pre-departure and active).
- Flow Managers and Aircraft Operators can cancel pre-departure flights.
- Aircraft Operators can only cancel the flights in their major and subcarriers. Flights for an aircraft operator's major are in bold font.

To cancel a flight, complete the following steps:

1. If you are a Super User, select an active or inactive flight. If you are a Flow Manager or Aircraft Operator, select an inactive flight.

   On the right, the Edit Mode action panel is activated.

2. Click the **Cancel** radio button. Note that if the flight is not eligible for cancelling, the **Cancel** radio button will be inactive (grayed out).

   The Cancel panel opens and the flight's OBT is displayed in the Cancel panel (see Figure 79).

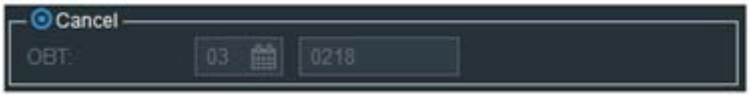


Figure 79: Cancel panel

3. Click Submit.

   The panel is replaced with a collapsed Status panel.

The flight being updated is briefly highlighted brown in the flight list and the panel to visually mark the data that is being processed (see Figure 76).

The status shows *Pending* and then updates to *Success*. A is displayed in the *Status* column as a visual indicator that the final status has been returned.

4. Click to show the status details.

   The button toggles to .

   The panel lists the timestamp, the action (Cancel flight [ACID]), the status (pending, until a response from the system is received), and the cancelled ACID.

   The Flight State changes to CANCEL.

   The CNX column displays *Y*.

Reinstating a Cancelled Flight

You can reinstate cancelled flights in the Reinstate panel (see Figure 80). Super Users and Flow Managers can reinstate flights. Aircraft Operators can reinstate only flights in their major and subcarriers. Flights for an aircraft operator's major are in bold font.

Figure 80: Reinstate panel

To reinstate a cancelled flight, complete the following steps:

1. Select the cancelled flight that you are authorized to reinstate.

   The flight's data is displayed in the Edit Mode action panel.

   The Reinstate panel replaces the Cancel panel.

2. Click the **Reinstate** radio button to activate the panel.

3. Update the OBT date and time. Select the date from the 05 and enter the time in HHMM format.

4. Click Submit.

   The panel is replaced with a collapsed Status panel.

   The flight being updated is briefly highlighted brown in the flight list and the panel to visually mark the data that is being processed (see Figure 76).

   The status shows *Pending* and then updates to *Success*. A is displayed in the *Status* column as a visual indicator that the final status has been returned.

5. Click to show the status details.

   The button toggles to .

The panel lists the timestamp, the action (Reinstate flight [ACID]), the status (pending, until a response from the system is received), the reinstated ACID, and the EOBT in DD/HHMM format.

The CNX column displays *N*.

Updating Times

In the Times panel, Super Users and Flow Managers can update times (ATOT, ALDT, LOBT, LIBT, ELIBT, and ELOBT). Airport Operators can update these times for flights in their major and subcarriers. Flights for an aircraft operator's major are in bold font. EL times (ELIBT and ELOBT) have the option to have the system resume management of their time. You can update the ALDT for an active flight and the ATOT, ALDT, ELIBT, ELOBT, and LOBT for a pre-departure, planned, or a scheduled flight (see Figure 81).

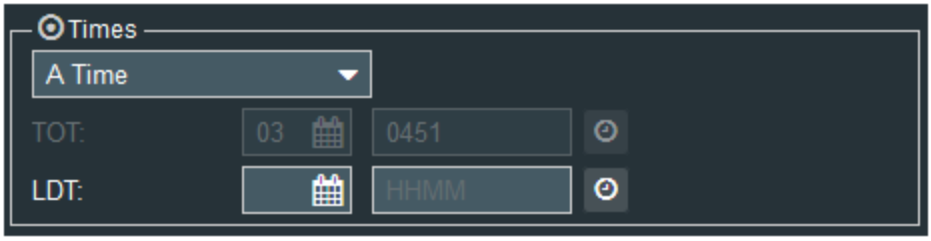


Figure 81: Times panel for an active flight

To update the times, complete the following steps:

1. Select an active or inactive flight.

   The Times panel is activated. By default, EL Time is selected for a pre-departure, planned, or scheduled flight and A Time is selected for an active flight.

2. From the Times dropdown list, select EL Time (default selection), L Time, or A Time (see Figure 82).

Figure 82: Times dropdown list

3. For an *active flight*, select the date from  , and enter the time in HHMM format, or click  to set the ALDT to the current system time.
4. For an i*nactive flight*, click the Times radio button, and repeat the same process for the LOBT, ELOBT, ELIBT, ATOT, or ALDT.

Note: The EL time has the option to be auto-managed (see Figure 83). EL times are auto-managed until you manually change them. This option enables you to resume auto-management after you manually update the times.

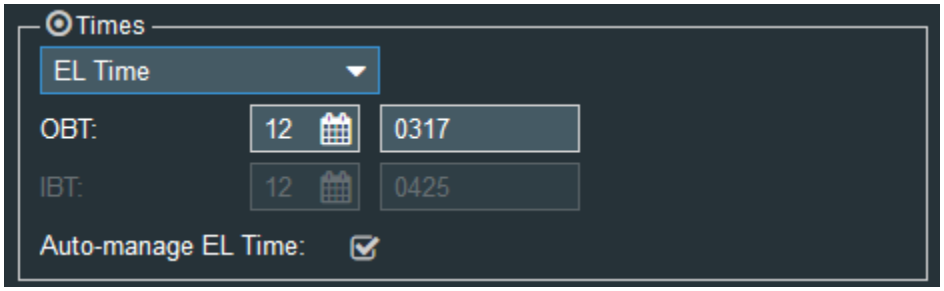


Figure 83: Auto-manage option for EL times

5. Click Submit.

   Note: Before updating another panel (i.e., Data, Contact, or Cancel/Reinstate) you must submit these changes or else your updates will not be processed.

   The flight being updated is briefly highlighted brown in the flight list and the panel to visually mark the data that is being processed (see Figure 76).

   The panel is replaced with a collapsed Status panel.

   The status shows *Pending* and then updates to *Success*. A is displayed in the *Status* column as a visual indicator that the final status has been returned.

6. Click to show the status details.

   The button toggles to .

   The panel lists the timestamp, the action (Edit A/L Times for [ACID]), the status (pending...success), the Type (A or L), and updated times (LOBT, LIBT, ATOT, ALDT, ELIBT, ELOBT).

Adding a Flight to a TMI (Super Users only)

Super Users can add to a TMI (GDP-A, GDP-D, AFP) an operating flight (controlled or non-controlled, pre-departure, active) that is within the start and end time of the TMI to assign a slot and be counted as controlled demand. Only active TMIs within the operational day of the flight's ETD for GDP-D, ETA for GDP-A, or ENTRY for AFP are available.

To add a flight to a TMI, complete the following steps:

1. From the All Flights list, select the flight that you want to add to a TMI.

   In the right-side action panel, *Add to TMI* is activated. If there is not an active TMI or the selected flight is cancelled, the *Add to TMI* option is not active.

Note: The *Add to TMI* panel is only displayed for Super Users. Other users will not see it.

2. Click the Add to TMI radio button.

   The panel expands and displays the TMIs dropdown list (see Figure 84).

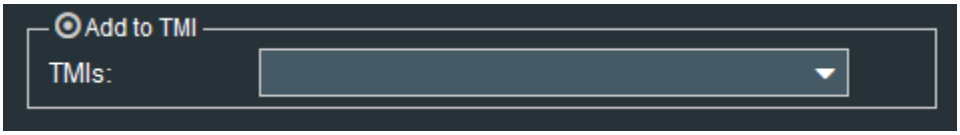


Figure 84: TMI dropdown

   - If flight is a departure, only GDP-Ds are displayed.
   - If the flight is an arrival, only GDP-As are displayed.
   - If the flight has the same ADEP/ADES, GDP-Ds and GDP-As are displayed.

3. From the dropdown, select a TMI.

4. Click Submit.

   The flight being updated is briefly highlighted brown in the flight list and the panel to visually mark the data that is being processed (see Figure 76).

   The status shows *Pending* and then updates to *Success*. A is displayed in the *Status* column as a visual indicator that the final status has been returned.

   The flight is added to the TMI and assigned a slot.

   The flight's Flight Details include the TMI.

Creating a Flight from Existing Flight

Super Users, Flow Managers, and Aircraft Operators can create a flight using information from an existing flight. An Aircraft Operator can only create/update flights in its own major and subcarriers. Flights for an aircraft operator's major are in bold font.

To create a flight from another flight, complete the following steps:

1. Select a flight in the Edit Mode Flight List.

   The flight's *ADEP, ADES*, and *AC TYPE* are populated in the Edit Mode action panel.

2. Click Create Flight From.

   The Create Flight panel is displayed (see Figure 85).

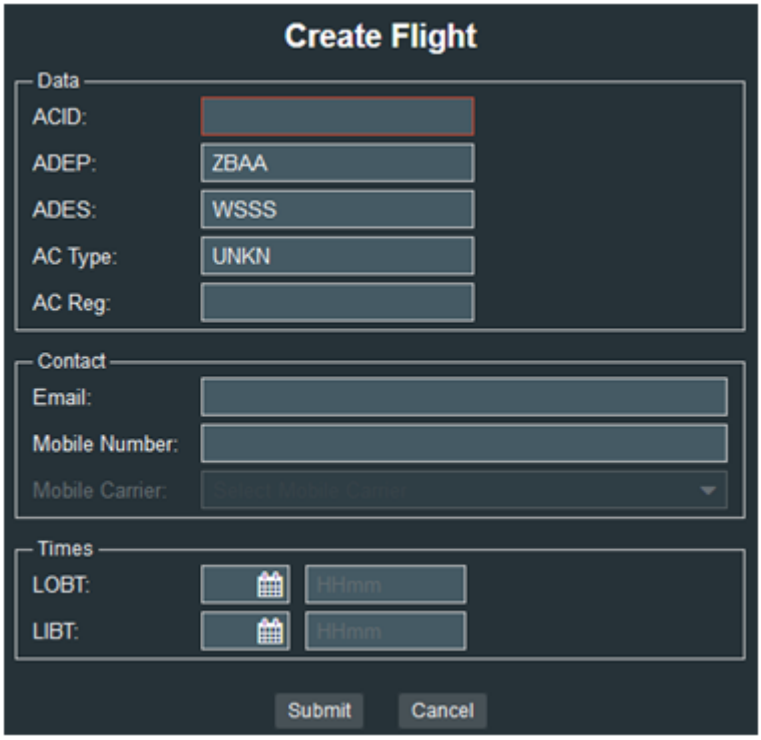


Figure 85: Create Flight panel

3. Complete the required fields, *ACID, AC Reg*, *LOBT*, and *LIBT*. The contact fields are optional.

4. Click Submit.

   The panel is replaced with a collapsed Status panel.

   The status shows *Pending* and then updates to *Success*. A is displayed in the *Status* column as a visual indicator that the final status has been returned.

Figure 86: Status panel after submitting new flight

5. Click to view the details.

   The button toggles to .

   The panel expands (see Figure 87).

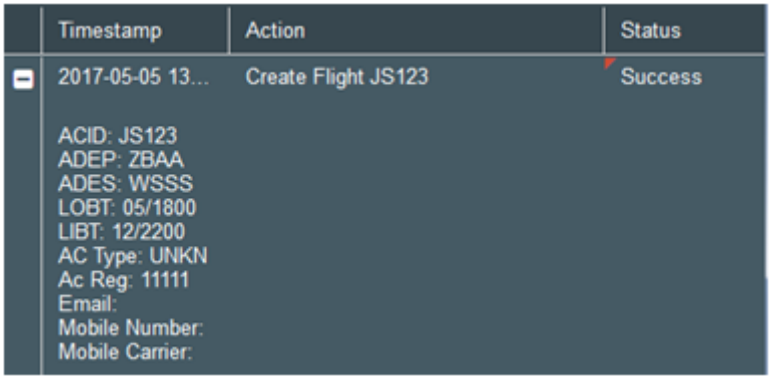
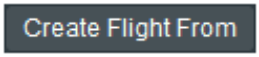
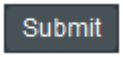
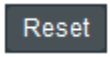
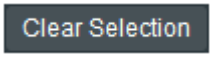


Figure 87: Details of new flight creation

Edit Mode-All Flights View Buttons and Controls

Table 16 describes the buttons, icons, and controls used in Edit Mode – All Flights View.

Table 16: Edit Mode–All Flights View Buttons and Controls

Button	Name	Description
	Flight List Tools	Access Edit Mode
	Create Flight From	Create flight based on selected flight
	Submit	Submit updates to Harmony server
	Reset	Reset to data to its state prior to your updates
	Clear Selection	Clear selected flight data
	Expand	Show status panel to review submit details
	Collapse	Hide status panel
	Clock	Set the date and time of an active flight's ALDT to the current system time.
	Calendar	Select month and day
	Red Marker	Indicates that an action's status has been returned or that an action is pending

Chapter 8. Edit Mode – TMI View

The Edit Mode–TMI View provides a view of FCA/airport-specific controlled flights and slots for AFPs, ground stops for airports and FCAs (GS), and arrival/departure GDPs (i.e., GDP-A, GDP-A-RWY, GDP-D). Arrival GDPs and AFPs display active and pre-departure flights. FCA and airport GSs and departure GDPs display only pre-departure flights.

Depending on your role, you have varying levels of permission to cancel flights with slot hold, reinstate flights, swap two flights, swap a flight with an unassigned slot, or request ISE. Super Users can cancel or free any controlled flight. For more information about permissions, see Appendix C: User Roles and Permissions.

Edit Mode–TMI View includes much of the functionality found in Edit Mode–All Flights View as well as the additional functionality:

- Cancel a flight with slot hold
- Reinstate a controlled flight
- Perform an ISE request on a pre-departure, controlled flight
- Free controlled slots in a TMI (Super Users only)
- Cancel any controlled flight (Super Users only)
- Swap two flights
- Swap a flight with an unassigned slot

For more information about the shared functionality with Edit Mode–All Flights View, see the following sections:

- Update flight data (ACID, AC Type, AC Reg) (see "Updating Flight Data" on page 70)
- Update flight contact information (email address, phone number, mobile carrier) (see "Updating Contact Information" on page 71)
- Update a controlled flight's ATOT, ALDT, LOBT (the LIBT is calculated from the LOBT), and ELOBT (the ELIBT is calculated from the ELOBT) with an option for the system to resume auto-management of the EL times (see "Updating Times" on page 74)
- Creating a Flight (see "Creating a Flight from Existing Flight" on page 76)

Edit Mode can be accessed from the Flight List Tools () or the Home Page's Element Module dropdown menu (see Figure 88). By default, Edit Mode opens the Flight List for the current TMI or the earliest scheduled TMI.

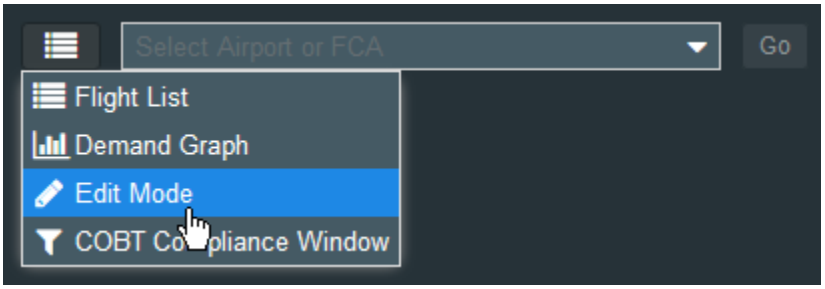


Figure 88: Edit Mode selection

Edit Mode TMI Slot List

The TMI View Slot List contains the controlled flights and unassigned slots for the selected program (see Figure 89). The displayed default columns are based on the type of program.

- **GDP-A, GDP-D, and airport GS** programs display Info, Element Slot, Major, ACID, ADEP, ADES, Ctl Type, EOBT, ETOT, ELDT, COBT, CTOT, and Program Delay.
- **AFP and FCA GS** programs display Info, Element Slot, Major, ACID, ADEP, ADES, Ctl Type, EOBT, ETOT, EENTRY, ELDT, COBT, CTOT, and Program Delay.

For information about adding columns, see "Managing Columns (Flight List Tool)" on page 48.

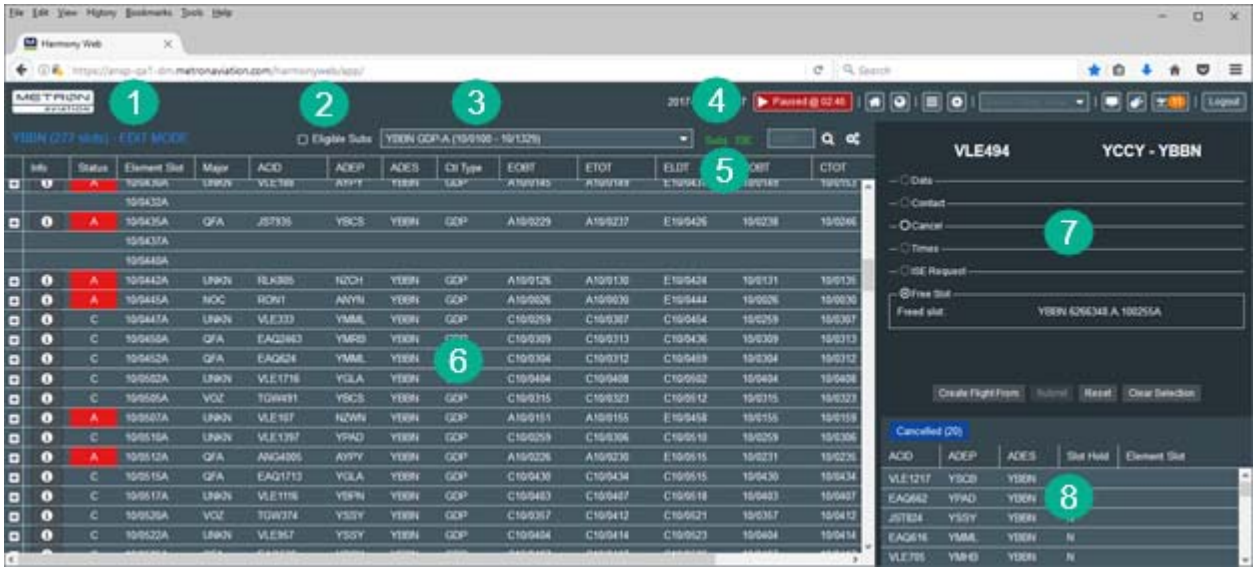


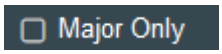
Figure 89: Edit Mode's TMI Slot List

The reference numbers in Figure 89 are described in the following list:

1. **Flight List label** – Lists the airport or FCA, number of slots, and EDIT MODE label.
2. Eligible Subs – After selecting a flight for swapping, click the **Eligible Subs** checkbox to filter the Slot List by the slots that are eligible for substitutions. By default, it is not selected. When you select it, the label will display the number of eligible slots

out of the total count. In the following example, *YBBN (137 slots) - Edit Mode* updated to *YBBN (128 out of 137 slots) - Edit Mode* (see Figure 90).

Figure 90: Label when Eligible Subs is selected

Note: For Aircraft Operators only, the 

option is displayed above the **Eligible Subs** option (see Figure 91). Select the **Major Only** option to filter the Slot List by flights in your Major and subcarriers. Flights for an aircraft operator's major are in bold font.

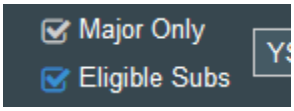


Figure 91: Aircraft Operator's Major Only option

3. **All Flights/[TMI name]** dropdown – Select *All Flights* to view all the flights for the selected element or select a specific *TMI* to view the Slot List of its flights and unassigned slots. Note that GS TMIs do not have unassigned slots.

4. 

– When you select a flight in the *TMI* view, the data update is paused and at the top of the window, the **Paused** button displays the time the data was paused. To to initialize a data refresh and resume the updates, click 

. The button toggles to the 
.

5. **Subs ISE indicator** – Indicates whether Subs and ISE are on or off. Green font indicates that Subs and/or ISE are allowed for the viewed airport or airspace. Gray text with a strikeout indicates that Subs and/or ISE are not permitted for the viewed airport or airspace (see Table 17).

Table 17: Subs and ISE availability

Label	Font	Description
Subs	Green text	Subs allowed
ISE	Green text	ISE allowed
~~Subs~~	Gray text with strikeout	Subs is not allowed
~~ISE~~	Gray text with strikeout	ISE is not allowed

6. **Slot List** – Lists the controlled flights and unassigned slots for the selected airport or FCA.
7. **Edit Mode action panel** – When you select a flight in the *TMI* view, the Edit Mode action panel opens to the right of the Slot List (also shown in Figure 92). Only one panel can be open at a time. Clicking a panel's radio button will close any open panel before opening the selected panel. For more information about the action panel, see "Edit Mode Action Panel – TMI View" on page 82.
8. Cancelled (29) – The Cancelled panel lists the cancelled flights. The parenthetical number in the label is the total number of cancelled flights.

Selecting and Unselecting Flights

In the TMI view, only two flights can be selected at one time. When you select a flight, the row is highlighted blue. How you unselect a flight depends on whether the **Eligible Subs** option is selected.

- Eligible Subs – If **Eligible Subs** is not checked, clicking either selected flight will unselect it.
- Eligible Subs – If **Eligible Subs** is checked, clicking the second row you selected will unselect it; however, this does not apply to the first-selected row. To unselect the first-selected row, click Clear Selection.

Edit Mode Action Panel – TMI View

The Edit Mode action panel is similar to the panel on the *All Flights* view; however, it has the ISE Request and Free Slot panels and a list of the cancelled flights. Only one panel can be open at a time. Clicking a panel's radio button closes the open panel before opening the selected panel. A closer view of the Edit Mode action panel for the TMI view is shown in Figure 92.

Note: When you update a panel, you must submit your updates before updating another panel. While the system will allow you to update multiple panels, it will submit only the modifications to the last panel that you updated. For example, if you update the L Time and then update the contact information, when you click **Submit**, only the contact updates will be submitted.

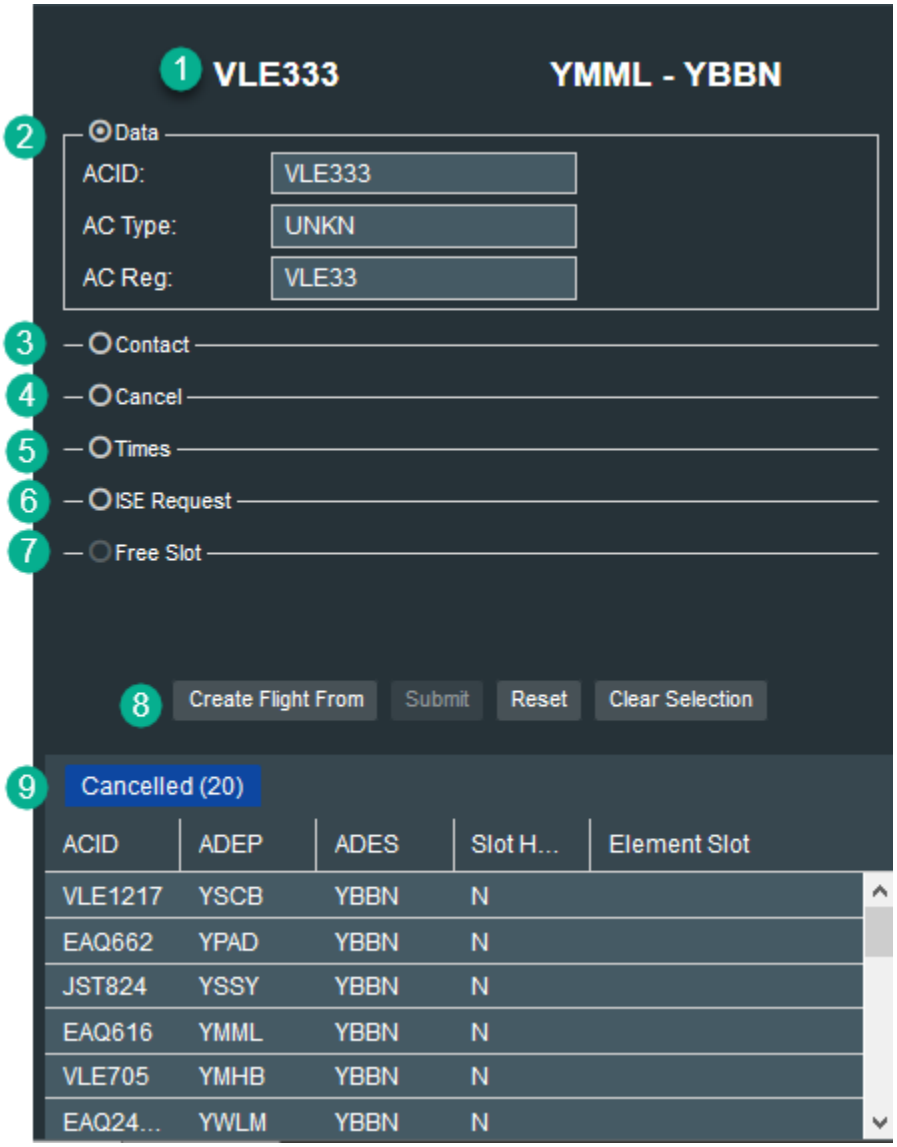


Figure 92: Edit Mode action panel for TMI Flight List

The reference numbers in Figure 92 are described in the following list:

1. The ACID and departure and arrival airports are listed (i.e., ADEP - ADES).
2. **Data** – Update the *ACID*, *AC Type*, and *AC Reg*. For more information, see "Updating Flight Data" on page 70.
3. **Contact** – Update the *Email*, *mobile number*, and *mobile carrier*. For more information, see "Updating Contact Information" on page 71.
4. **Cancel/Reinstate** – The displayed label depends on the status of the selected flight. If you select an eligible cancelled flight, the label reads **Reinstate**. If you select a flight eligible for cancellation, the label reads **Cancel**.

   Super Users and Flow Managers can cancel a flight with slot hold options and reinstate a flight to a specific slot. Note that Slot Hold is not available for GS flights.

Aircraft Operators can cancel and reinstate only flights in their major and subcarriers.Flights for an aircraft operator's major are in bold font. For more information, see "Cancelling a Flight with Slot Hold" on page 84 and "Reinstating Flights" on page 87.

5. **Times** – Update ATOT, ALDT, ELTOT, ELOBT, LOBT, and LIBT. For more information, see "Updating Times" on page 74.
6. **ISE Request** – Super Users and Flow Managers can perform an ISE request on pre-departure, controlled flights. Aircraft Operators can perform an ISE request on pre-departure, controlled flights in their major and subcarriers. This functionality is disabled for GS TMIs.
7. **Free Slot** – Super Users can add the selected flight to a TMI. For more information, see "Freeing a Slot (Super Users only)" on page 92.
8. Create Flight From – Create a flight from an existing flight. For more information, see "Creating a Flight from Existing Flight" on page 76.
9. **Cancelled (#) list –** Lists cancelled flights. The number in parentheses represents the total number of cancelled flights.

Note: When you update a panel, you must submit your updates before updating another panel. While the system will allow you to update multiple panels, it will submit only the modifications to the last panel that you updated.

Expired Program

If a program expires while you are in the Edit Mode - TMI View, a message is displayed and you are returned to the All Flights view (see Figure 93).

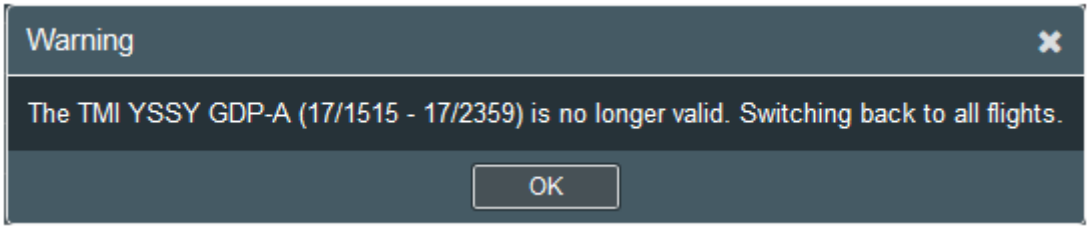


Figure 93: Message when TMI expires

Cancelling a Flight with Slot Hold

Controlled flights in GDPs and AFPs can be cancelled with the option to hold the slot. (Slot Hold is not available for GS flights.) The slot must be within the start/end time of the TMI. If you cancel a flight and Slot Hold is selected, the slot is held. Cancelled flights do not retain ownership of the cancelled slot unless the Slot Hold flag is set. If you do not select the Slot Hold check box during a cancel, the cancelled flight's slot is returned to the Unassigned Slot pool and becomes available for swaps or for a pop-up flight. If you cancel a flight within its Associated TMI (and the flight has a different Controlling TMI), there is no change in the Controlling TMI or Associated TMI.

You can cancel a flight using the Cancel section in the action area or by dragging a flight from the Slot List to the Cancelled panel.

Your user role determines which flights you can cancel:

- Super Users can cancel a controlled flight in any state (pre-departure, active, or completed).
- Flow Managers and Aircraft Operators can cancel only controlled pre-departure flights.
- Aircraft Operators can cancel only the flights in their major and subcarriers. Flights for an aircraft operator's major are in bold font.

To cancel a flight, complete the following steps:

1. In the Slot List, select the flight to be cancelled.

   On the right, the Edit Mode action panel is activated.

2. Click the **Cancel** radio button or drag and drop the flight in the Cancelled panel.

   If you drag and drop the flight, a text box with a green check mark and the ACID indicates the flight is eligible for cancellation and you can drop the flight (see Figure 94).

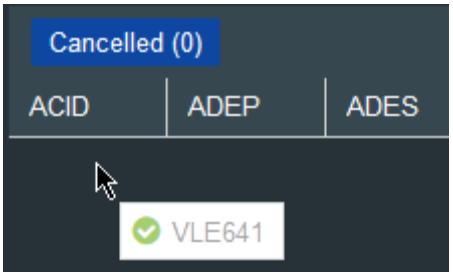


Figure 94: Drag-and-drop indicator

   The Cancel panel opens and the flight's OBT is displayed.

   The Slot Hold section displays the flight's Slot ID for each TMI that controls the flight (see Figure 95). Note that Slot Hold is not available for GS flights.

Figure 95: Cancel panel with Slot Hold option for a non-GS flight

3. Click the checkbox for the slots that are to be held.

4. At the bottom of the panel, click Submit.

   The flight being updated is briefly highlighted brown in the flight list and the panel to visually mark the data that is being processed

   The flight is removed from the Slot List and is placed into the Cancelled list (see Figure 96).

   - The Slot Hold column displays a Y.
   - The parenthetical number in the Cancelled label increases to include the cancellation in the total number of cancelled flights.

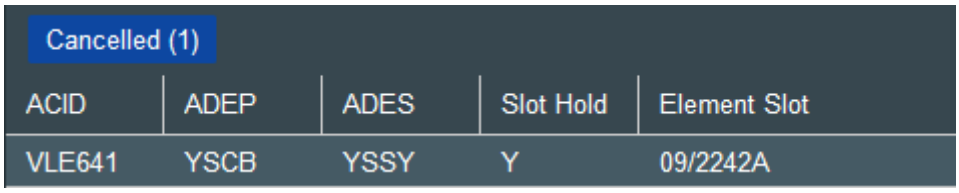


Figure 96: Cancelled flight is listed in Cancelled section

The slot in the Slot List is held and lists only the status, element slot, and major.

At the top of the panel, the confirmation message is displayed (see Figure 97).

- The status initially shows *Pending* and then updates to *Success*. A ◤ is displayed in the *Status* column as a visual indicator that the final status has been returned.

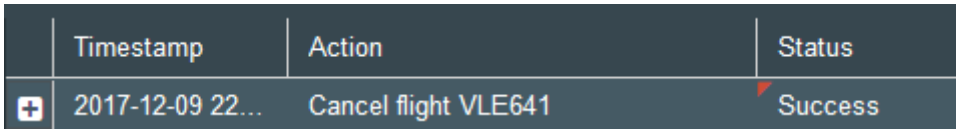


Figure 97: Success message

5. To expand the confirmation message, click ⊞.

   The button toggles to ⊟.

   The message is expanded and displays a summary of the cancellation including the timestamp of the cancellation, action taken, status, ACID, and held slots.(see Figure 98).

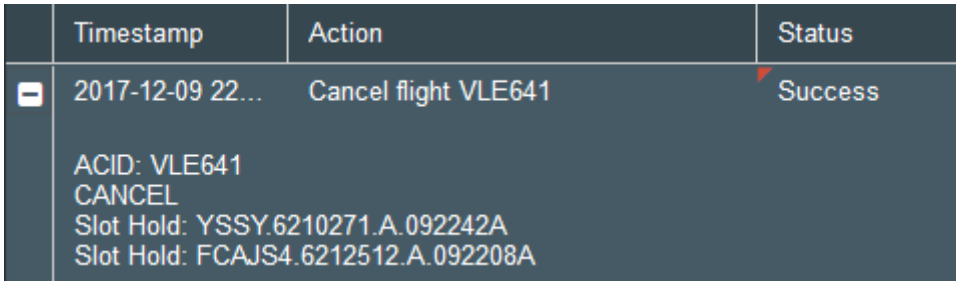


Figure 98: Confirmation message

Reinstating Flights

Super Users and Flow Managers can reinstate cancelled, controlled flights. Aircraft Operators can reinstate flights in their own Major or subcarriers, unless the flight was cancelled by a Super User or Flow Manager. Flights for an aircraft operator's major are in bold font. Pre-departure flights can be reinstated to a slot if the estimated COBT/CTOT is not in the past. The estimated COBT/CTOT is based on the flight's new slot and its current EET/taxi time

Reinstating a Flight with Slot Hold

You can reinstate a cancelled flight to its held slot.

To reinstate a cancelled flight with slot hold, complete the following steps:

1. In the Cancelled panel, select the cancelled flight with slot hold (as indicated by the Y in the Slot Hold column).

   The Edit panel opens the selected flight.

   The Cancel panel is replaced with the Reinstate panel.

2. Click the Reinstate radio button.

   The Reinstate panel opens and displays the flight's held slot time (see Figure 99).

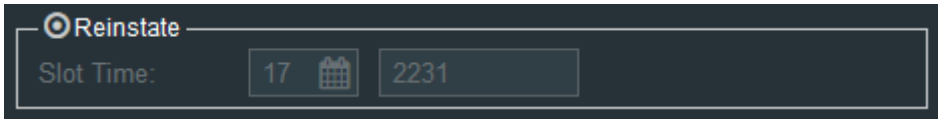


Figure 99: Reinstate panel displays flight's slot time

3. At the bottom of the panel, click Submit.

   The flight being updated is briefly highlighted brown in the flight list and the panel to visually mark the data that is being processed.

   The flight is removed from the Cancellation list and reinstated to its slot with an Active status.

   The Cancelled label's number decreases by one.

   The flight's displayed CTOT/CLDT is updated based on the slot and the flight's current EET.

   At the top of the panel, the confirmation message is displayed.

   - The status initially shows *Pending* and then updates to *Success*. A is displayed in the *Status* column as a visual indicator that the final status has been returned.

4. To expand the confirmation message, click .

   The button toggles to .

   The message is expanded and displays a summary of the reinstatement including the timestamp of the cancellation, action taken, and status; listed below this is another summary that includes ACID, REINSTATE (action) and the flight's Slot (see Figure 100).

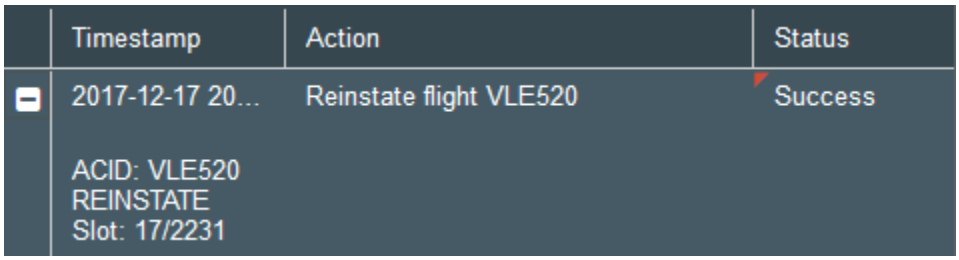


Figure 100: Reinstatement confirmation summary

Reinstating a Flight to an Unassigned Slot

You can reinstate a flight (with or without Slot Hold) to an unassigned slot. Slot Hold is not an option for GS flights.

To reinstate a cancelled flight to an unassigned slot, complete the following steps:

1. In the Cancelled list, select the cancelled flight and drag it to an unassigned slot.

A text box with a green check mark and the ACID indicates the flight is eligible for reinstatement you can drop the flight (see Figure 101).

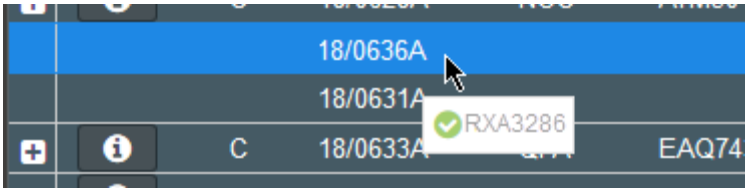


Figure 101: Successful drag-and-drop indicator

2. Drop the flight in the unassigned slot.

   The row is highlighted blue with red markers and populated with the flight's information (see Figure 102).

Figure 102: Markers indicate an unsubmitted reinstatement request.

   On the right, the Edit Mode action panel and automatically opens the Reinstate panel.

   The Reinstate panel displays the slot time (see Figure 103).

   The **Submit** button is activated.

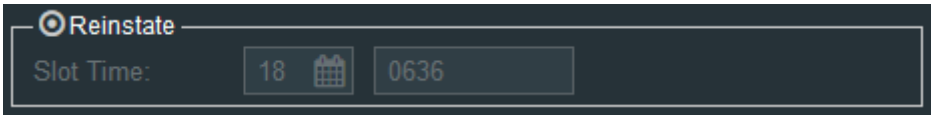


Figure 103: Reinstate panel displays flight's slot time

3. At the bottom of the panel, click Submit.

   The flight being updated is briefly highlighted brown in the flight list and the panel to visually mark the data that is being processed.

   The flight is removed from the Cancellation list and reinstated to its slot with an Active status.

   The Cancelled label's number decreases by one.

   The flight's displayed CTOT/CLDT is updated based on the slot and the flight's current EET.

   At the top of the panel, the confirmation message is displayed.

   - The status initially shows *Pending* and then updates to *Success*. A ◤ is displayed in the *Status* column as a visual indicator that the final status has been returned.

4. To expand the confirmation message, click ⊞.

The button toggles to ⊟.

The message is expanded and displays a summary of the reinstatement including the timestamp of the cancellation, action taken, and status; listed below this is another summary that includes ACID, REINSTATE (action) and the flight's Slot (see Figure 104).

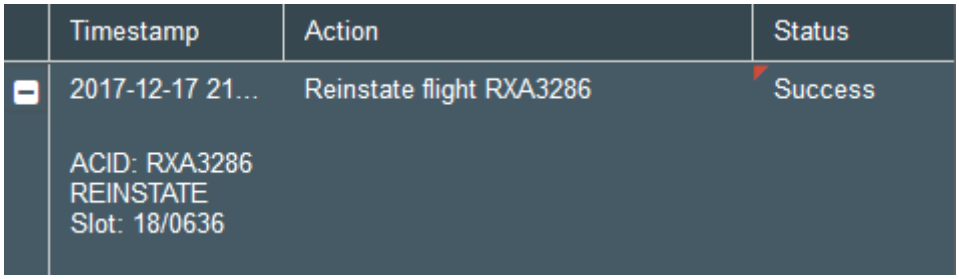


Figure 104: Reinstatement confirmation summary

Requesting an Inter Aircraft Operator Slot Exchange (ISE)

Super Users and Flow Managers can perform Inter Aircraft Operator Slot Exchange (ISE) for pre-departure, controlled flights in a GDP or AFP. ISE functionality is not available for a GS. Aircraft Operators can perform ISE flights in their major or subcarriers. Flights for an aircraft operator's major are in bold font

To submit an ISE Request, complete the following steps:

1. In the Edit Mode Flight List dropdown, select a GDP or AFP.

   The Flight List is displayed.

2. Select a pre-departure flight.

   The data update pauses and the Edit Mode action panel opens and displays the **ISE Request** radio button (see Figure 105).

Figure 105: ISE Request displayed for pre-departure flights

3. Click the **ISE Request r**adio button.

   The ISE Request panel opens (see Figure 106).

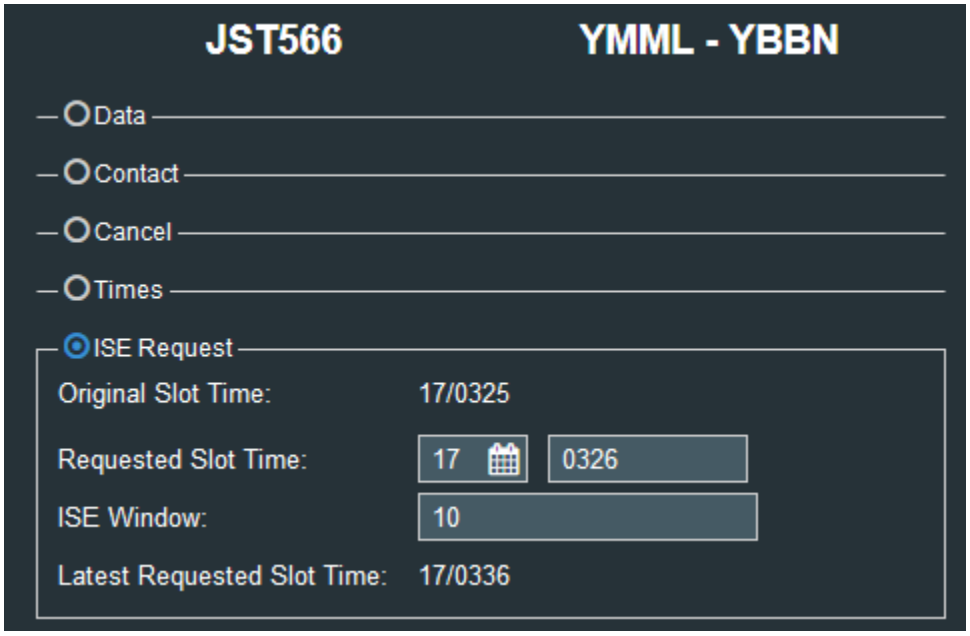


Figure 106: ISE Request panel

Table 18 describes the ISE Request data elements.

Table 18: ISE Request data elements

Data Element	Description
Original Slot Time	Read-only field with the current slot time
Requested Slot Time	Defaults to 1 minute after original slot time
ISE Window	Default value is 10 minutes
Latest Requested Slot Time	Read-only field with the Requested Slot Time + ISE Window

4. In the *Requested Slot Time* field, enter the time using the **Calendar** control to select a date and your keyboard to enter the time in HHmm format.

   The *Latest Requested Slot Time* is automatically calculated.

5. In the *ISE Window* field, enter how many minutes later than the requested slot that the algorithm should look for slot options.

   The *Latest Requested Slot Time* increases by the number of minutes you entered.

6. At the bottom of the panel, click Submit.

   The flight being updated is briefly highlighted brown in the flight list and the panel to visually mark the data that is being processed.

   The status shows *Pending* and then updates to *Success*. A is displayed in the *Status* column as a visual indicator that the final status has been returned.

7. To expand the confirmation message, click .

The ISE Request information is displayed (see Figure 107). It includes the timestamp, action, status, Requested Slot Time, ISE Window, the requested ISE, the new slot assignment, and the resulting list of bridged flights (SBRG) and slot assignments.

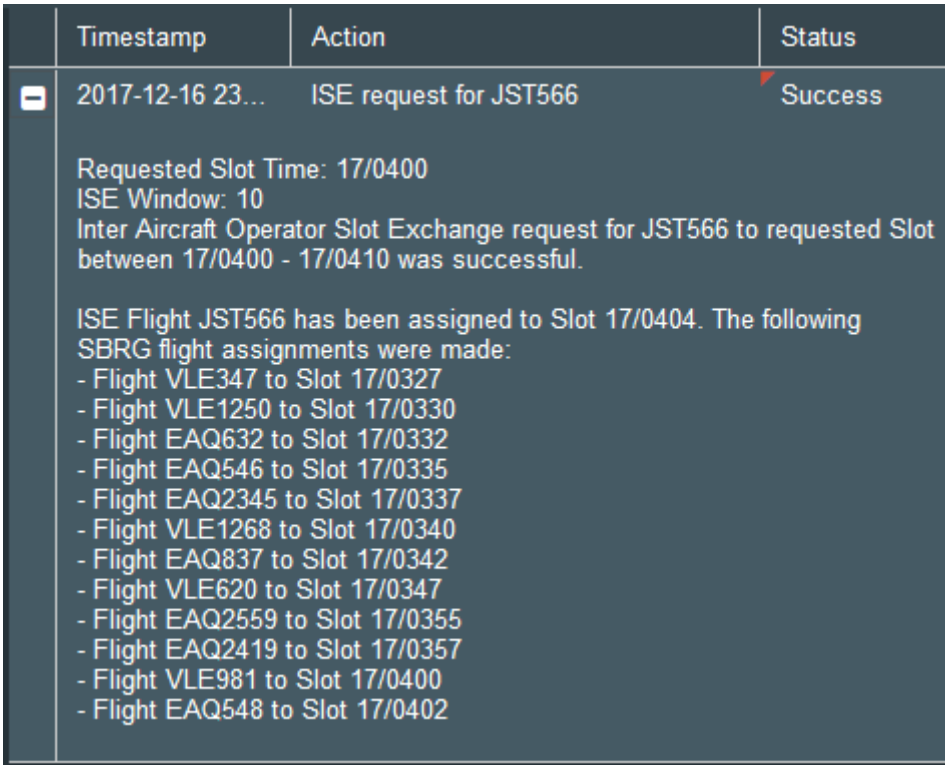


Figure 107: ISE Request confirmation summary

Freeing a Slot (Super Users only)

Super Users can remove a flight's slot and the flight will remained controlled by the TMI. That is, the Super User can free the slot assignment of a non-pre-departure flight (defined as being in an estimated, active or completed state) that departs non-compliant and no longer needs its slot. The Harmony Client will assign the freed slot in compression or revision if another flight can use it; the slot becomes eligible for another flight to sub into. ESM will not permit a flight with a freed slot to participate in substitution actions.

To free a slot, complete the following steps:

1. Select a non-pre-departure flight (estimated, active or completed state) in a GDP-A, GDP-D, or AFP.

   The *Free Slot* option is activated.

   Note: The *Free Slot* panel is only displayed for Super Users. Other users cannot see it.

2. Click the *Free Slot* radio button.

   The *Free Slot* panel opens with the selected flight's slot information (see Figure 108).

   The slot in the Slot List no longer displays the flight information and the row is marked with red triangles as a visual indicator that the free slot action has not been submitted

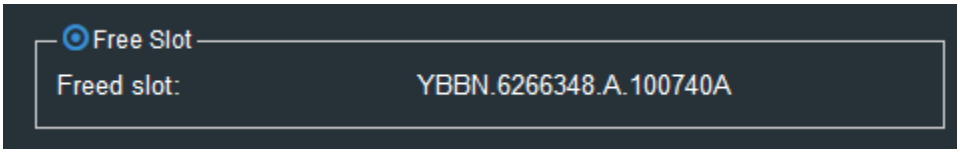


Figure 108: Freed slot information

3. Click Submit.

   The flight being updated is briefly highlighted brown in the panel to visually mark the data that is being processed.

   The flight is cleared from the slot and the slot is listed as unassigned.

   The flight no longer is displayed in the Edit Mode - TMI View; however, it is displayed in the Edit Mode - All Flights view.

   Note: If the freed slot had a slot hold, the slot hold is removed when the slot is freed.

   The status shows *Pending* and then updates to *Success*. A is displayed in the *Status* column as a visual indicator that the final status has been returned.

4. To expand the confirmation message, click .

   The *Freed Slot* summary is displayed with the timestamp, action, status and freed slot (see Figure 109).

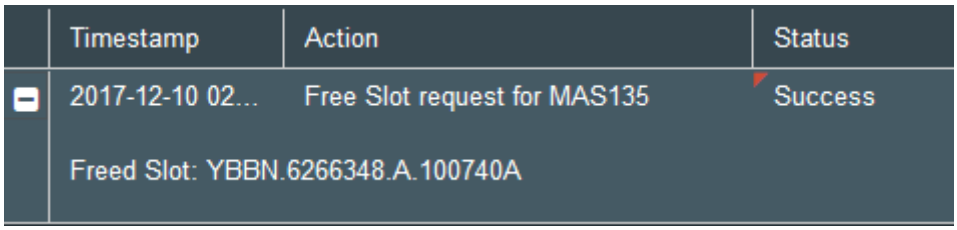


Figure 109: Freed slot confirmation message

Substitutions

You can perform flight and slot substitutions of all pre-departure flights and active arrival flights—you cannot swap active departure flights, nor can you swap flights in a GS TMI. Note that Active state flights include flights in an Estimated state (such flights are treated as active even though they do not have ATOT values). Substitution requests are transmitted directly to Harmony. Also of note is that all Slot Substitution functionality is available for pop-up flights. The setting to allow pop-up slot substitution is configured during installation.

Flights can be included in an Arrival GDP (i.e., GDP-A, GDP-A-RWY) and a Departure GDP (i.e., GDP-D), as well as AFPs. The TMI that assigns the calculated times is the Controlling TMI. Any other TMI is the Associated TMI. User-initiated swap actions within the Associated TMI will update the calculated times and slot for that flight. For eligible TMIs, this action changes the Associated TMI to the new Controlling TMI, and the former Controlling TMI becomes the Associated TMI.

Super Users, Flow Managers, and Aircraft Operators can substitute slots within their minimum departure notification time. Super Users can substitute two active flights, and active and pre-departure flights regardless of the time between the active flight ETA and the slot. Aircraft Operators can substitute only flights in their own Major and subcarriers. Flights for an aircraft operator's major are in bold font. For more information about permissions, see Appendix C: User Roles and Permissions.

Swapping Two Flights

You can swap two flights in an arrival TMI (GDP-A or GDP-A-RWY) or AFP. Flights in a GS TMI cannot be swapped.

Note that active flights cannot be swapped in a departure TMI (GDP-D). Super Users can swap active or pre-departure flights regardless of the flight's ETA to the targeted slot. Flow Managers and Aircraft Operators can swap active pre-departure flights that are within a configurable threshold of their active ETA Compliance Window. Aircraft Operators can swap only flights in their own Major and subcarriers.

You can swap a flight with another flight by selecting each flight or dragging and dropping the flight into the other flight's slot.

To swap a flight with another flight, complete the following steps:

1. Select the flight you want to swap.

   The flight is highlighted blue to show selection.

   The selected flight is listed in the Edit Mode action panel.

2. Select ☐ Eligible Subs. If you are an Aircraft Operator, select ☐ Major Only.

   The Slot List is filtered to show only the slots that are eligible for substitution.

   The Slot List for Aircraft Operators is further filtered to show only flights in their Major and subcarriers.

   The Slot List label lists the number of eligible slots out of the total number of slots (see Figure 110).

Figure 110: Count of eligible flights

3. Select the other flight with which you want to swap.

   The flight is highlighted blue to show selection.

   Note: Instead of selecting each flight, you can drag and drop one flight into the other fight's slot.

   The selected flight is added to the Edit Mode action panel with the previously selected flight (see Figure 111).

ACID	ADEP - ADES	Element Slot	COBT
VLE44	WADD - YBBN	17/0750A	17/0259
EAQ7431	YMML - YBBN	17/0752A	17/0557

Figure 111: Flights selected for swapping are listed in action panel

4. Click Model.

   In the Slot List, the flights move to their new slots.

   Each column in the selected rows is marked with ◤ to show that a swap has been modelled.

   The **Submit** button is activated.

5. Click Submit.

   The flights being updated are briefly highlighted brown in the flight list and the panel to visually mark the data that is being processed.

   The slots are exchanged for the flights.

   The flights' control times (COBT/CTOT/CLDT/CIBT) are updated based on the new slot.

   The flights' control type updates to SUBS.

   The status shows *Pending* and then updates to *Success*. A ◤ is displayed in the *Status* column as a visual indicator that the final status has been returned.

6. To expand the confirmation message, click ⊞.

   A summary of the swap is displayed (seeFigure 112). It includes the timestamp, action, status, and lists the ACID and slot assignment of the swapped flights.

	Timestamp	Action	Status
⊟	2017-12-16 23...	Swap VLE44 with EAQ7431	Success
	ACID 1: VLE44 Slot 1: YBBN.8149174.A.170750A ACID 2: EAQ7431 Slot 2: YBBN.8149174.A.170752A		

Figure 112: Swap confirmation summary

Swapping Flight and Unassigned Slot

You can swap a flight with an unassigned in an arrival TMI (GDP-A or GDP-A-RWY) or AFP. Note that active flights cannot be swapped in a departure TMI (GDP-D).

Super Users can swap active pre-departure flights regardless of the flight's ETA to the targeted slot. Flow Managers and Aircraft Operators can swap active a pre-departure flight that is within a

configurable threshold of their active ETA Compliance Window. Aircraft Operators can swap only flights in their own Major and subcarriers. Flights for an aircraft operator's major are in bold font.

You can swap a flight with an unassigned slot by selecting the flight and unassigned slot or dragging and dropping the flight into the assigned slot.

To swap a flight with an unassigned slot, complete the following steps:

1. Select the flight you want to swap.

   The flight is highlighted blue to show selection.

2. Select Eligible Subs. If you are an Aircraft Operator, select Major Only.

   The Slot List is filtered to show only the slots that are eligible for substitution.

   The Slot List for Aircraft Operators is further filtered to show only flights in their Major and subcarriers.

   The Slot List is filtered to show only the slots that are eligible for the swap and the heading is updated with the number of available slot (see Figure 113).

Figure 113: Count of eligible flights

3. Select an eligible unassigned slot.

   The slot is highlighted blue to show selection.

   Note: Another method is to drag and drop the flight in the assigned slot (see Figure 114). As you drag the flight, a text box with a green check and the ACID is displayed to show that the slot is valid. If the slot is not eligible, the green check is replaced with a red X to indicate that you cannot drop the flight in slot.

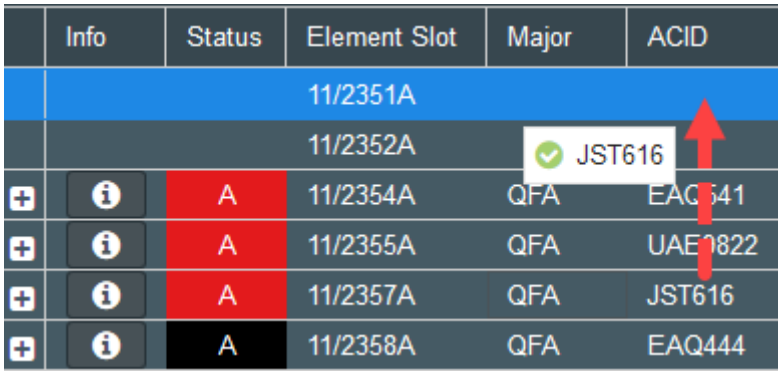


Figure 114: Drag-and-drop method

4. Click Model.

   Each column in the selected rows is marked with ◤ to show that a swap is in progress.

The **Submit** button is activated.

5. Click Submit.

   The flight being updated is briefly highlighted brown in the flight list and the panel to visually mark the data that is being processed.

   The flight is moved into the unassigned slot and the flight's original slot is displayed on the Slot List as an unassigned slot.

   The flight's control times (COBT/CTOT/CLDT/CIBT) are updated based on the new slot.

   The flight's control type updates to SUBS.

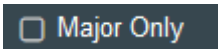
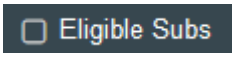
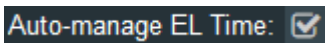
The status shows *Pending* and then updates to *Success*. A is displayed in the *Status* column as a visual indicator that the final status has been returned.

Edit Mode-TMI View Alerts Buttons and Controls

Table 19 describes the buttons, icons, and controls used in Edit Mode - TMI View.

Table 19: Edit Mode Buttons and Controls

Button	Name	Description
	Flight List Tools	Access Edit Mode
Create Flight From	Create Flight From	Create flight based on selected flight
Submit	Submit	Submit updates to Harmony server
Reset	Reset	Reset to data to its state prior to your updates
Model	Model	This button is only displayed after you select two slots for swapping. Click to model the swap submitting the substitution.
Clear Selection	Clear Selection	Clear selected flight data
	Expand	Show status panel to review submit details
	Collapse	Hide status panel
	Clock	Set the date and time of an active flight's ALDT to the current system time
	Calendar	Select month and day

Button	Name	Description
	Major Only	Aircraft Operators are the only users with this option to filter the Slot List by their major and subcarriers.
	Eligible Subs	Select to view only the eligible slots for the selected flight
	Auto-manage EL Time	Select to have the system auto-manage EL times after you manually update the EL times
	Valid Slot Indicator	The green check in front of the ACID indicates the slot is eligible for swapping. Note that the slot is subject to further validation when you submit the request.
	Invalid Slot Indicator	Indicates the slot is not eligible for swapping and you cannot drop the flight in the slot.
	Red Marker	Indicates that an action's status has been returned or that an action is pending

Chapter 9. Demand Graph

The Demand Graph component enables you to monitor the overall demand of an airport or FCA and to set capacity for an airport or FCA. Figure 115 shows a Demand Graph with each component denoted by a number. The list below the figure describes each component.

Figure 115: Demand Graph window

The reference numbers in Figure 115 are described in the following list:

> **Note:** A blue button or tab means it is selected and shown on the active graph.

1. The name of the airport or FCA
2. The Demand Graph Tools (Set Capacity and Reset Panel)
3. Lists the types of data the graphs are colored by (Status, Data Source, AC Type Group, Carrier, AFix and DFix). These also can be added in System Settings. For more information, see "Demand Graph Settings" on page 208 in Chapter 18: System Settings.
4. Click  to create a new graph.
5. Click **Arrival, Departure, or Total** buttons to display bars for arrival and departure demand, and total demand.
6. Time Bin in minutes (15, 30 or 60). This is shown on the x-axis.
7. **Capacity** and **Cancelled Flights** buttons. Click to show/hide capacity and cancelled flights.

8. **Legend** defines the color of the bars (see Figure 116). The colors correspond with the type of active graph (e.g., Arrived, Active, Controlled, Departing Past ETD, Departing, Cancelled). Click Legend to show/hide the legend.

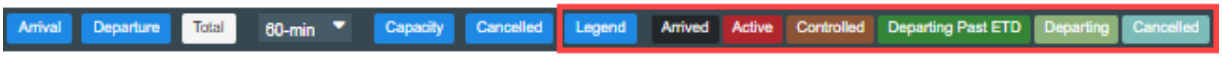


Figure 116: Expanded Legend (red border is for illustrative purposes)

9. Aircraft Count is shown on the y-axis.
10. Visual capacity overlay controlled by capacity buttons in #7. The color of the bar underlining the capacity value maps to the color of the outline of the data it corresponds to.
11. The  (green triangle) marks the current system time.
12. The bars represent the number of arrival (blue border), departure (red border), or total flights (black border). Roll over the bar to view the flight counts. Double-click the bar to open a Flight List with the corresponding flights.
13. The hours selected in the Time Bin are displayed along the x-axis.
14. Locked/Unlocked toggle button. The button shows the current state (locked or unlocked. The desired action (unlock or lock) is the opposite of the button:
    - Click  to the lock / move the thumbs(orange squares) together to change the range of the time displayed.
    - Click  to unlock / independently move the sliders to change the total number of hours displayed.
15. Time (UTC) slider bar. Move the thumbs to adjust the time range.
16. Click  to reset the view to the current time, that is, reset any slider movement.
17. Total count is displayed in white text at the top of the Demand Graph. The corresponding bar has a black border.

For more information about Demand Graph settings, see "Demand Graph Settings" on page 208 in Chapter 4: Work Views.

Adding a Graph

There are four types FCA Demand Graphs: Status, Data Source, AC Type Group, and Carrier. Airports have two additional graph types: AFix and DFix. These graphs are also referred to as color graphs. *Color By* is a feature in Harmony Web that differentiates the type of Demand Graph.

To add a graph, complete the following steps:

1. Click  (located after the row of tabs for the types of graphs in the current Demand Graph.

The *Color By:* dropdown list is displayed.

2. From the *Color By:* dropdown list:, select the type of graph that you want to add (see Figure 117).

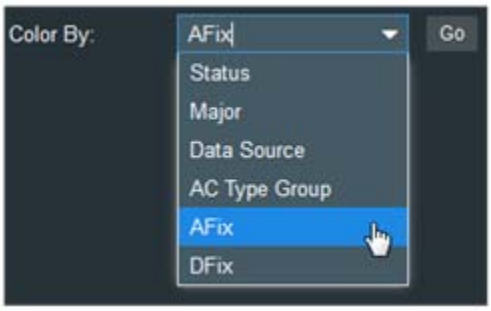


Figure 117: Types of graph in Color By list

3. To create the Demand Graph, click Go.

   The new Demand Graph is displayed and denoted by AFix in the heading.

4. To save your changes to the Work View, click (located in the main toolbar).

   The Save Work View dialog box opens (see Figure 118).

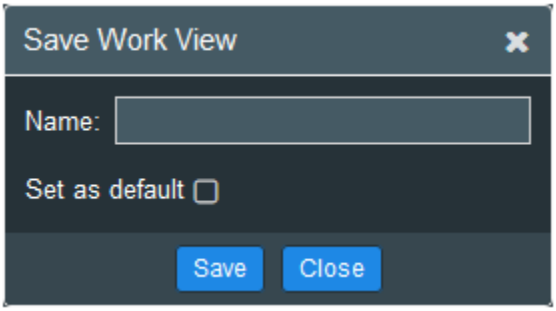


Figure 118: Save Work View dialog box

5. Enter a unique Name in Name:.

6. Select Set as default to save the Work View as the default Work View that will open when you log in.

7. Click Save.

   A success message is displayed.

   The Work View is added to the Home Page.

   The Work View is added to the Work View list in System Settings.

   If you selected *Set as default*, it is marked as the default Work View.

Removing a Graph

You can remove a color graph.

To remove a graph, complete the following steps:

1. In the graph's title, click the *x* (see Figure 119).

Figure 119: Click x to remove graph.

The graph is removed and no longer is displayed in toolbar.

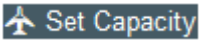
Setting Capacity (Demand Graph Tool)

Harmony Web has the capability to set capacity for an airport or FCA.

To set the capacity, complete the following steps:

1. Click  .

   The list of Demand Graph tools is displayed.

2. Select 

.

   The Set Capacity dialog box opens for the FCA (on the left) or airport (on the right) (see Figure 120). The difference between the two is that the airport has Arrival Capacity and Departure Capacity while and FCA simply has a throughput capacity for the airspace.

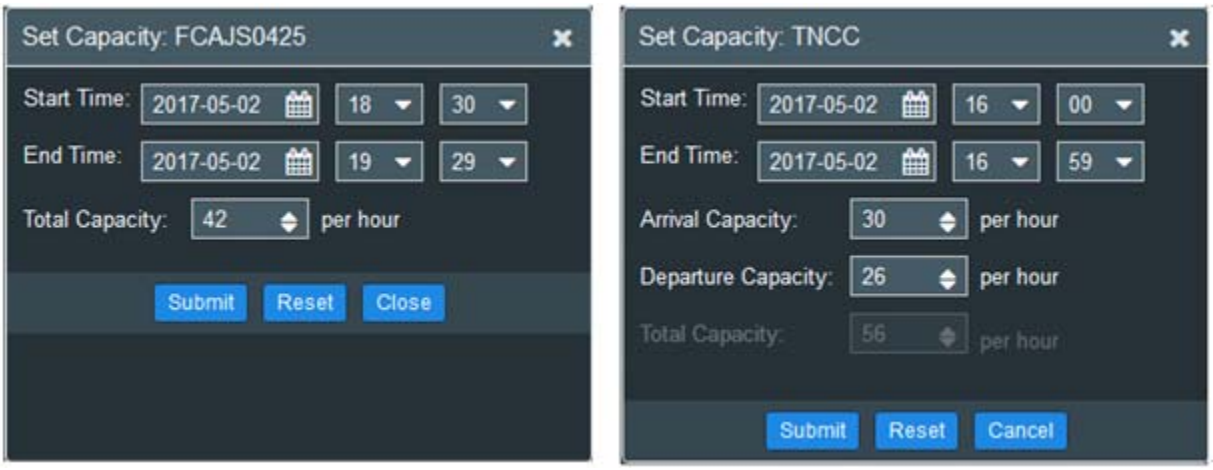


Figure 120: FCA and airport Set Capacity dialog boxes

3. Click the *Star Time* and *End Time* calendars to select the date.
4. From the hour and minute dropdown lists, select the *Start Time* and *End Time* or use your keyboard to enter the capacity.

5. Click the Total *Capacity/Arrival Capacity/Departure Capacity* up and down controls to select the per-hour flight capacity.

   For airport capacity, the *Total Capacity* is simultaneously calculated as you increase/decrease the arrival and departure capacity.

6. To save your updates, click Submit.

   The update is reflected on the Demand Graph for the specified time range.

Opening a Flight List

You can open the Flight List from the bars in the Demand Graph.

To open the Flight List, complete the following steps:

1. Double-click a bar in the Demand Graph.

   The Flight List for the selected bar opens.

Resetting Panel (Demand Graph Tool)

The Reset Panel option closes the Demand Graph and displays the Module dropdown menu so you open another Flight List or Demand Graph. For more information about how this functionality can be used, see "Changing the Layout Configuration" on page 38 in Chapter 4: Work Views.

To reset the panel, complete the following steps:

1. From Demand Graph Tools ( ), select Reset Panel.

   The Demand Graph closes.

   A new panel with the header *New Panel* is opened and the Module dropdown menu is displayed (see Figure 121).

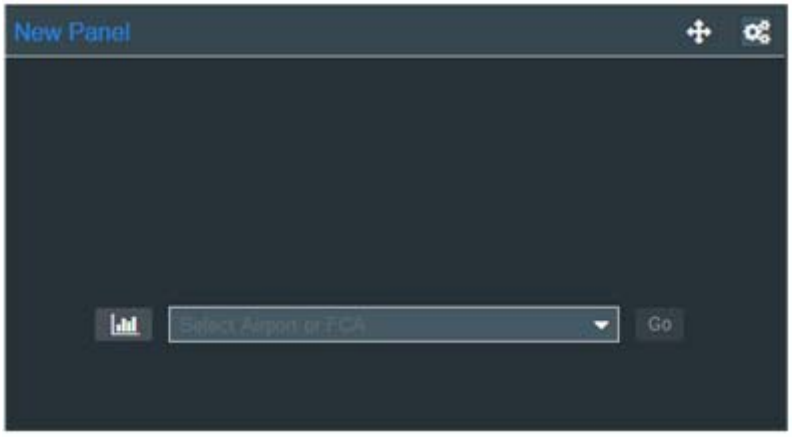


Figure 121: New Panel

2. From the Module dropdown menu, select either Flight List or Demand Graph.
3. From the dropdown list, select an airport or FCA.

4. Click  .

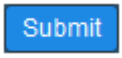
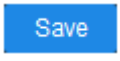
   The selected Flight List or Demand Graph opens.

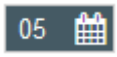
5. To save your changes, click  and follow the steps in "Managing Columns (Flight List Tool)" on page 48.

Demand Graph Buttons and Controls

Table 20 describes the buttons, icons, and controls used in the Demand Graph.

Table 20: Demand Graph Buttons and Controls

Control	Name	Description
	Demand Graph Tools	Access the Demand Graph Tools
	Add	Add a new Demand Graph
	Green Triangle	Marks current time on Bar Graph
	Lock	Indicates the Time (UTC) thumbs on the slider bar are locked, which means they move together Click to unlock the thumbs
	Unlocked	Indicates the Time (UTC) thumbs on the slider bar are unlocked, which means they move independently Click to lock the thumbs
	Submit	Submit your updates to the Harmony server
	Reset	Reset the capacity to cancel your updates without closing the Set Capacity dialog box
	Cancel	Close Set Capacity dialog box without saving your updates
	Go	Click to create Demand Graph
	Star	Open Save Work View dialog box
	Save	Save Work View
	Close	Close Save Work View dialog box without saving your updates
	Clock	Set the date and time of an active flight's ALDT to the current system time.

Control	Name	Description
	Calendar	Select month and day

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Chapter 10. Decision Support TMI

The Decision Support TMI tools provide Super Users and Flow Managers the capability to model Fix Balancing TMI, Route Detour TMI, and Level Capping TMI.

- Fix Balancing TMI provides pre-tactical and tactical decision support monitoring capabilities for identifying delay metric projections for each arrival fix to an airport.
- Route Detour TMI provides assistance with horizontal re-routing resulting from route or sector constraints by providing route options to avoid the constrained resource.
- Level Capping TMI provides the capability to keep flights above or below a specific altitude for a period of time in order to avoid severe weather or congestion. The decision-support TMI results provide decision support in the form of modelled ETAs for flights routed above or below the Level Capping FCA.

Decision Support TMI Window

Decision Support TMI is accessed via the Main or Work View toolbar. For more information about the toolbars, see "Main and Work View Toolbars" on page 14.

To open the Decision Support TMI window, complete the following steps:

1. In either the Main or Work View toolbar, click  .

   The Decision Support TMI window opens (see Figure 122).

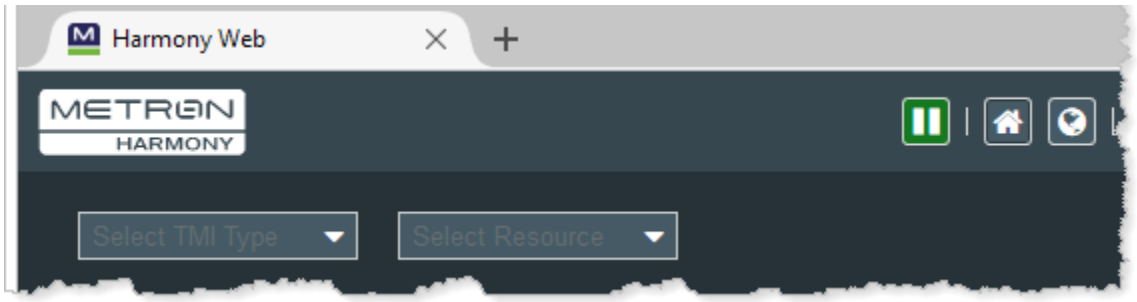


Figure 122: Decision Support TMI window

   The Decision Support TMI window displays two dropdowns:

   - Select TMI Type – The TMI types are listed:
     - See "Fix Balancing TMI" on page 108
     - See "Route Detour TMI" on page 114
     - See "Level Capping TMI" on page 119
   - Select Resources – A list of the available FCAs or airports for the selected TMI Type

For each TMI type, the modelled data is summarized in a Data View table, graphically displayed in a graph, and the flights are listed in a Flight List.

Fix Balancing TMI

The Fix Balancing TMI tool provides pre-tactical and tactical decision support monitoring capabilities for identifying delay metric projections for each arrival fix to an airport. Super Users and Flow Managers can execute flight delay analysis and situational modeling functions to support operational needs. The Fix Balancing TMI identifies the recommended flights to move by considering the delay reduction for a flight based on the additional flight time to use a new arrival fix (for a defined airport).

To preview and model the Fix Balancing TMI, complete the following steps:

1. Click  to open the Decision Support TMI window.

   The Decision Support TMI window opens.

   In the upper left corner are two dropdowns, *Select TMI Type* and *Select Resource*.
2. From the *Select TMI Type* dropdown, select *Fix Balancing*.
3. From the *Select Resource* dropdown, select an airport.
4. On the right side of the screen, the TMI Parameters panel opens (see Figure 123).

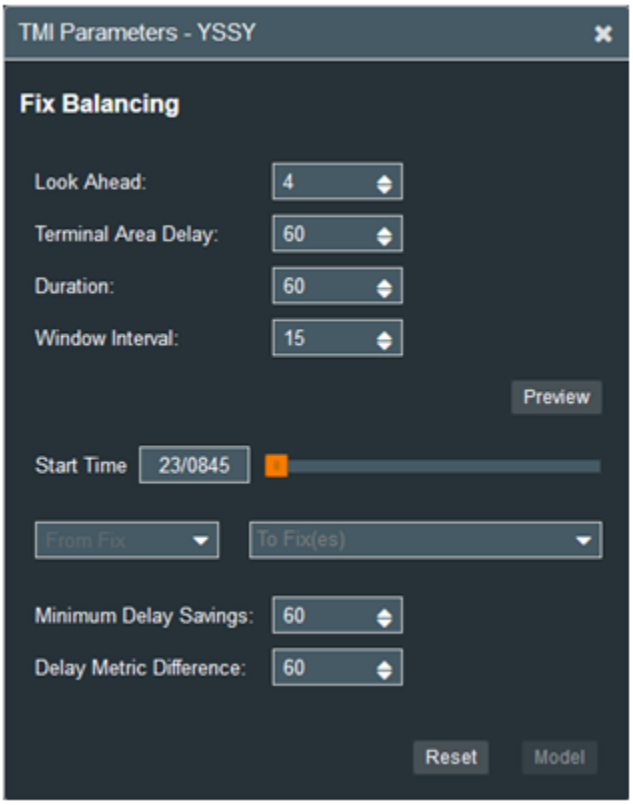


Figure 123: Fix Balancing TMI Parameters panel

For a description of each element in the panel, see Table 21 in "Fix Balancing Data Elements" on page 112

5. In the TMI Parameters panel on the right, use the dropdowns to adjust the *Lookahead*, *Terminal Area Delay*, *Duration*, and *Window Interval*.

6. To preview the fix balancing, click Preview.

   Note: Before continuing to the next step, you must submit the Preview parameters.

   The *Data View*, *Flight List*, and *Graph* sections for the selected airport open (see Figure 124). For information about the data elements, see Table 21 in "Fix Balancing Data Elements" on page 112.

   In the Data View table and Graph, the Fix balancing analysis returns modelled delay distributions for each fix (see Figure 124).

   The Line Graph's line color corresponds with the colored Fix buttons above the graph.

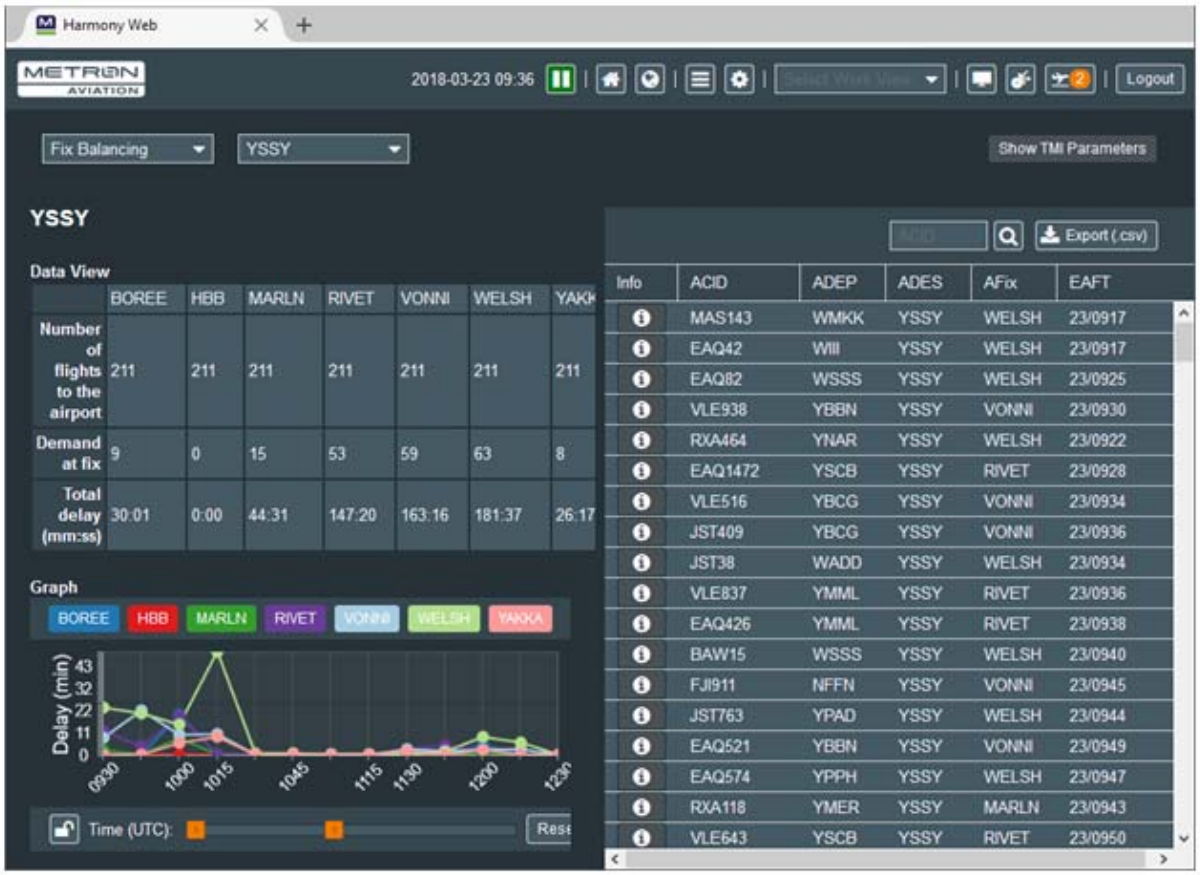


Figure 124: Preview of Fix Balancing TMI

Note: If you change any parameters after submitting the parameters, you must click Preview again to submit the updates before continuing to the next step.

7. If the TMI Parameters panel is hidden, click Show TMI Parameters to open it.

8. Located Below the **Preview** button, use the slider bar thumb to set the Start Time of the model.
9. Select the fixes you want to model in the *From Fix* and *To Fix(es*) dropdown lists. To close the To Fix(es) dropdown, click the arrow; and to remove a fix, click the **x** (see Figure 125).

Figure 125: Controls in the To Fix(es) box

10. From the *Minimum Delay Settings* dropdown, select the number of seconds.
11. From the *Delay Metric Difference* dropdown list, select the number of seconds.
12. To model the fix balancing, click Model.

    The following elements are updated:

    - Data View
    - Graph
    - Flight List

Fix Balancing Data View

The Data View table is updated with the modelled demand (see Figure 127). Each of the fields is described in Table 21.

Data View

	MARLN	VONNI	YAKKA	RIVET	BOREE	WELSH
Number of flights to the airport	561	561	561	561	561	561
Demand at HBB	0	0	0	0	0	0
Modeled Demand at HBB	0	0	0	0	0	0
Demand at to Fix	42	146	19	169	18	159
Modeled Demand at to Fix	42	146	19	169	18	159
Total delay (min)	1984	5984	777	8077	944	5132
Max delay (min)	110	110	110	110	110	110
Average delay (EET extension, mm:ss)	47:14	40:59	40:53	47:47	52:26	32:16

Figure 126: Modelled Data View

Fix Balancing Graph

The Graph is updated with the modelled demand (see Figure 127).

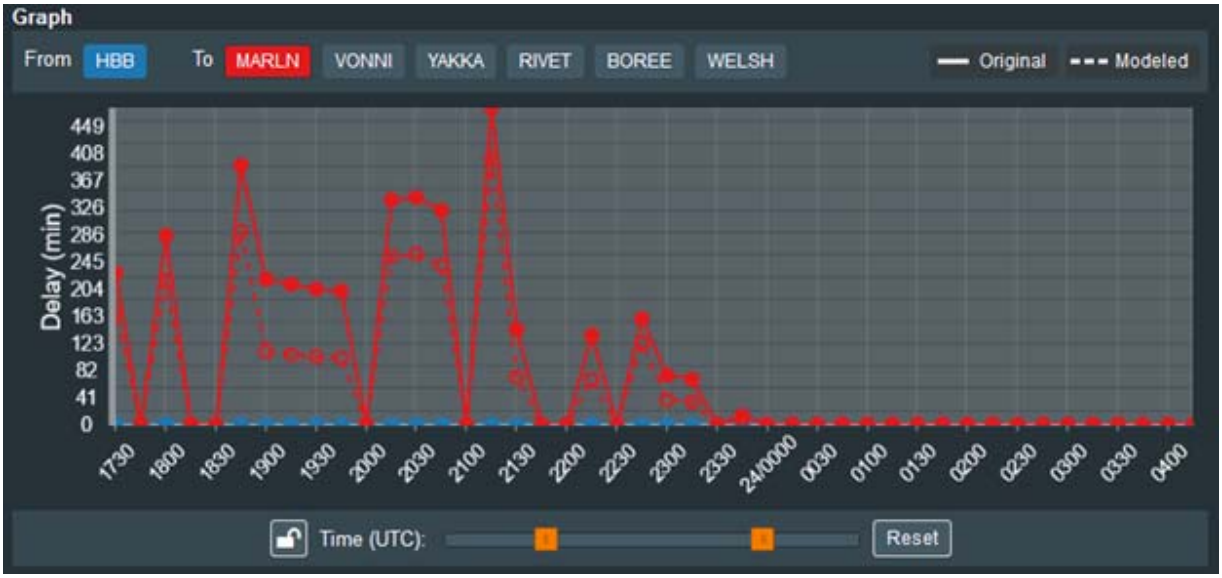


Figure 127: Modelled fix balancing data in Graph

a. To view the modelled demand for a particular fix, click a To Fix button (located above the graph). Unlike the Preview graph, only one To Fix can be displayed at a time.

   The modelled fix demand line is shown with a dashed line and the original fix demand line is shown with a solid line. The color of the line matches the color of the fix button.

b. To toggle between the original and modelled fix demand lines, click Modeled or Original.

c. Below the graph, move the slider thumbs to change the time range of the displayed demand.

d. To lock the slider thumbs so they move together, click . The button toggles to , which indicates that the slider thumbs are locked.

e. To unlock the slider thumbs so they move independently, click . The button toggles to , which indicates that the slider thumbs are locked.

f. To reset the Graph to its initial view, click Reset.

Fix Balancing Flight List

The Flight List is updated for the selected Fix. That is, when you select a Fix button on the Graph, the Flight List updates to show the flights for the From Fix to the selected To Fix (see Figure 128).

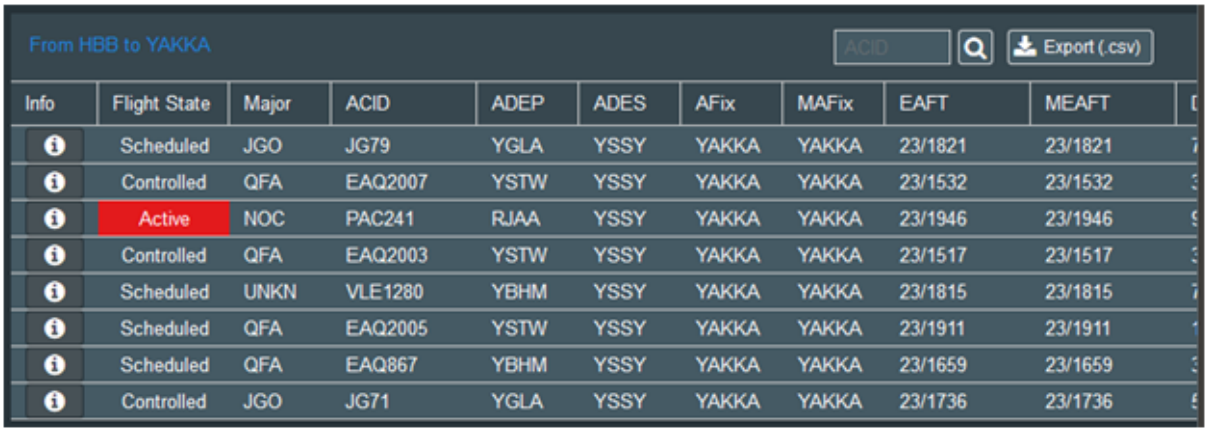


Figure 128: Modelled Flight List for selected To Fix

a. Only some of the columns are viewable. Use the scroll bar at the very bottom of the window to scroll to right.

b. To search for a particular flight, enter the ACID in ACID and click . The flight is highlighted yellow (see Figure 129).

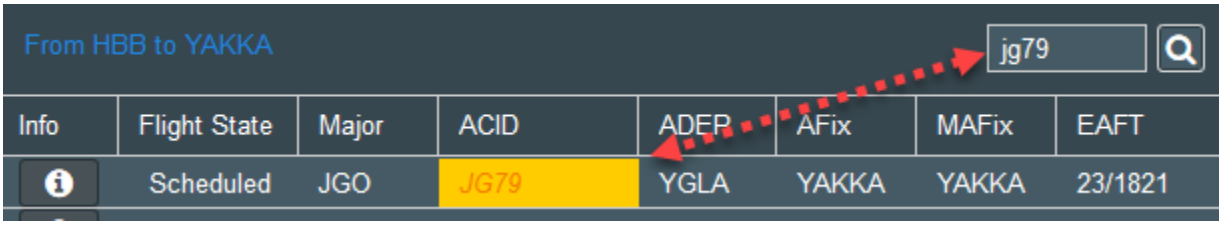


Figure 129: ACID is highlighted yellow

c. To export the Flight List, see "Exporting Modelled Data" on page 124.

Fix Balancing Data Elements

Table 21 describes the Fix Balancing data elements.

Table 21: Fix Balancing data elements

Element	Description
TMI Parameters	
Lookahead Time	Hours to look ahead in the future
Terminal Area Delay	Nominal delay in terminal area due to speed, vectoring and length of final descent
Duration	Window duration to control projection's interval's range.

Element	Description
Window Interval	Window translation to control projection's interval's subsequent start time.
Start Time	Start time of model in dd/hhmm format
From Fix dropdown	Select fix
To Fix(es) dropdown	Select fixes
Minimum Delay Savings	Fix delay savings to consider move to alternate terminal fix.
Delay Metric Difference	Difference in total delay to stop further evaluation in Fix Balancing TMI
Data View - Fix Balancing	
Column Heading	Name of To Fix(es)
Number of flights to the airport	Number of flights scheduled to arrive at the airport
Demand at [From Fix name]	Number of flights scheduled to arrive at the From Fix prior to modelling
Modelled Demand at [From Fix name]	Number of flights moved away from the From fix
Demand at To Fix	Number of flights scheduled to arrive at the To Fix prior to modelling
Modelled Demand at To Fix	Number of flights moved to the To Fix
Total delay	Total passback delay per fix
Max delay	Highest passback delay assigned to a single flight
Average delay (EET extension)	Average passback delay per flight
Line Graph- Fix Balancing	
Delay (Min)	Delay in minutes (Y-axis)
Time	Time by hours (X-axis)
Legend	Describes demand lines for preview and model of From fix and selected To fix: – Original (solid line) – Modelled (dotted line)
From [Fix name] button	Color of From fix corresponds with colored line on graph
To [Fix name] button	Color of To fix button corresponds with colored line on graph Only one To fix can be viewed at a time
Flight List - Fix Balancing	
Info	Open Flight Details
Flight State	Status of Flight. For example, Active, Planned, Cancelled, Scheduled, Airline
Major	Flight's Major
ACID	Aircraft ID
ADEP	Departure airport
ADES	Destination airport
AFix	Original fix for the flight
MAFix	Modelled fix for the flight

Element	Description
AFT	Arrival fix time for the flight
MEAFT	Modelled arrival fix time for the flight
Delay	Flight's delay

Route Detour TMI

Route Detour TMI provides assistance with horizontal re-routing resulting from route or sector constraints by providing route options to avoid the constrained resource.

To model the Route Detour TMI, complete the following steps:

1. Click  to open the Decision Support TMI window.

   The Decision Support TMI window opens.

   In the upper left corner are two dropdowns, *Select TMI Type* and *Select Resource*.
2. From the *Select TMI Type* dropdown, select *Route Detour*.
3. From the *Select Resource* dropdown, select an *Adapted Partial Airway* or *Adapted Sector* FCA.

   On the right side of the window, the TMI Parameters panel opens (see Figure 130).

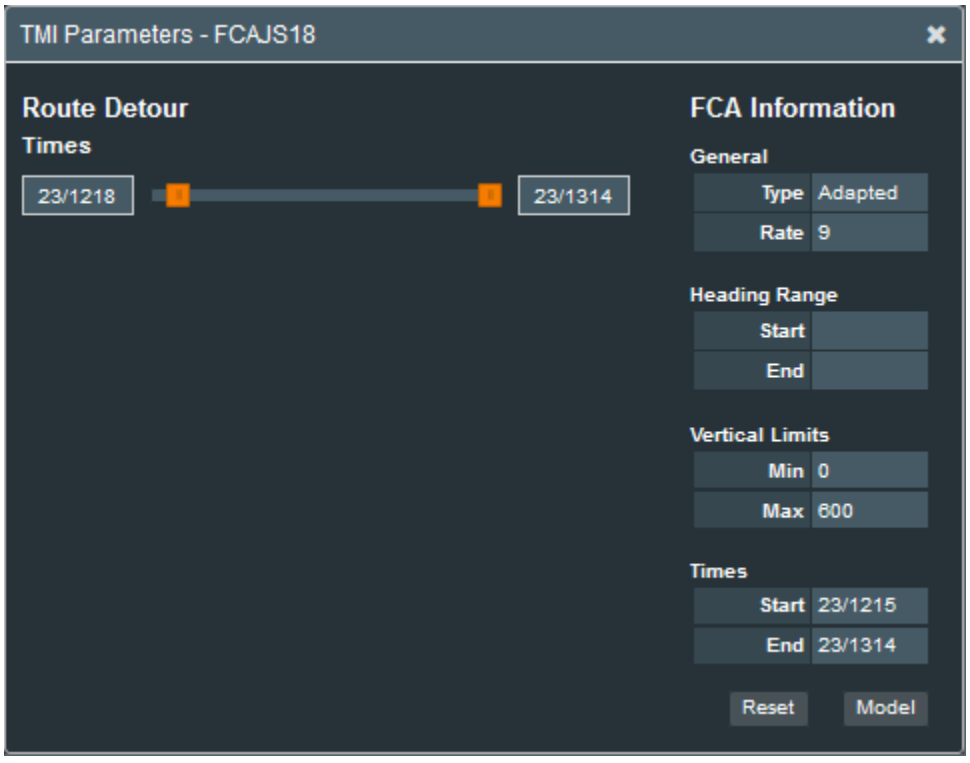


Figure 130: Route Detour TMI Parameters panel

On the left is a Times slider bar. On the right are four informational sections. The *General*, *Heading Range*, *Vertical Limits*, and *Times* data are informational and cannot be edited.

For a description of each element in the panel, see Table 22.

4. In the TMI Parameters panel on the right, use the slider bar thumbs to adjust the preview time range. You can also change the time by manually entering the start and end times in DD/HHmm format.

5. Click Model.

   The modelled data is returned (see Figure 131).

   - The Data View lists the outcome of the modeling (Number of flights in FCA, Number of fights with reroutes, and Average delay)
   - The Graph displays a comparison of the modelled TMI (Flights in FCA and Flights not Rerouted). The color of the bars in the Graph's corresponds with the colored buttons located above the graph Flights in FCA and Flights without Reroutes.
   - The Flight List returns all flights that were part of the FCA and the status of the decision support results.

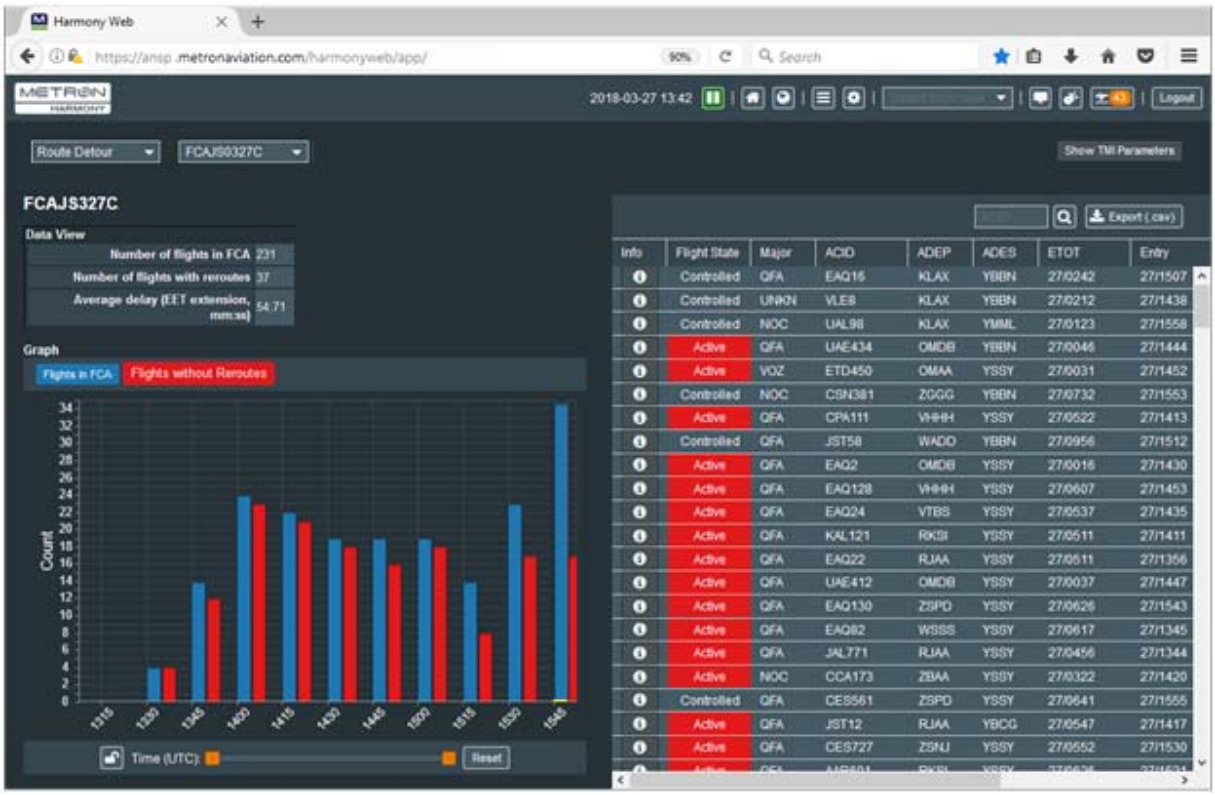


Figure 131: Route Detour modelled data

Route Detour Data View

The Data View table is updated with the number of flights in the FCA, the number of flights with reroutes, and average delay (see Figure 132). Each of the fields is described in Table 22.

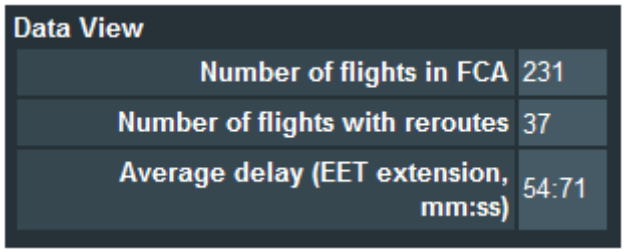


Figure 132: Modelled Data View

Route Detour Graph

The Graph is displayed with the bars representing the number of flights in the FCA and the number of flights without reroutes. The flight count is on the y-axis and the time is on the x-axis. (see Figure 133).

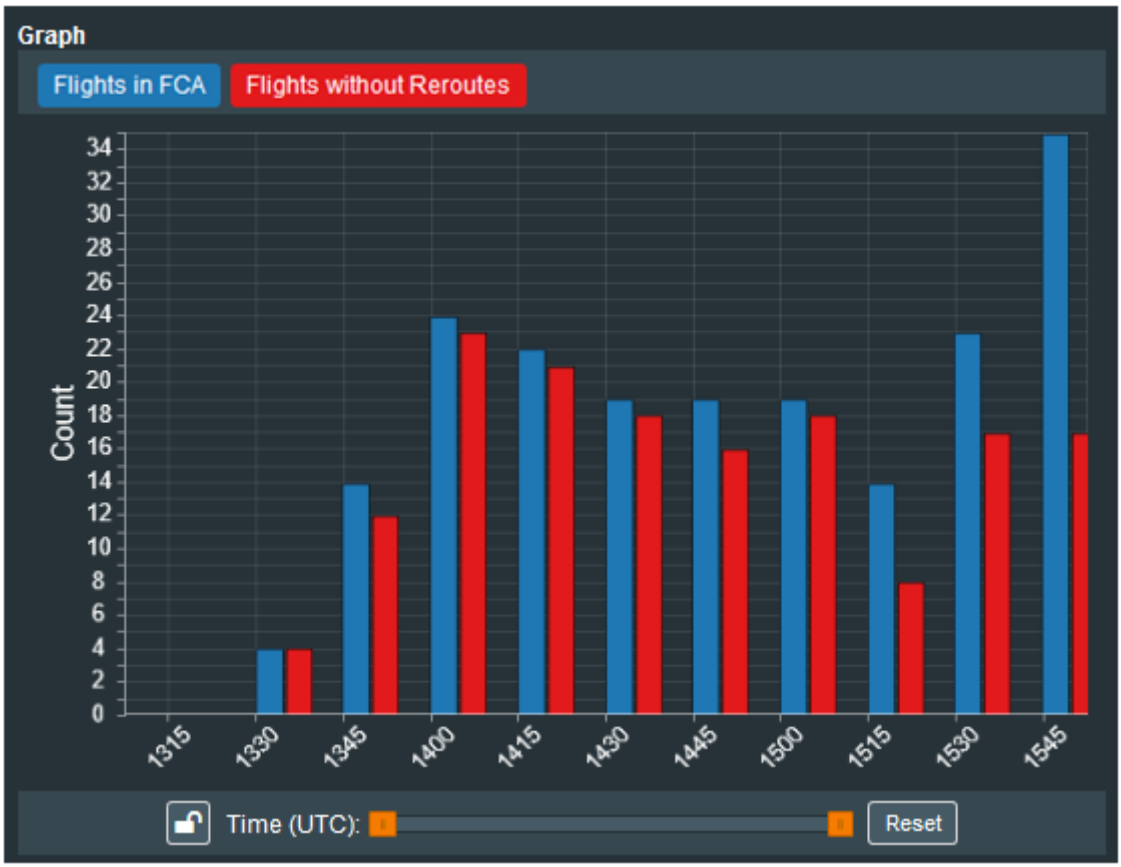


Figure 133: Modelled data in Graph

a. Below the graph, move the slider thumbs to change the time range of the displayed demand.

b. To lock the slider thumbs so they move together, click . The button toggles to , which indicates that the slider thumbs are locked.

c. To unlock the slider thumbs so they move independently, click . The button toggles to , which indicates that the slider thumbs are locked.

d. To reset the Graph to its initial view, click Reset.

Route Detour Flight List

The Flight List returns all flights that were part of the FCA and the status of the decision support results. (see Figure 140). The data elements are described in Table 22.

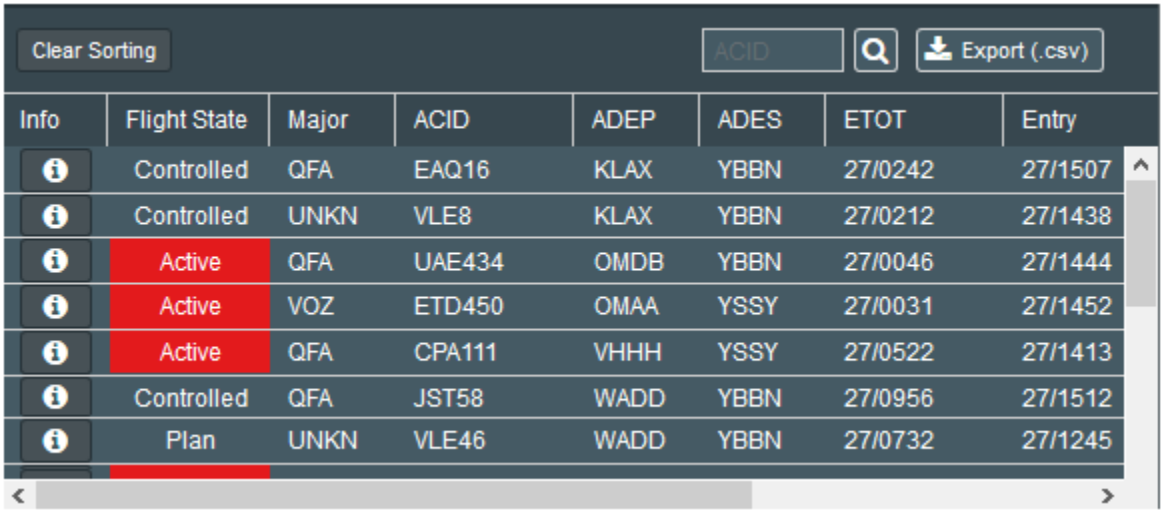


Figure 134: Modelled Flight List with reroute status

The number of alternative routes is displayed in the *No. Rte Op* column. To view the alternate routes and the amount of delay for each route, click the plus sign in the first column to expand the selected flight (see Figure 135).

Figure 135: Flight's alternate routes and associated delay

Route Detour TMI Data Elements

Table 22 describes the Route Detour data elements.

Table 22: Route Detour TMI data elements

Element	Description
FCA Information	
General	
Type	Type of FCA (i.e., Partial Airway or Adapted Sector)
Rate	Hourly arrival rate
Heading Range	
Start	Start heading
End	End heading
Vertical Limits	
Min	Minimum vertical limit
Max	Maximum vertical limit
Times	
Start	Prepopulated with FCA's start time Cannot be earlier than FCA's start time
End	Prepopulated with FCA's end time Cannot be later than FCA 'send time or earlier than TMI start time
Parameters – Route Detour	
Times	
Slider	Move slider thumbs to define the time range
Start	Start time of route detour
End	End time of route detour
Data View – [FCA Name]	
Number of flights in FCA	Number of flights belonging to the selected Partial Airway or adapted Sector FCA
Number of flights with reroutes	Number of flights assigned a reroute in modelled TMI
Average delay (EET extension), mm:ss	Average delay incurred per flight for the minimum delay reroute option in modelled TMI (in minutes and seconds)
Graph – [FCA Name]	
Demand	(Y-axis)
Time	Time in hours (X-axis)
Flight List	
Info	Open Flight Details
Flight State	State of Flight. For example, Active, Planned, Cancelled, Scheduled, Airline
Major	Flight's Major
ACID	Aircraft ID
ADEP	Departure airport

Element	Description
ADES	Destination airport
ETOT	Estimated Take Off Time
Entry	Time of entry
Delay	Delay incurred from rerouting
Route Options	Click the plus sign (**+**) expand view of route options
No. Rte Options	Number of alternate route options available

Level Capping TMI

Level Capping TMI provides the capability to keep flights above or below a specific altitude for a period of time in order to avoid severe weather or congestion. The decision-support TMI results provides decision support in the form of modelled ETAs for flights routed above or below the Level Capping FCA.

To model the Level Capping TMI, complete the following steps:

1. Click  to open the Decision Support TMI window.

   The Decision Support TMI window opens.

   In the upper left corner are two dropdowns, *Select TMI Type* and *Select Resource*.
2. From the *Select TMI Type* dropdown, select *Level Capping*.
3. From the *Select Resource* dropdown, select a Circle, Polygon, or Adapted Sector FCA.

   On the right side of the screen, the TMI Parameters panel opens (see Figure 136).

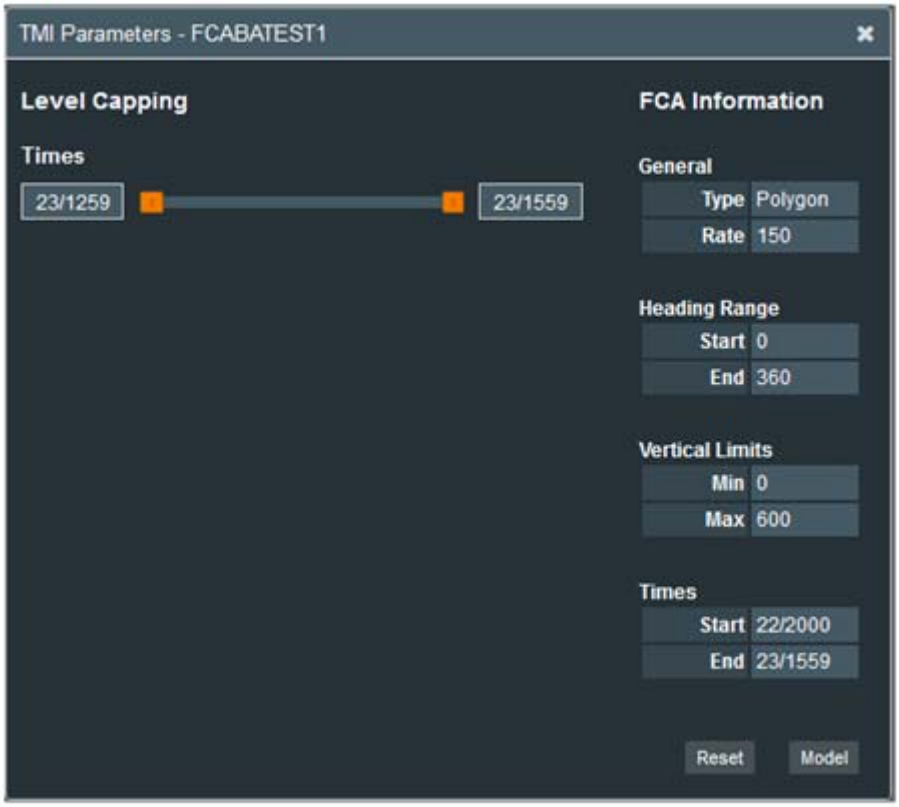


Figure 136: Level Capping TMI Parameters

On the left is a Times slider bar. On the right are four informational sections. The *General*, *Heading Range*, *Vertical Limits*, *and Times* data are informational and cannot be edited.

For a description of each element in the panel, see Table 23.

4. In the TMI Parameters panel on the right, use the slider bar thumbs to adjust the preview time range. You can also change the time by manually entering the start and end times in DD/HHmm format.

5. Click Model.

   The modelled data is returned (see Figure 137).

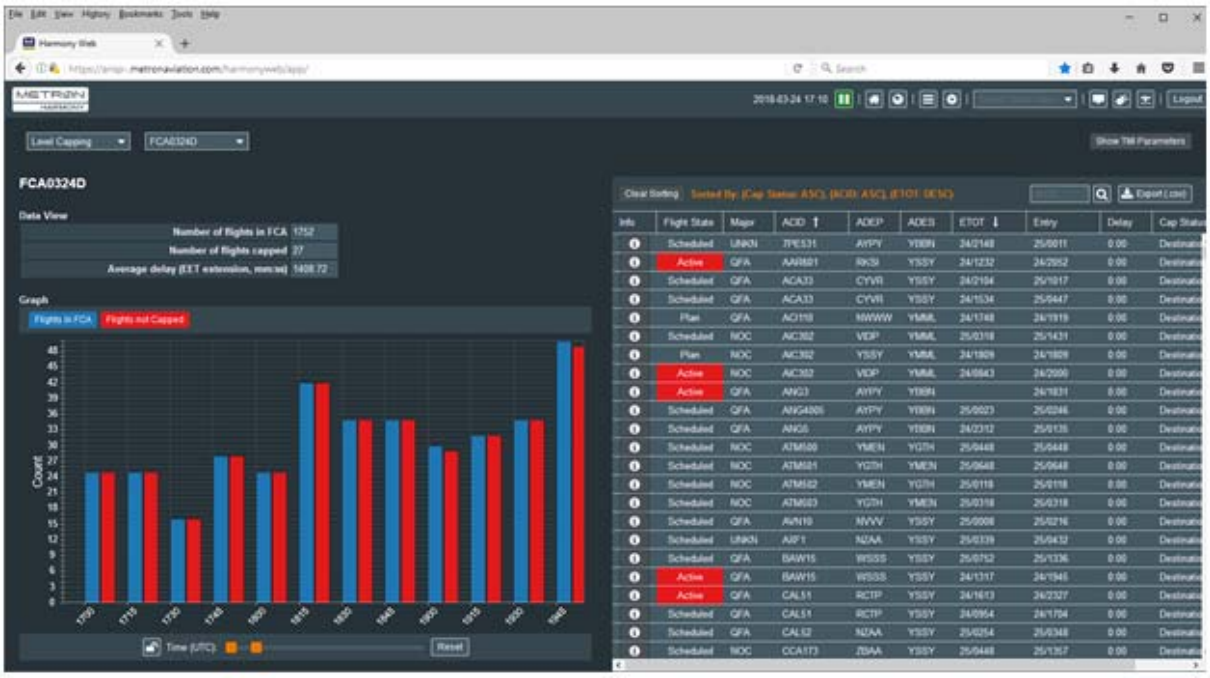


Figure 137: Level Capping modelled view

- The Data View lists the outcome of the modeling (Number of flights in FCA, Number of fights capped, and Average delay).
- The Graph displays a comparison of the modelled TMI (Flights in FCA and Flights not capped). The color of the bars in the Graph's corresponds with the colored buttons located above the graph (**Flights in FCA** and **Flights not Capped)**.
- The Flight List returns all flights that were part of the FCA and the status of the decision support results.

Level Capping Data View

The Data View table is updated with the modelled flight counts and average delay (see Figure 138). Each of the fields is described in Table 23.

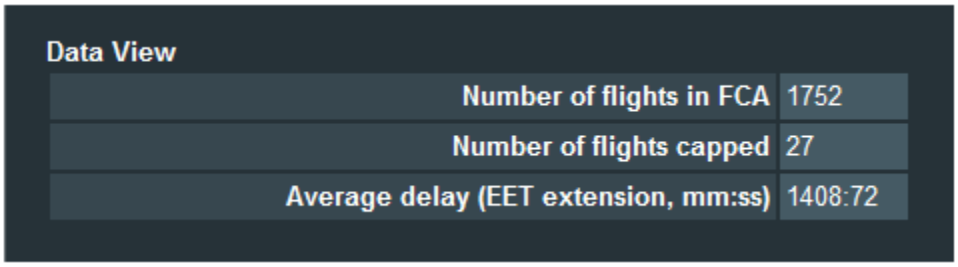


Figure 138: Modelled Data View

Level Capping Graph

The Graph is displayed with the bars representing the Flight in FCA and Flights not Capped. The flight count is on the y-axis and the time is on the x-axis. (see Figure 139).

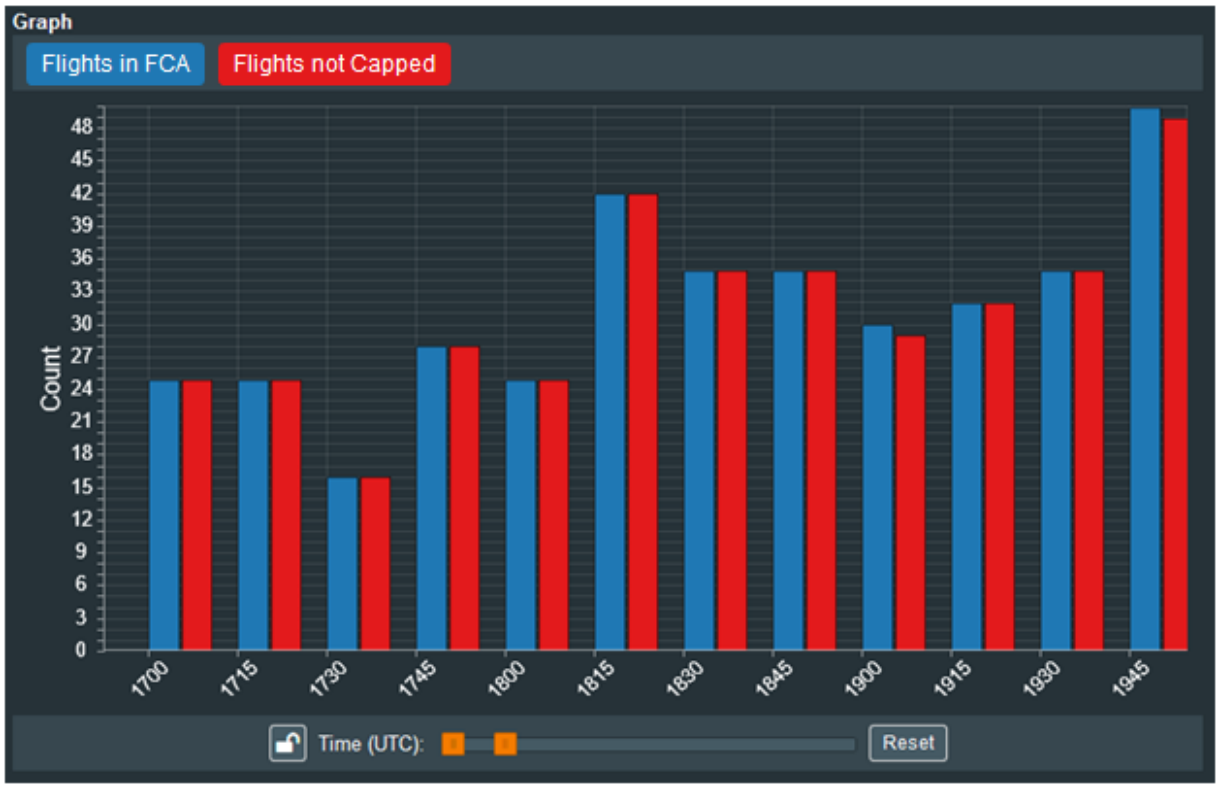
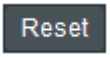


Figure 139: Modelled Level Capping data in Graph

a. Below the graph, move the slider thumbs to change the time range of the displayed demand.

b. To lock the slider thumbs so they move together, click  . The button toggles to  , which indicates that the slider thumbs are locked.

c. To unlock the slider thumbs so they move independently, click  . The button toggles to  , which indicates that the slider thumbs are locked.

d. To reset the Graph to its initial view, click  .

Level Capping Flight List

The Flight List returns all flights that were part of the FCA and the status of the decision support results. (see Figure 140). The data elements are described in Table 23.

Figure 140: Modelled Flight List with cap status

Level Capping TMI Data Elements

Table 22 describes the Level Capping data elements.

Table 23: Level Capping TMI data elements

Element	Description
TMI Parameters	
Times	
Slider	Move slider thumbs to define the time range
General	
Type	Type of FCA (i.e., Circle, Polygon, or Adapted Sector)
Rate	Hourly arrival rate
Heading Range	
Start	Start heading
End	End heading
Vertical Limits	
Min	Minimum vertical limit
Max	Maximum vertical limit
Times	
Start	Prepopulated with FCA's start time Cannot be earlier than FCA's start time
End	Prepopulated with FCA's end time Cannot be later than FCA's end time or earlier than TMI start time
Parameters – Level Capping	
Times	
Start	Start time of route detour
End	End time of route detour

Element	Description
Minimum delay	
Data View – [FCA Name]	
Number of flights in FCA	Number of flights in FCA in modelled TMI
Number of flights capped	Number of flights capped in modelled TMI
Average delay (EET extension)	Average delay in modelled TMI
Graph – [FCA Name]	
Number of flights in FCA	Number of flights in FCA (y-axis)
Time	Time (x-axis)
Flight List	
Info	Open Flight Details
State	State of Flight. For example, A (Active), P (Planned), C (Cancelled), S (Scheduled), L (Airline)
Major	Flight's Major
ACID	Aircraft ID
ADEP	Departure airport
ADES	Destination airport
ETOT	Estimated Take Off Time
Entry	Time of entry to FCA
Delay	Delay incurred from capping
Cap Status	Status of cap (e.g., Flight Capped, Flight Not Capped, Flight In FCA, Destination In FCA)

Exporting Modelled Data

You can export Flight Lists for Fix Balancing, Route Detour, and Level Capping TMIs to a CSV file.

To export the data to a CSV file, complete the following steps:

1. To export the model output to a CSV file, click 

.

   A CSV file is created.

   A dialog box with file open/save options opens.

2. Select the option appropriate for your needs (e.g., *Open with [application]* or *Save File*) and click **OK**.

   The CSV file will be saved to your default folder for downloads.

Alerts Buttons and Controls

Table 24 describes the buttons, icons, and controls used in Decision Support TMI.

Table 24: Decision Support TMI buttons, icons, and controls

Button	Name	Description
Reset	Reset	Restores the TMI parameters to their full FCA bounds (i.e., undo your updates)
Model	Model	Model the TMI parameter with your updates
Run	Run	Exports flight list in CSV format for all returned fixes, routes, or level capping
Show TMI Parameters	Show TMI Parameters	Show the TMI parameters panel for the selected TMI Type.
Flights in FCA	Flights in FCA	Level Capping and Route Detour: Represents number of flights in the FCA
Flights without Reroutes	Flights without Reroutes	Route Detour: Represents number of flights without reroutes
Flights not Capped	Flights not Capped	Level Capping: Represents number of flights not capped
Preview	Preview	Fix Balancing: Submit updated parameters for modelling
	Locked	Indicates the Time (UTC) thumbs on the slider bar are locked, which means they move together Click to unlock the thumbs
	Unlocked	Indicates the Time (UTC) thumbs on the slider bar are unlocked, which means they move independently Click to lock the thumbs
Export (.csv)	Export (.csv)	Export Flight List to CSV formatted file
Modeled	Modelled	Fix Balancing: Click to display modelled data
Original	Original	Fix Balancing: Click to display original view

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Chapter 11. Map

The map is an aircraft situation display that shows airborne flight movements, airports, FCAs, range rings, and overlays for weather and aeronautical information (e.g., sectors, FIRs). In addition, the map provides standard zoom and pan functionality.

To view the Map, click  (located on the main toolbar). This map displays a range ring, FIRS, and airports (orange dots) (see Figure 141). Note that FIRs, Sectors, and Approach Controls are all controlled by adaptation data.

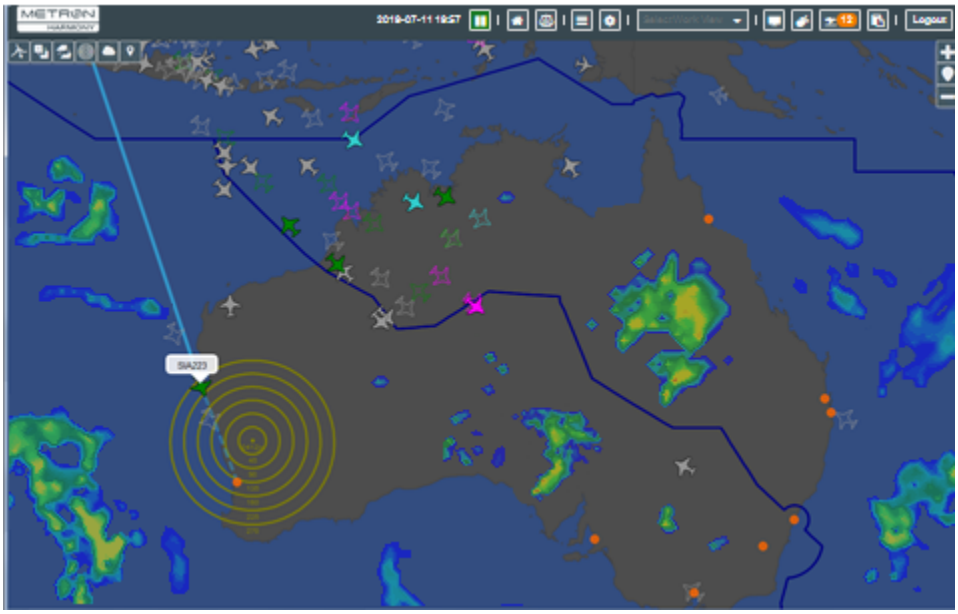


Figure 141: Map view

The Map can also be opened by clicking the location pin icon in the Flight List's Map column (see Figure 142). For more information see "Viewing Airborne Flight's Harmony Trajectory" on page 127.

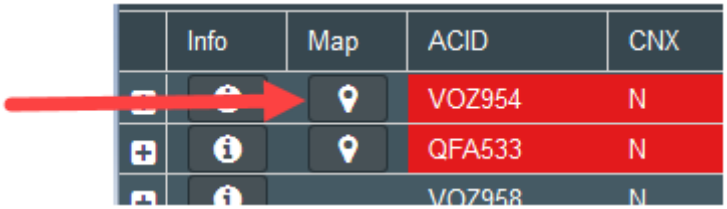


Figure 142: Open Map from Flight List

Viewing Airborne Flight's Harmony Trajectory

You can view an airborne flight's Harmony trajectory by clicking the flight icon. Note that only one flight route can be displayed at a time. You can set the size of the flight icon. For more information, see "Map Settings" on page 212.

To view the Harmony trajectory, complete the following steps:

1. Click the flight's icon.

   The flight's ACID and Harmony trajectory is displayed (see Figure 143). To hide the route, click the flight again or on another flight.

   - The solid portion is the completed great-circle distance (GCD) line from the ADEP.
   - The dotted portion is the projected trajectory, which is based on the Harmony trajectory.

   Note: Based on the available adaptation data, the Harmony trajectory could differ from the flight plan (FLP) route.

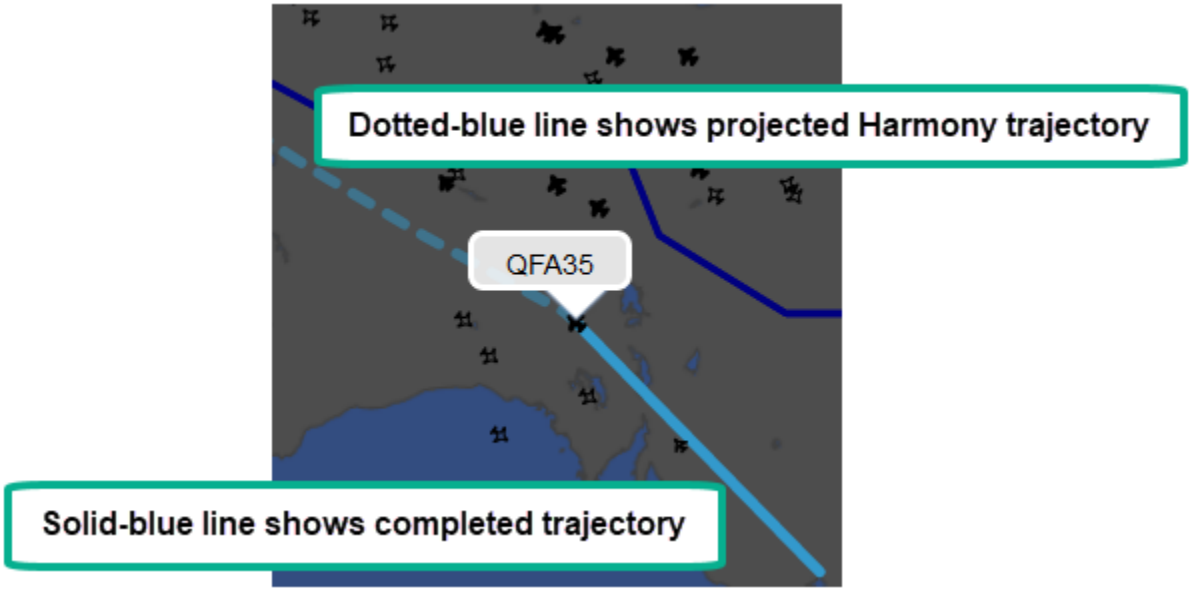


Figure 143: The blue line shows the Harmony trajectory for the selected flight.

Flight Movement

The map shows airborne flight movement. As flight location information is received, the flights will move accordingly each time the map updates. The Map Update interval setting is configured in the System Settings' Map tab. For more information about the Map Update interval setting, see "Map Settings" on page 212.

When Harmony does not receive flight updates, the flight is said to be "stale" and remains in the same position. Stale flights are represented by an outline of the aircraft (see Figure 144). The length of time before a flight is determined to be stale and how long stale flights are displayed on the map are configured in the System Settings' Map tab. For more information about the Stale Visual and Stale Remove interval settings, see "Map Settings" on page 212.

Figure 144: Example of a stale flight (outlined aircraft)

Airports

Airports are represented by a solid or hollow circle (see Figure 145).

- The solid circle is for an airport that is in the configuration file in adaptation. Such an airport is always viewable at any zoom level.
- The hollow circle is for an airport that has an active flight but is not part of the adapted data. Such an airport is viewable only if it has an active flight and when the map is zoomed in.

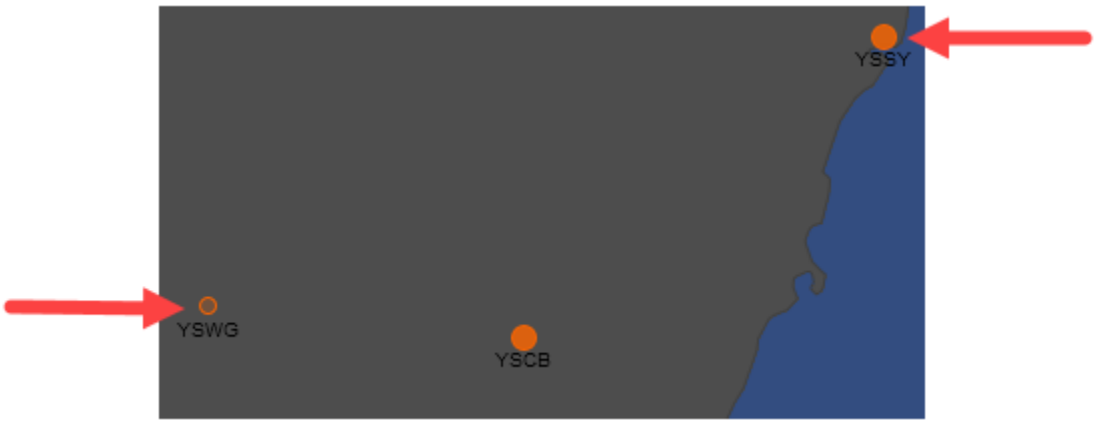


Figure 145: Airport icons

Airport Right-Click Menu – Show Flight List and Demand Graph

Airports and FCAs have a right-click menu with the options to show the Flight List or Demand Graph (see Figure 146).

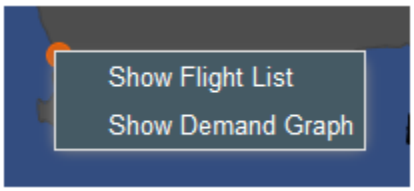


Figure 146: Airport right-click menu

For more information about the Flight List, see Chapter 5: Flight List. For more information about the Demand Graph, see Chapter 9: Demand Graph.

Map Components

The Map component tabs are in the upper, left corner of the map (see Figure 147). Each tab displays a panel where you can manage the specified aspect of the map (i.e., FCAs, layers, range rings, weather view, and locations).

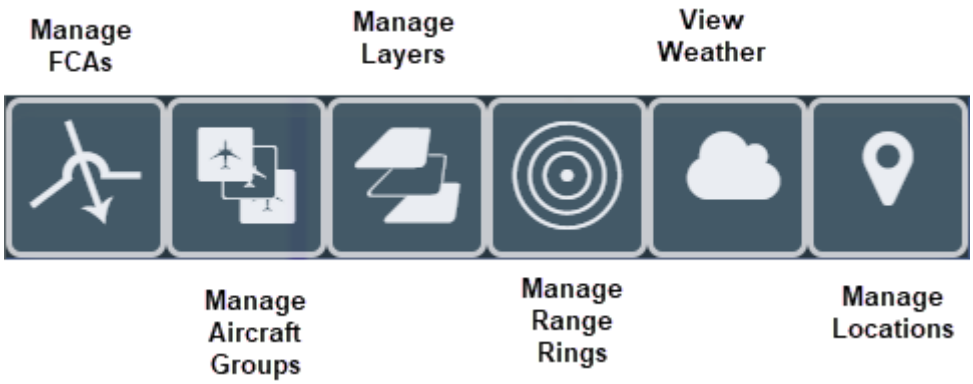


Figure 147: Map component tabs

- Manage FCAs (see Chapter 12: FCAs)
- Manage Aircraft Groups (see "Managing Aircraft Groups" on page 130)
- Layers (see "Managing Layers" on page 138)
- Range Rings (see "Managing Range Rings" on page 140)
- Weather (see "Viewing Weather" on page 143)
- Locations (see "Setting Locations (Map Views)" on page 146)

Managing Aircraft Groups

You can manage how aircraft are colored based on data element filters. This is accomplished by creating color-coded filters that are based on groupings of aircraft and route elements. The filters can be active or pre-defined for future use. You can move filters back and forth between *Active Aircraft Group* or *Available Aircraft Grouping* section.

The management of active and available aircraft is the same; therefore, the following instructions apply to both types of aircraft groups.

Adding Active and Available Aircraft Groupings

This section will walk you through creating and color-coding a filter so that you can distinguish flights based on your criteria.

AND/OR Operators

AND/OR operators work as follows:

- The OR statement consists of the multiple values within the "*includes*" or "*does not include*" fields. That is, the data does not have to meet all the listed criteria.

- The AND statement is a joining of the set of "*includes/does not include*" criteria within an individual data element group (i.e., Aircraft and Route). That is, the resulting data needs to satisfy both the inclusion and exclusion criteria.
- As you add new filters within a data element group, the filter criteria is joined by AND to the other data element groups.

To add a group, complete the following steps:

1. On the Map, click  to open Aircraft Groups.
2. In the *Active Aircraft Grouping* or *Available Aircraft Grouping* heading, click  (the plus sign).

   The *Create Active Aircraft Grouping* or *Create Available Aircraft Group* dialog box opens (see Figure 148).

   There are five panels: *Filter Name*, *Aircraft*, *Route*, *Vertical Limits, and Colo*r.

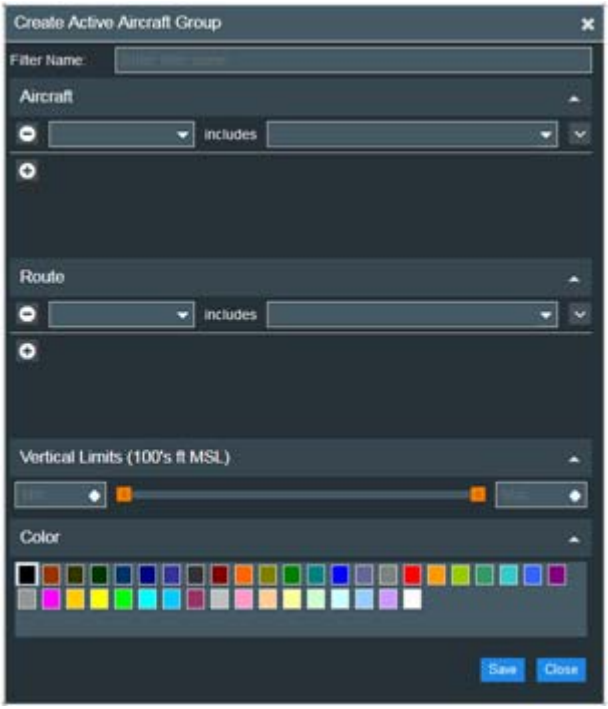


Figure 148: Create Available Aircraft Group dialog box

Before proceeding, it is useful to understand the functionality of the controls (see Table 25).

Table 25: Aircraft Group Controls

Control	Name	Description
	Collapse	Collapse the panels (Aircraft, Route, Vertical Limits, or color).

Control	Name	Description
	Expand	Expand the panels (Aircraft, Route, Vertical Limits, or color).
	Remove	Remove a criterion row.
	Add	Add an *inclusion* criterion row (i.e., *includes*).
	Down Caret	Show an *exclusion* criterion row (i.e., *does not include*).
	Up Caret	Hide an empty exclusion criterion row

3. Enter a name in 

.
4. In the *Aircraft* panel dropdown list, select a criterion (see Figure 149).

Figure 149: Aircraft filtering criteria

5. Following the selected criterion is the "includes" field where you either use your keyboard to enter the criterion or select the criterion from a list that corresponds with the selected filter criterion.
    - If you select *ACID*, use your keyboard to enter the ACIDs that you want to include. Separate multiple ACIDs with a space—do not use any punctuation. You can enter letters, numbers, and the wildcard asterisk (*). The asterisk can be used as the first or last character. For example, *AL123*, AAL456*, or *AAL7890.
    - If you select *Major* or *AC Type Group*, select from the dropdown list the major or type of aircraft (see Figure 150). Note that *Major*, *AC Type*, and *Flight* fields have quick filters, that is, if you enter the first letter(s), the list will filter by the criteria you entered.

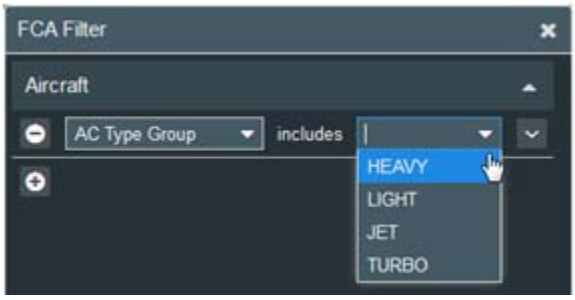


Figure 150: AC Type Group filtering

6. In the Route panel, you can filter by routing elements.
    - From the Route dropdown, select ADEP, ADES, or FCA (see Figure 151).
    - From the dropdown list, select the airports or FCAs that you want to include.

Figure 151: Route element filtering

7. You can also exclude certain criteria. To exclude aircraft by ACID, Major, or AC Type Group, click  .(located adjacent to the element dropdown list).

   The "*does not include*" row is displayed (see Figure 152).

   The  toggles to  .

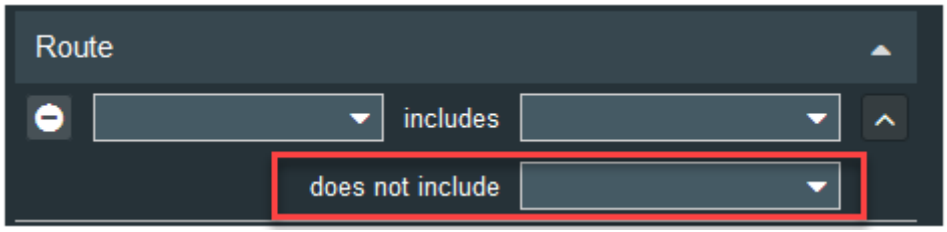


Figure 152: Click down caret to display exclusion row.

8. Following "*does not includes*" is the field where you either use your keyboard to enter the criteria or select the criteria from a list that corresponds with the selected filter criterion.
    - If you select *ACID*, use your keyboard to enter the ACIDs that you want to exclude. Separate multiple ACIDs with a space—do not use any punctuation. You

can enter letters, numbers, and the wildcard asterisk (*). The asterisk can be used as the first or last character. For example, *AL123*, AAL456*, or *AAL7890.

- If you select *Major* or *AC Type Group*, select from the dropdown the major or type of aircraft that you want to exclude.

9. To add another row for additional criteria, click  . Adding additional rows joins this statement with the rest of the filter with an AND operator so the resulting data must meet all criteria in each of the rows.

   An empty row is displayed.

10. To delete a row, click  .

    The row no longer is displayed.

11. Use the sliders, control arrows, or your keyboard to define the minimum (Min) and maximum (Max) vertical limits (in 100's ft mean sea level [MSL]) (see Figure 153).

Figure 153: Vertical Limits

12. Click the color for the display of the group (see Figure 154). If you do not select a color, the default color is used. For more information about the default color, see "Setting the Aircraft's Default Color" on page 136.

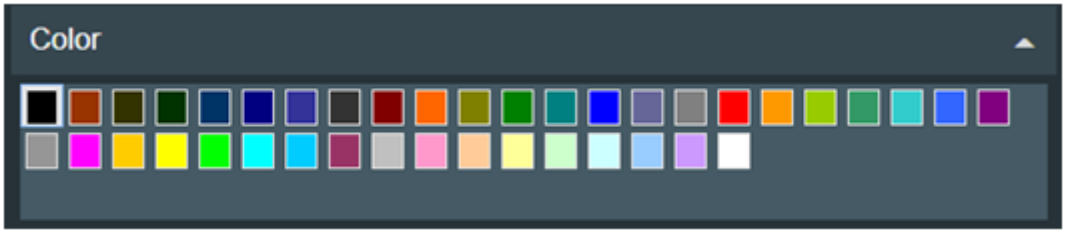


Figure 154: Color palette for group

13. When you finish defining the filter, click 

.

- The filter is saved and the *Create Available/ Aircraft Group* dialog box closes. Note that a confirmation message is not displayed.
- Aircraft meeting the filter's criteria is displayed in the selected color only if it is an active grouping.
- The filter is listed in either the Active Aircraft Grouping or Available Aircraft Grouping list.

Activating and Deactivating Aircraft Groups

The *Active Aircraft Grouping* pane lists the active filters and the *Available Aircraft Grouping* pane lists the filters available for future use. You can deactivate an active filter by dragging it to the Available Aircraft Grouping. Likewise, you can activate an available filter by dragging it to the Active Aircraft Grouping.

Note: Deactivating a group to remove the color differs from selecting and unselecting the *Show* checkbox.

To activate or deactivate a filter, complete the following steps:

1. With your left-mouse button, select the filter that you want to move and hold down the mouse button.

   The color of the row changes to blue to indicate selection.

2. Drag the selected row to the other Aircraft Grouping pane.

   A tooltip is displayed as you drag the filter: 

.

3. Drag the row into the desired position (see Figure 155). Note that the dotted, red line is for illustration purposes; you will not see it displayed as you drag the row.

   A thin, green line with two arrows marks the placement of filter.

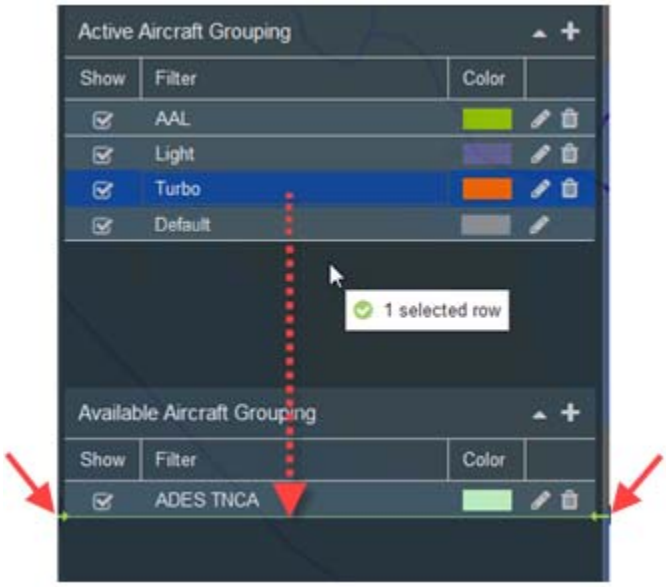


Figure 155: Green arrows denote location of dragged filter

4. Release the mouse button.

   The moved filter is listed in the Grouping (see Figure 156).

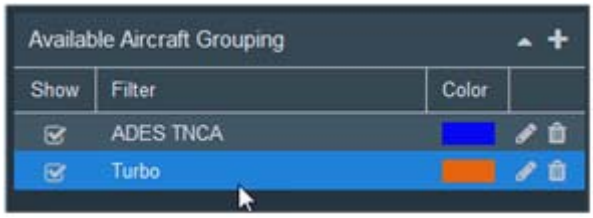


Figure 156: Filter is repositioned.

Editing Active and Available Aircraft Groups

You can edit an aircraft group's aircraft and route criteria, vertical limits, and color.

To edit an active or available filter, complete the following steps:

1. In the list of Active or Available Aircraft filters, locate the filter that you want to edit and click  (the pencil icon).

   The *Edit Active Aircraft Group* or *Edit Available Aircraft Group* dialog box opens.
2. Update the elements as described in "Adding Active and Available Aircraft Groupings" on page 130.
3. When you are finished updating the filter, click 

.

   The filter is saved and the *Edit Available/ Aircraft Group* dialog box closes. Note that a confirmation message is not displayed.

Setting the Aircraft's Default Color

Aircraft that are not included in the filters are displayed in a user-defined, default color.

To set the default color, complete the following steps:

1. Locate the *Default* aircraft filter (it is always the last filter listed in the *Available Aircraft Grouping* pane (see Figure 157).

   Note that it cannot be moved from this position, nor can it be deleted.

Figure 157: Default filter is always listed last and cannot be moved.

2. In the *Default* filter row, select the  .

   The *Edit Default* dialog box opens (see Figure 158).

Figure 158: Edit Default dialog box

3. Click a color.
4. Click **Save**.

   The *Edit Default* dialog box closes.

   All flights that are not included in a filter are displayed in the selected color.

Showing or Hiding Flights (as defined by filters)

You can opt to show or hide the flights as defined by the filters. By default, all filters are shown.

Note: In order for flight filters to be displayed, flights must be configured as visible at the layer level (see "Showing and Hiding Layers" on page 138).

To show or hide flights, complete the following steps:

1. To show flights, in the Active Aircraft Grouping or Available Aircraft Grouping pane, select the Show checkbox associated with the selected filter (see Figure 159).

Figure 159: Select/unselect the Show checkbox

   The flights are displayed on the map.

2. To hide flights, unselect the Show checkbox associated with the filter.

   The flights are not displayed on the map.

Deleting Active and Available Aircraft Groups

You can delete aircraft filters that you no longer need.

Note: The *Default* filter cannot be deleted, which is why it does not have *Trash Can* icon.

To delete an active or available filter, complete the following steps:

1. In the *Active Aircraft Grouping* or *Available Aircraft Grouping* pane, locate the filter that you want to delete, and click  .

   A *Delete Confirmation* message is displayed.

2. Click **Yes** to continue with the deletion or **No** to cancel the deletion.

   If you clicked **Yes**, the grouping is deleted from the list of aircraft grouping and the map.

   A confirmation message is displayed stating that the active aircraft group was successfully deleted.

3. Click **OK** to close the confirmation message.

Managing Layers

The map has multiple display layers (airport, range rings, FCAs, approach controls, sector, and FIRs). You can control which layers are displayed on the map. The available layers are dependent on the adaptation uploaded by your administrator.

Showing and Hiding Layers

If a layer element is not part of your adaptation, it will not be shown on the map even if you select Visible.

To show and hide the layers, complete the following steps:

1. On the map, click  .

   The Layer panel is displayed (see Figure 160).

Figure 160: Layer panel and Flight Icons legend

The upper panel, *Layer*, shows the display color of the listed elements (i.e., Airports,Flights, Range Rings, FCAs, Approach Controls, Sectors, and FIRS). The *Visible* checkbox is selected to indicate that layer is displayed. An unchecked check box indicates that the layer is not displayed on the map.

The lower panel, *Flight Icons*, shows the icons displayed for the types of aircraft (i.e., Heavy, Jet, Light, and Turbo). Note that the white color of the icons is only to display the different icons; it does not represent the color of the flights on the map.

The display color of the flights is defined in the Aircraft Groups component. For information about setting the colors, see "Adding Active and Available Aircraft Groupings" on page 130.

2. To hide a layer, unselect the *Visible* check box adjacent to the layer that you want to hide.

   The layer no longer is displayed on the map.

   A red triangle is displayed in the *Visible* column as a visual indicator that you changed the map's display (see Figure 161).

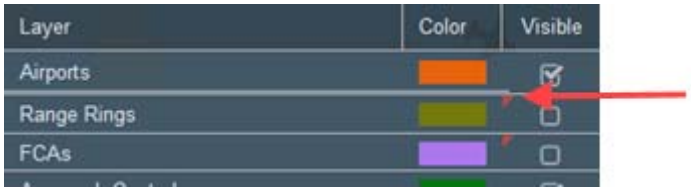


Figure 161: The red triangle indicates an update.

3. To show a layer, select the *Visible* check box adjacent to the layer that you want to show.

   The layer is displayed on the map.

Managing Range Rings

Range Rings can be used to approximate distance or time from a point. You can create, edit, and delete range rings.

Creating Range Rings

You can create a range rings and specify the number of rings and the distance between the rings.

To create a range ring, complete the following steps:

1. On the map, click  .

   The Range Ring panel is displayed. The *Create Range Ring Group* panel is displayed at the top of the panel (see Figure 162).

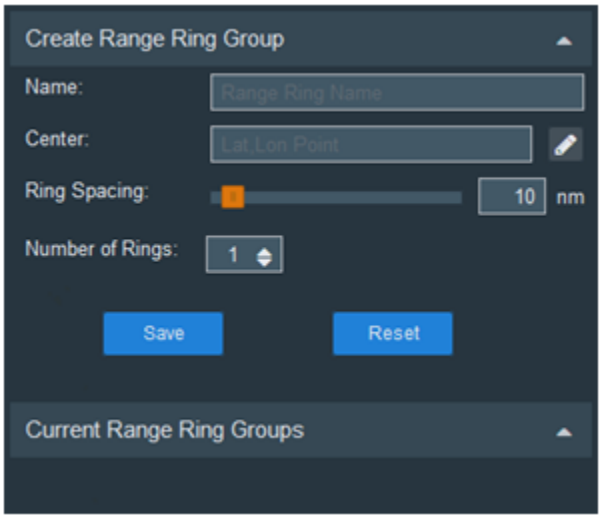


Figure 162: Create Range Ring Group panel

1. In the *Name* field, enter a unique name using alphanumeric characters.
2. In the *Center* field, you can either manually enter the latitude and longitude coordinates in decimal degrees, separated by commas, or continue to the next step to draw the center on the map.

3. To draw the center on the map, click  (the pencil icon) and move your cursor to map.

   A blue dot with a white border  is displayed with your cursor. This indicates that you are in draw mode.

4. Move your cursor and blue dot to the center point of the range ring, click once, and *release the mouse button before moving your mouse*.

   Note: If you do not release the mouse button before moving your mouse, you will simply move the map.

   A  (blue dot) representing the center is displayed on the map.

   The *Center* field lists the coordinates of the center.

5. To define the amount of space between the rings, move the Ring Spacing slider or use your keyboard to enter the number of nautical miles in the *nm* field (see Figure 163). The spacing must be between 5 and 100 nm and must be entered in increments of 5.

Figure 163: Slider to define space between rings

   As you move the slider, the number of nautical miles is numerically displayed.

   If you enter the number of nautical miles, the slider will move to correspond with the entered value.

6. Use the spinners  to select up to 20 range rings.

7. When you have completed all the fields, click  .

   The range rings are displayed on the map (see Figure 164). Note that a confirmation message is not displayed. The name of the range ring is displayed below the center point, and each ring displays the number of nautical miles (nm) it is from the center point.

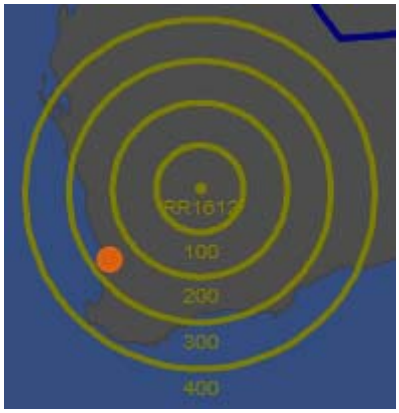


Figure 164: Range rings

The range ring group is listed in the *Current Range Ring Groups* panel (see Figure 165).

Figure 165: List of current range rings

Editing Range Rings

You can edit the center, ring spacing, and number of rings of an existing range ring group; however, you cannot edit the name.

To edit a range ring group, complete the following steps:

1. On the map, click  .

   The *Range Ring panel* is displayed.

2. In the *Current Range Ring Groups* list, select the group to be edited, and click  .

   The *Edit Range Ring Group* panel is displayed. It is the same as the Create Range Ring Group, except for the fact that the *Name* field is inactive (grayed out).

3. To edit the center, use your keyboard to enter the coordinates or click the  .

   A blue dot with a white border  is displayed with your cursor. This indicates that you are in draw mode.

4. Move your cursor and blue dot to the center point of the range ring, click once, and *release the mouse button before moving your mouse*.

   Note: If you do not release the mouse button before moving your mouse, you will simply move the map.

   A (blue dot) representing the center is displayed on the map.

   The *Center* field lists the coordinates of the center.

5. To edit the amount of space between the rings, move the Ring Spacing slider or use your keyboard to enter the number of nautical miles in the *nm* field. The spacing must be between 5 and 100 nm and must be entered in increments of 5.

   As you move the slider, the number of nautical miles is numerically displayed.

   If you enter the number of nautical miles, the slider will move to correspond with the entered value.

6. Use the spinners 

to select up to 20 range rings.

7. When you have completed our updates, click 

.

   The updates are displayed on the map. Note that a confirmation message is not displayed.

Deleting Range Rings

You can delete range rings.

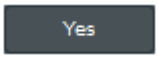
To delete a range ring group, complete the following steps:

1. On the map, click 
.

   The *Range Ring panel* is displayed.

2. In the *Current Range Ring Groups* list, select the range ring group to be deleted, and click 
.

   A *Delete Confirmation* message is displayed.

3. Click 

to continue with the deletion or 

to cancel the deletion.

   If you clicked **Yes**, a confirmation message is displayed stating that the range ring was successfully deleted.

4. Click 

to close the confirmation message.

Viewing Weather

Harmony can receive various types of meteorological data through external system interfaces for visualization on the map. The displayed weather is based on the weather data sources that are configured at the time of installation.

Showing and Hiding the Weather Layer

You can control whether the weather is displayed and which weather data sources are displayed.

To show or hide the weather layer, complete the following steps:

1. On the map, click  .

   The weather panel is displayed (see Figure 166).

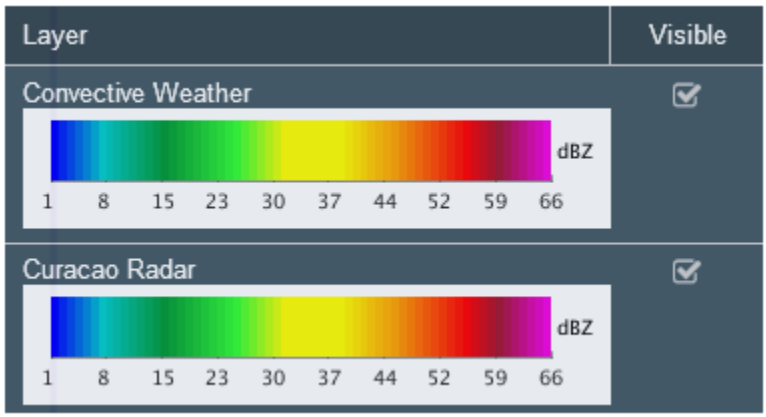


Figure 166: Weather panel

   On the left side of the panel, the available weather data sources are listed. To the right of the weather source is a *Visible* checkbox. The *Visible* checkbox is checked to indicate that the weather layer is displayed. An unchecked check box indicates that the weather layer is not displayed on the map.

2. To hide a weather layer, unselect the *Visible* check box adjacent to the layer that you want to hide.

   The weather layer no longer is displayed on the map.

   A red triangle is displayed in the *Visible* column as a visual indicator that you changed the map's display (see Figure 161).

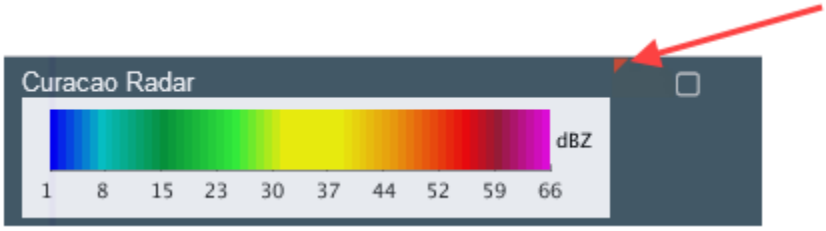


Figure 167: The red triangle indicates an update.

3. To show a weather layer, select the *Visible* check box adjacent to the weather data source that you want displayed on the map.

   The Convective Weather layer is displayed on the map. The white border represents the area for which weather data is being reported (see Figure 168).

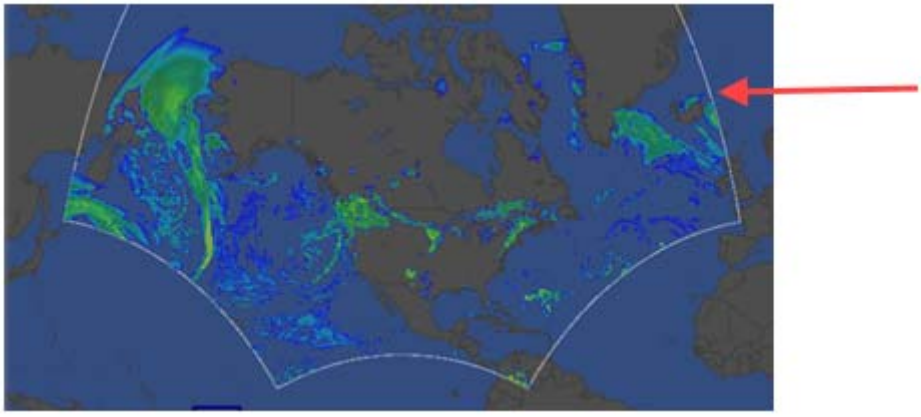


Figure 168: White line shows boundary of convective weather data

In this example, the Curacao Radar weather is bordered by a white circle (see Figure 169).

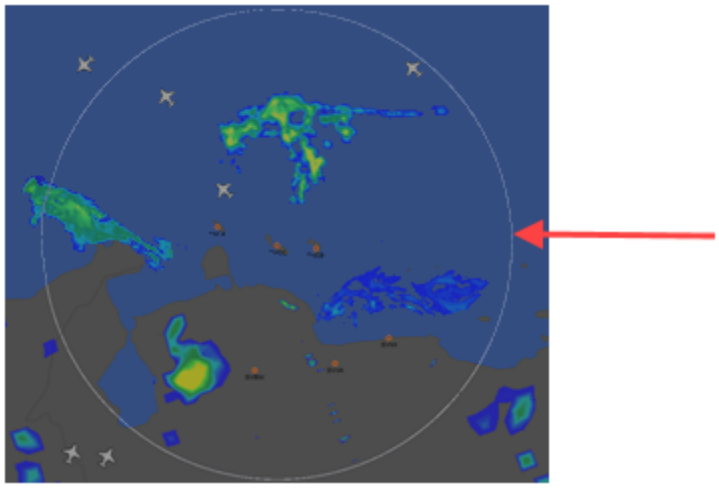


Figure 169: White circle shows boundary of local weather

Panning the Map

Panning enables you to move the Map's area of view north, south, east, or west within the Map window. It is useful for bringing an area of the Map that is outside the Map window into view, or for centering the Map view on an area of interest. Panning is often used with the zoom feature.

To pan the map, hold down the left mouse button and drag the map in any direction, and release the mouse button.

Zooming the Map

You can zoom in (for a close-up view), zoom out (for a distant view), and reset the map to its default view using one of the following methods.

- Use your mouse's scroll button (scroll up for zoom in and scroll down for zoom out).

- Click the on-screen zoom controls that are located in the upper, right corner of the map (see Figure 170).

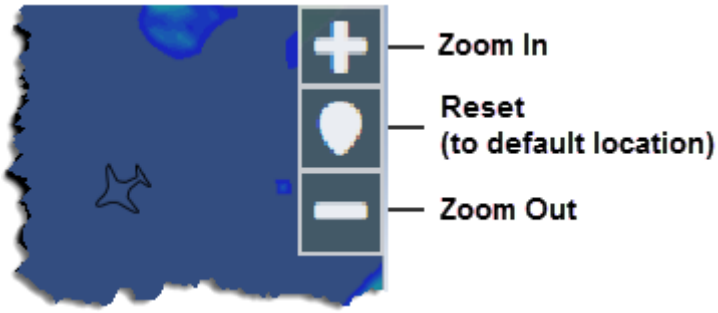


Figure 170: Zoom controls

The **Reset** button () returns the view to the default view as defined in the System Settings' Map tab or the Map's Location tab. For more information, see "Map Settings" on page 212 and "Setting Locations (Map Views)" on page 146.

Setting Locations (Map Views)

You can set map views (referred to as locations) by positioning the map and saving the location. Each Map View will save the center location and zoom level that the user is currently viewing. The default view will display each time you open the map. You can create and save additional views for use.

To create locations, complete the following steps:

1. On the map, click  .

   The Locations panel is displayed (see Figure 171).

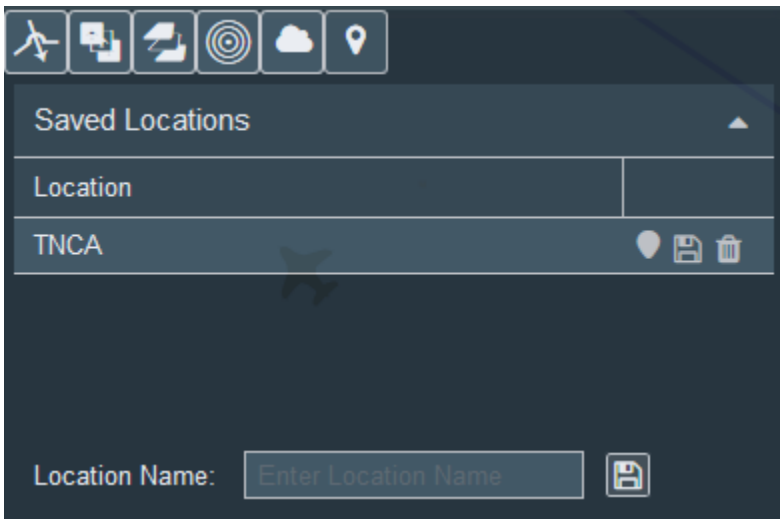


Figure 171: Create location (map view)

2. Move the map to the location you want and zoom the map to the magnification level.

3. In Location Name: Enter Location Name, enter a unique name using alphanumeric characters and spaces. Special characters are not allowed.

   Note: The name "*Default*" is reserved for the system-defined view.

4. To save the map view, click  , which is located to the right of the Location Name field.

   The location is saved and added to the Saved Locations list.

Saving a Default Location (Map View)

You can save a location to be the default map view when you open the Map. Once you save a default location, it will override the default location defined in the System Settings.

To save the default location, complete the following steps:

1. The to the right of the saved location in the Saved Locations list, are three icons. Click  (diskette) to set the location as the default view.

   A Success confirmation message is displayed confirming the location was saved as the default location.

2. Click OK to close the message.

Displaying a Non-default Location

You can display a map view that is not the default view.

To display a non-default location, complete the following step:

1. The to the right of the saved location in the Saved Locations list, are three icons. To set the location as the default view, click  (solid location marker).

   The selected map view is displayed.

Deleting Locations

You can delete any location—except for the Default view. The view that is named "*Default*" is defined per the System Settings. It For more information about the system's Default view, see "Map Settings" on page 212 in Chapter 18: System Settings.

To delete a location, complete the following steps:

1. To the right of the saved location in the Saved Locations list, are three icons. Click  (trashcan) to delete the saved location view.

   A *Delete Confirmation* message is displayed.

2. Click Yes to continue with the deletion or No to cancel the deletion.

If you clicked **Yes**, a confirmation message is displayed stating that the location was successfully deleted.

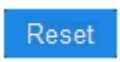
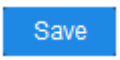
3. Click 

to close the confirmation message.

Map Buttons and Controls

Table 26 describes the buttons, icons, and controls used in the Map, except for the FCA component. For information about FCAs, see Chapter 12: FCAs.

Table 26: Map Buttons and Controls

Control	Name	Description	Component
	Plus Sign	Zoom In	Map
	Reset button	Located in the map's upper right corner Reset to map's default view (defined in the Manage Location component)	Map
	Minus Sign	Zoom Out	Map
	Airport Solid Circle	Airport is in the configuration file in adaptation Always visible at any zoom level	Map
	Airport Hollow Circle	Airport has active flights, but the airport is not part of the adapted data Visible only if the airport has active flights and when map is zoomed in	Map
	Red Triangle	Visual indicator that an update was made	Location Weather
	Two-tone Marker	Open Manage Locations panel	Location
	Trashcan	Delete the location	Location
	Diskette	Save existing location as the Default view or save a new location name	Location
	Solid Marker	Located in each Saved Locations row (left panel) Go to the location view for the specified location	Location
	Blue Dot	Marks center of range ring	Range Rings
	Reset	Clear the fields' data	Range Rings
	Save	Save the element	Range Rings

Control	Name	Description	Component
Cancel	Cancel	Closes the dialog box without saving	Aircraft Group
	Pencil	Edit the element Draw on the map (i.e., FCAs or the range ring center point)	Create FCAs Aircraft Groups Range Rings
	Trashcan	Delete an element	Aircraft Groups Range Rings
	Plus Sign	Add an element	Aircraft Groups
	Expand	Display the panel section	Aircraft Groups Range Rings
	Collapse	Hide the panel section	Aircraft Groups Range Rings
	Spinners	Select number of range rings	Range Rings

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Chapter 12. FCAs

FCAs supports general demand monitoring of an airspace that can help you scope the impact of a constraint, such as a weather event or a capacity-reducing event. Just as airport demand can be monitored, FCAs enable you to create dynamic airspace definitions for monitoring. Flights are captured in the FCA if their predicted Entry time falls between the FCA's start/end times.

This section discusses creating, filtering, and updating FCAs. Super Users, Flow Managers, and ANSP Users can create, edit, and remove FCAs.

Creating FCAs (Polygon, Line, Circle, Adapted)

The following instructions list the steps for Super Users, Flow Managers, and ANSP Users to create any type of FCA (Polygon, Line, Circle, and Adapted). The steps to create an Adapted FCA are slightly different from the steps to create a Polygon, Line, or Circle FCA.

- For Adapted FCAs, select the Adapted Type (Sector, Fix, or Partial Airway) and Element (see the panel on the left side of Figure 172). Other fields unique to Partial Airway FCAs are addressed in this section's steps.
- For non-adapted FCAs, select Polygon, Line, or Circle from the dropdown and click the pencil button to draw the FCA (see the panel on the right side of Figure 172).

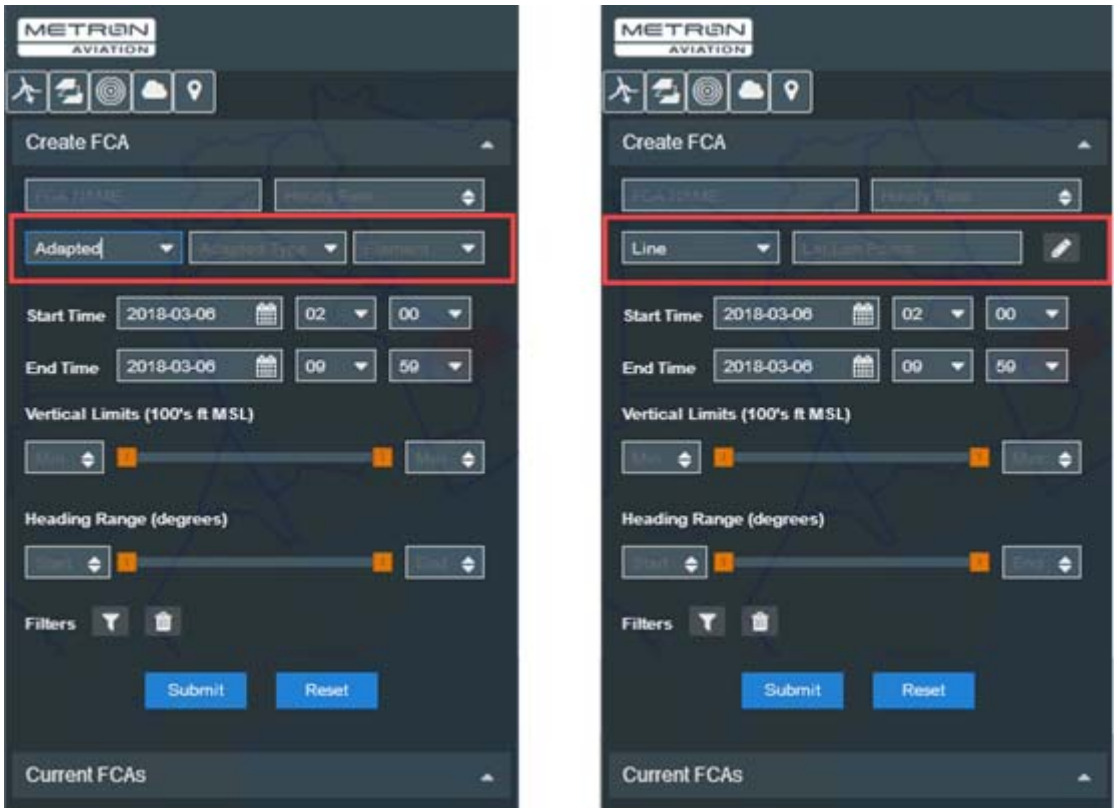


Figure 172: Create FCA panels for Adapted and Polygon/Line/Circle

To create an FCA, complete the following steps:

1. In the main toolbar, click  (the Map icon).

   The Map is displayed.

   The  toggles to  (the Home Page icon).

2. Click  (the Manage FCAs tab).

   The *Manage FCA* panel opens.

   Two bars are displayed: *Create FCA* and *Current FCA* (see Figure 173).

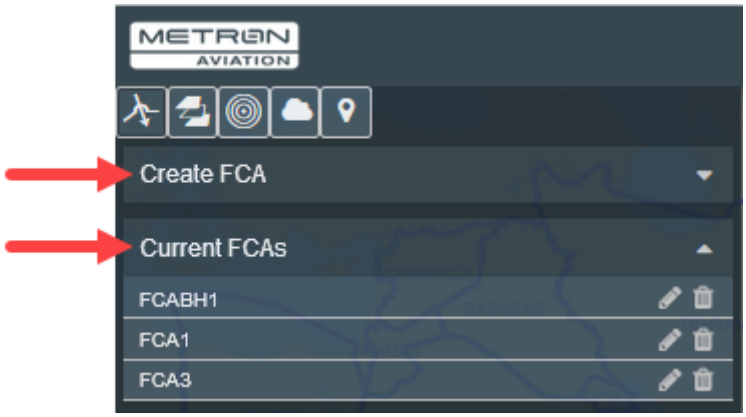


Figure 173: Initial Manage FCA panel

3. Click  .

   The *Create FCA* panel opens (as previously shown in Figure 172).

   Note: For the following steps, refer to Table 27 for more information about the data and fields.

4. Enter the FCA name.
5. Select the Hourly Rate.
6. Select the type of FCA:
   - For an **Adapted FCA,** select *Adapted*. From the *Adapted Type* dropdown, select *Sector*, *Fix*, or *Partial Airway*, and from the *Element* dropdown, select the specific sector, fix, or airway respectively (see Figure 174).

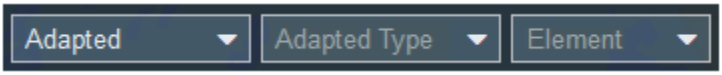


Figure 174: Adapted, Adapted Type, and Element dropdowns

- For a **non-adapted FCA**, select *Polygon*, *Line*, or *Circle;* and click the pencil to draw the FCA. For more information about drawing a non-adapted FCA, see "Drawing FCAs (Line, Polygon, Circle)" on page 156.

7. For Adapted Partial Airway FCAs only, complete the following (see Figure 175):
   - From the Partial Airway Point 1 dropdown, select the start location point.
   - From the Partial Airway Point 1 dropdown, select the stop location point.
   - Select or unselect the Directional checkbox.

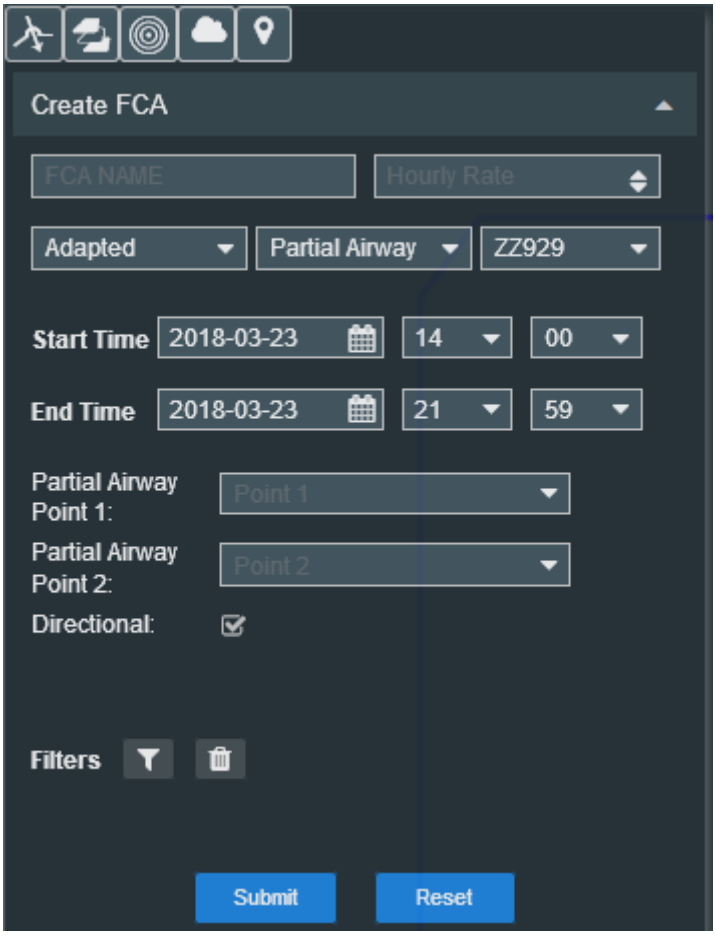
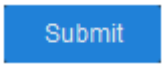
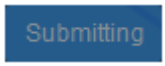


Figure 175: Adapted Partial Airway FCA parameters

8. Use the calendar and time controls to select the Start and End Times.
9. Use the slider thumbs to set the Vertical Limits. (This does not apply to Adapted Partial Airway FCAs.)
10. Use the slider thumbs to set the Heading Range. (This does not apply to Adapted Partial Airway FCAs.)
11. To filter which aircraft or routes to include or not include in the FCA, see "Filtering FCAs" on page 159. Note that filtering is not a required step when creating an FCA. You are able to add filtering after the FCA has been created.

12. When you have finished creating the FCA, click 

.

    During transmission to the server, the **Submit** button toggles to 

.

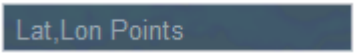
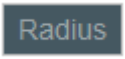
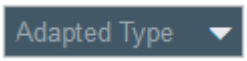
    Upon completion:

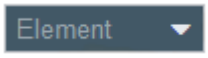
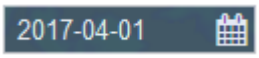
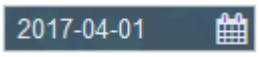
    - The **Submitting** button toggles to **Submit.**
    - A success message is displayed.
    - The FCA and FCA name are displayed on the Map.
    - The FCA is listed in the Select Airport or FCA dropdown list.
    - The FCA is displayed in the quick filter list.

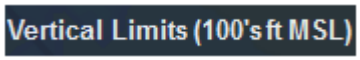
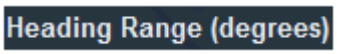
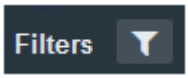
13. Click 

to close the message.

Table 27: FCA field names

Element	Information	Required
	• Enter a 15-character, alphanumeric name. No special characters are allowed. • By default, the first letters must be FCA. The system will automatically insert "FCA" as the first three letters. FCA is included in the 15-character limit. • The system automatically converts all letters to uppercase.	Yes
	• Enter an arrival rate up to 150	Yes
	• Select Polygon, Line, Circle, or Adapted. • If creating a Polygon, Line, or Circle FCA, (see "Drawing FCAs (Line, Polygon, Circle)" on page 156).	Yes
	• Draw the FCA (see "Drawing FCAs (Line, Polygon, Circle)" on page 156). • Optionally, you can use your keyboard to enter/paste the latitude and longitude points in decimal degrees (separated by commas).	Yes (Line, Polygon, and Circle FCAs)
	• Use your keyboard to enter the radius or draw the Circle FCA (see the steps for Circle FCAs in "Drawing FCAs (Line, Polygon, Circle)" on page 156).	Yes (Circle FCA)
	• Select *Sector, Fix*, or *Partial Airway*.	Yes (Adapted FCA)

Element	Information	Required
	• Select the sector, fix, or adapted airway from the list. The list corresponds with the selected Adapted Type.	Yes (Adapted FCA)
	• For Adapted Partial Airway FCAs only, select adapted location reference.	Yes (Adapted Partial Airway)
	• For Adapted Partial Airway FCAs only, select adapted location reference.	Yes (Adapted Partial Airway)
	• For Adapted Partial Airway FCAs only, select the checkbox to indicate if the created airway is directional (by default, this is checked). If the check box is checked, only flights traveling in the direction from the start location to the stop location (and not vice versa) will be included in the FCA.	Yes (Adapted Partial Airway)
	Start Time Date • Keep the current system date (default selection) or select a future date. • The date cannot be in the past.	Yes
	End Time Date • Keep the current system date (default selection) or select a future date. • The date must be the same as or after the start date. • Note that you cannot enter a date that will cause the range to cross the operational day.	Yes
	Start Time • Select an hour equal to or greater than the current system time. The time cannot be in the past. • Select the minutes. The minutes are listed in 15-minute increments (i.e., 00, 15, 30, and 45). By default, the system will select the future 15-minute increment that is closest to the system time.	Yes

Element	Information	Required
	End Time • Select an hour that is equal to or after the Start Time hour. • Select the minutes. The minutes are listed in 15-minute increments (i.e., 14, 29, 44, and 59). • Note that you cannot enter a time that will cause the range to cross the operational day.	Yes
	Use the sliders, control arrows, or your keyboard to define the minimum (*Min*) and maximum (*Max*) vertical limits (in100's ft MSL). This setting is not shown for Adapted Partial Airway FCAs.	No
	Use the sliders, control arrows, or your keyboard to define the minimum (*Min*) and maximum (*Max*) degrees of the heading range. This parameter is used for directional capture of flights in an FCA. This setting is not shown for Adapted Partial Airway FCAs.	No
	Select the start and end reference locations	Yes (Adapted Partial Airway)
	Click filter icon to open the *FCA Filter* dialog box. For more information about filtering aircraft, see "Filtering FCAs" on page 159.	No

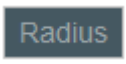
Drawing FCAs (Line, Polygon, Circle)

When creating an FCA, you will select the type of FCA and either draw the FCA or use your keyboard to enter its coordinates.

The instructions in this section are an extension of the high-level steps listed in "Creating FCAs (Polygon, Line, Circle, Adapted)" on page 151.

To draw a Circle FCA, complete the following steps:

1. From the FCA type dropdown, select  .

   A new field,  , is displayed adjacent to the *Lat,Lon Points* field.

2. Click  (the pencil icon) and move your cursor to map.

   A blue dot with a white border  is displayed with your cursor.

3. Move your cursor and blue dot to the center point of the Circle FCA, click once, and *release the mouse button before moving your mouse*.

   Note: If you do not release the mouse button before moving your mouse, you will simply move the map.

4. Move your cursor out from the center point to define the radius, and quickly double-click.

   The cursor reverts to an arrow.

   The *Radius* and *Lat,Lon* fields are populated with the associated coordinates.

   The Circle FCA is displayed on the map (see Figure 176). Note that the name of the FCA will be displayed after you submit the FCA.

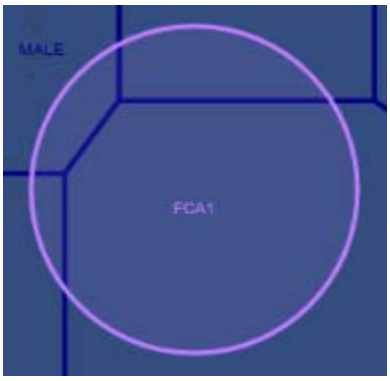


Figure 176: Example of a Circle FCA

To draw a Line FCA, complete the following steps:

1. From the FCA type dropdown, select 

.

2. Click  (the pencil icon) and move your cursor to map.

   A blue dot with a white border  is displayed with your cursor.

3. Move your cursor and blue dot to the starting point of the Line FCA, click once, and *release the mouse button before moving your mouse*.

   Note: If you do not release the mouse button before moving your mouse, you will simply move/pan the map.

4. Continue to the next point of the line, click once, and release the mouse button. Repeat this step until you are ready to move to the line's end point.

5. Move your cursor to the end point of the Line FCA, and quickly double-click.

Note: Note that drawn FCAs are blue. FCAs that are in the system are lavender.

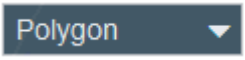
The cursor reverts to an arrow.

The *Lat,Lon* field is populated with the associated coordinates.

The Line FCA is displayed on the map (see Figure 177). Note that the name of the FCA will be displayed after you submit the FCA.

Figure 177: Example of a Line FCA

To draw a Polygon FCA, complete the following steps:

1. From the FCA type dropdown, select 

.
2. Click  (the pencil icon) and move your cursor to the map.

   A blue dot with a white border  is displayed with your cursor.
3. Move your cursor and blue dot to the starting point of the Polygon FCA, click once, and *release the mouse button before moving your mouse*.

   Note: If you do not release the mouse button before moving your mouse, you will simply move the map.
4. Repeat this step for each point of the polygon, except for the final point. For the end point, continue to the following step.
5. Move your cursor to the end point of the Polygon FCA, and quickly double-click.

   Note: The last point of the polygon does not have to meet (be on top of) the first point. Double-clicking will close the shape between the first and last point.

   The cursor reverts to an arrow.

   The *Lat,Lon* field is populated with the associated coordinates.

   The Polygon FCA is displayed on the map (see Figure 178). Note that the name of the FCA will be displayed after you submit the FCA.

Figure 178: Example of a Polygon FCA

Filtering FCAs

You can filter which aircraft to include in or exclude from an FCA. More specifically, you can filter by aircraft elements (i.e., ACID and AC Type Groups), and routing elements (i.e., ADEP and ADES). You can configure the filter when you create the FCA or at a later time when you edit the FCA.

AND/OR Operators

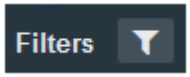
AND/OR operators work as follows:

- The OR statement consists of the multiple values within the *"includes*" or "*does not include*" fields. That is, the data does not have to meet all the listed criteria.
- The AND statement is a joining of the set of *"includes/does not include*" criteria within an individual data element group (i.e., Aircraft, Route, and Times). That is, the resulting data needs to satisfy both the inclusion and exclusion criteria.
- As you add new filters within a data element group, the filter criteria is joined by AND to the other data element groups.

The following steps walk you through filtering the FCA to include and exclude aircraft based on the selected criteria.

To filter an FCA's aircraft, complete the following steps:

1. To open the *FCA Filter* dialog box, click the filter icon located next to the *Filters* label

   .

   The *FCA Filter* dialog box opens (see Figure 179).

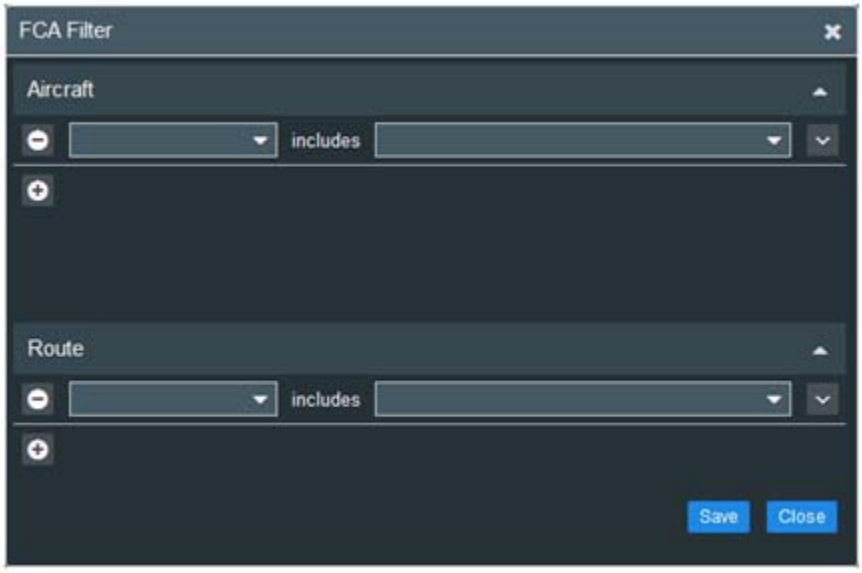


Figure 179: FCA Filter dialog box

By default, the *FCA Filter* dialog box opens with "*includes*" rows for *Aircraft* and *Route* filtering.

Before beginning the steps, it is useful to understand the functionality of the controls (see Table 28).

Table 28: FCA Filter controls

Icon	Name	Information
	Collapse	Collapse the Aircraft or Route pane.
	Expand	Expand the Aircraft or Route pane
	Remove	Remove a criterion row.
	Add	Add an *inclusion* criterion row (i.e., *includes*).
	Down Caret	Show an *exclusion* criterion row (i.e., *does not include*).
	Up Caret	Hide an empty exclusion criterion row

2. In the *Aircraft* dropdown list, select a criterion (see Figure 180).

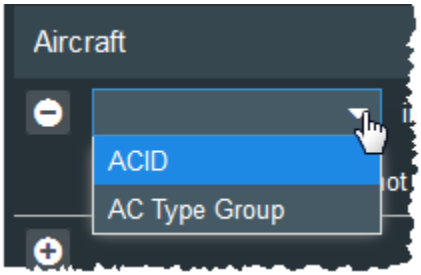


Figure 180: Aircraft filtering criteria

3. Following "*includes*" is the field where you either use your keyboard to enter the criteria or select the criteria from a list that corresponds with the selected filter criterion.
    - If you select *ACID*, use your keyboard to enter the ACIDs that you want to include. Separate multiple ACIDs with a space—do not use any punctuation. You can enter letters, numbers, and the wildcard asterisk (*). The asterisk can be used as the first or last character. For example, *AL123*, AAL456*, or *AAL7890.
    - If you select *AC Type Group*, select from the dropdown list the type of aircraft (see Figure 181).

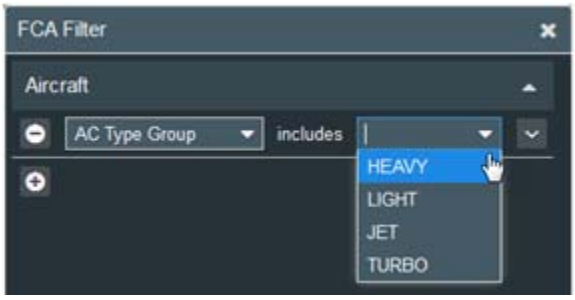


Figure 181: AC Type Group filtering

4. In the *Route* pane, you can filter aircraft by routing elements.
    - From the *Route* dropdown, select *ADEP* or *ADES*.
    - From the dropdown, select the airports that you want to include.

5. To exclude aircraft by their ACID or AC Type Group, click  (located adjacent to the element dropdown list).

   The "*does not include*" row is displayed (see Figure 182).

   The  toggles to  .

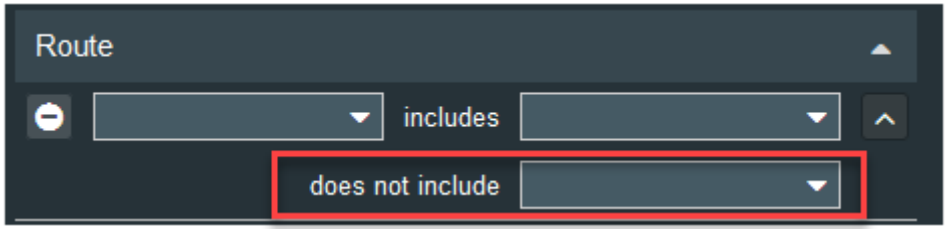


Figure 182: Click down caret to display exclusion row.

Figure 183: Aircraft filtering criteria

6. Following "*does not includes*" is the field where you either use your keyboard to enter the criteria or select the criteria from a list that corresponds with the selected filter criterion. If this is coupled with inclusion criteria, the two are joined by an *AND,* which the resulting data needs to satisfy both inclusion and exclusion criterion.
    - If you select *ACID*, use your keyboard to enter the ACIDs that you want to exclude. Separate multiple ACIDs with a space—do not use any punctuation. You can enter letters, numbers, and the wildcard asterisk (*). The asterisk can be used as the first or last character. For example, *AL123*, AAL456*, or *AAL7890.
    - If you select *AC Type Group*, select from the dropdown the type of aircraft that you want to exclude.

7. To add another row for additional criteria, click  . Adding additional rows joins this statement with the rest of the filter with an *AND* operator so the resulting data must meet all criteria in each of the rows.

   An empty row is displayed.

8. To delete a row, click  .

   The row no longer is displayed.

9. When you are done adding the criteria, click Save.

   The filter criteria is *applied* and the *FCA Filter* dialog box closes.

   The *FCA* panel displays the Active Filters (see Figure 184).

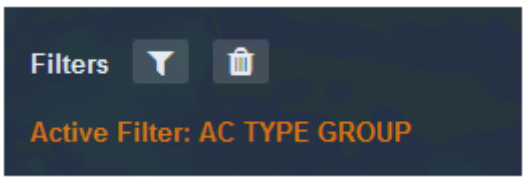
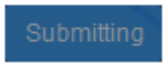


Figure 184: Active filters are displayed in FCA panel.

.

10. To submit the FCA, click Submit.

During transmission to the server, the **Submit** button toggles to 

.

A confirmation message is displayed indicating the FCA was successfully updated.

Editing FCAs and FCA Filters

In *Edit FCA* mode, you can edit an FCA's start and end time, hourly rate, and filter criteria. You can also add a filter to an existing FCA that was created without any filter criteria. Super Users, Flow Managers, and ANSP Users can edit FCAs.

To edit an FCA or FCA filter, complete the following steps:

1. On the map, click  (the Manage FCAs tab).

   The *FCA* panel opens on the left side.

2. Click 

to locate the FCA.

   The list of FCAs is displayed (see Figure 185)

Figure 185: List of current FCAs

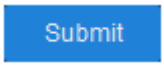
3. Click the  located next to the FCA that you want to edit.

   The *Edit FCA* panel opens and displays the selected FCA's data.

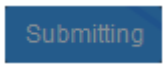
4. You can edit the following fields:
   - Start Time
   - End Time
   - Hourly Rate

5. Click  to add a filter to the FCA or update the existing filter.

   The *Filter FCA* dialog box opens. For more information, see "Filtering FCAs" on page 159.

6. When you are finished updating the filter and editing the FCA, click 

.

   During transmission to the server, the **Submit** button toggles to 

.

Upon completion, the **Submitting** button toggles to **Submit** and a success message is displayed.

Deleting FCAs

Super Users, Flow Managers, and ANSP Users can delete active and future FCAs.

To delete an FCA, complete the following steps:

1. On the map, click  (the Manage FCAs tab).

   The *FCA* panel opens on the left side.

2. Click 

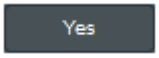
to display the list of FCAs.

   The list of FCAs is displayed (see Figure 185)

Figure 186: List of current FCAs

3. Locate the FCA that you want to delete and click the corresponding  .

   A *Delete Confirmation* dialog box is displayed.

4. Click 

to delete the FCA.

   The FCA is removed from the Map and the list of Current FCAs.

   - A success message confirming the deletion is displayed.
   - The FCA no longer is listed in the *Select Airport or FCA* dropdown list.
   - The FCA no longer is displayed in the quick filter list.

Deleting FCA Filters

You can clear an FCA filter.

To delete an FCA filter, complete the following steps:

1. On the map, click  (the Manage FCAs tab).

   The *FCA* panel opens on the left side.

2. Click 

to display the list of FCAs.

   The list of FCAs is displayed.

3. Click the  located next to the FCA that has the filter that you want to delete.

   The *Edit FCA* panel opens and displays the selected FCA's data.

   Below the Filters icons, the Active Filter is displayed in orange font (see Figure 187).

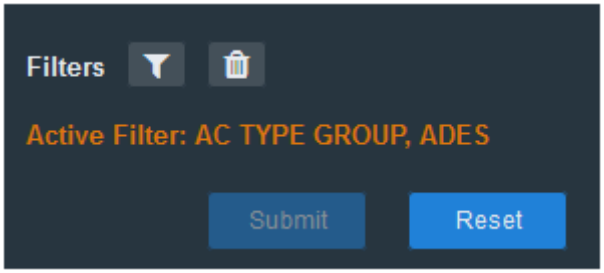
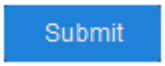


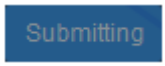
Figure 187: List of current FCAs

4. Click the  next to the filter icon. Do not confuse this with the trashcan icon in the Current FCA list.

   The Active Filter listing in orange font is cleared.

5. To save this change, you must click 

.

   During transmission to the server, the **Submit** button toggles to 

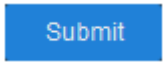
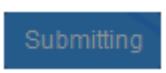
.

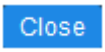
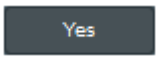
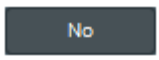
   Upon completion, the **Submitting** button toggles to **Submit** and a success message is displayed.

FCA Buttons and Controls

Table 29 describes the buttons, icons, and controls used in the FCA.

Table 29: Buttons and icons

Control	Name	Description
	Blue-dot Cursor	Cursor indicating you are in draw mode after clicking the Pencil to draw the FCA
	Submit	Submit updates to the server.
	Submitting	• Indicates a transaction to the server is in process. • Will toggle back to Submit when the transaction is completed.

Control	Name	Description
	Reset	Clear the *Create FCA* or *Edit FCA* panel.
	Close	Close the FCA Filter without saving any updates.
	Filter	Open the FCA Filter tool to add or edit the filter criteria.
	Trashcan	Delete the selected FCA or remove the filter from the selected FCA.
	Pencil	Edit the selected FCA.
	Close	Close dialog box.
	Yes	Confirm the requested action.
	No	Cancel the requested action.
	OK	Close the Message dialog box

Chapter 13. Flight Data Upload

The Flight Data Upload component is used to upload your flight data into the Harmony system. You can create or modify Scheduled Flight data, Airport Slot data, and Post-Ops Flight data through a simple text format that uses comma-separated values (CSV) or in-line editing. The generated data in CSV format can be uploaded into the Harmony system. Harmony performs data-integrity error checks in the upload, review, and processing steps.

Your permission level determines which uploads you can perform:

- Super Users, Flow Managers, and Aircraft Operators can upload Flight Schedule data, and Post-Ops Flights data. An Aircraft Operator can only Post-Ops flights in its own major and subcarrier.
- Super Users, Flow Managers, and ANSP users can upload Airport Slot data.

Uploading Data

The upload process is the same for Scheduled Flights, Airport Slots, and Post-Ops Flights. This section explains how to upload the data. The subsequent sections address each of the flight data types.

To upload flight data files, complete the following steps:

1. Click  and select 

from the Data Tools menu.

   The Open Flight Data File window opens (see Figure 188).

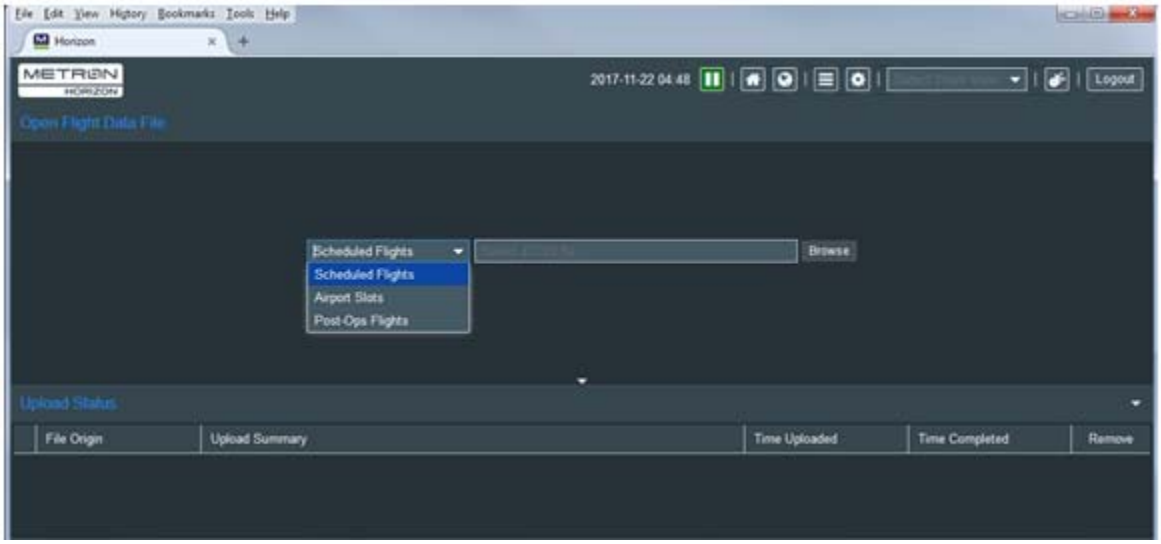


Figure 188: Open Flight Data File window

2. From the Data File dropdown, select the data file that you want to upload: *Scheduled Flights*, *Airport Slots*, or *Post-Ops Flights* (see Figure 188).

3. Click Browse.
4. Navigate to the local directory containing the file that you want to upload, and select the file.

   The data in the CSV file loads.

   Note: If you selected the wrong data file type in Step 2 or uploaded the wrong data file, you will get an error message stating: Unable to load [*filename.csv*]: Cannot find records to import. Invalid file format (see Figure 189). If you get this message, return to Step 2 and reselect the data file type.

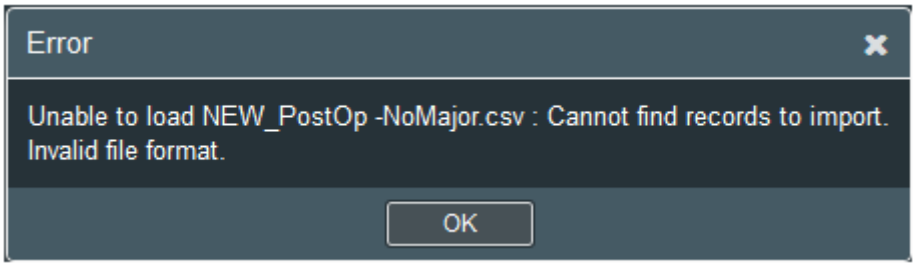


Figure 189: Error message if wrong data file type selected

   In the *Status* column, either *OK* or *Error* is displayed for each record.

   Errors are outlined in red and rollover tips identify the errors.

5. Click in the red-outlined error fields and make the corrections.

   The *Error* status updates to *OK*.

6. Click Upload to upload the records for processing.

   The Upload Status panel at the bottom of the window reports the status.

   - File Origin: Name of uploaded file
   - Upload Summary: Brief summary of the transaction's status with number of records in parentheses [e.g., (5) OK, (1) Warnings, (0) Errors].
   - Time Uploaded: DD/hhmm format
   - Time Completed: DD/hhmm format
   - Remove:Remove button

7. Click ⊞ to show Upload Summary details (see Figure 190).

   Details of the error include the flight ID and specific error.

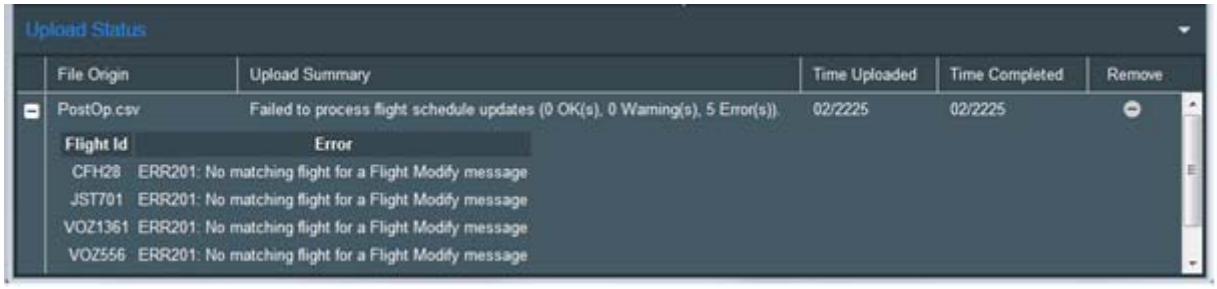


Figure 190: Expanded Upload Summary

8. Correct the errors and click Upload.

   The data is uploaded to the system.

   The Upload Status panel at the bottom of the window reports the status.

Removing Upload Summary Records

You can remove the Upload Summary records.

To remove an Upload Summary record, complete the following steps:

1. In the Remove column of the record to be removed, click ⊖.

   The record is removed from the Upload Status panel.

Scheduled Flights

The Flight Schedule Upload component is used to upload your flight data into the Harmony system. The Flight Schedules data includes ACID, ADEP, ADES, OBT, IBT, AC Type, CNX, and AC Reg (see Figure 191). OBT and IBT will be entered as Aircraft Operator times with an L prefix.

An * (asterisk) in the column header indicates that the data element is required.

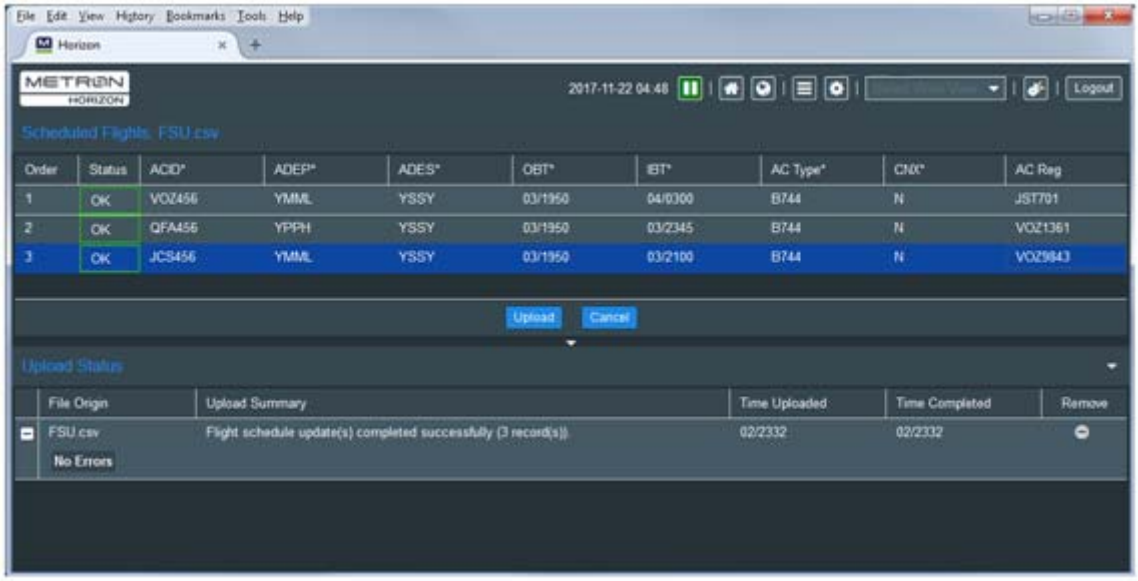


Figure 191: Flight Schedule load

Airport Slots

The Airport Slot Upload component provides an airport user a mechanism for uploading strategic airport slot information into the Harmony system. The Airport Slots data includes ACID, AC Type, ADEP, OBT, ADES, IBT, and CNX (see Figure 192). OBT and IBT will be entered as Strategic Airport Slot times with an R prefix.

An * (asterisk) in the column header indicates that the data element is required.

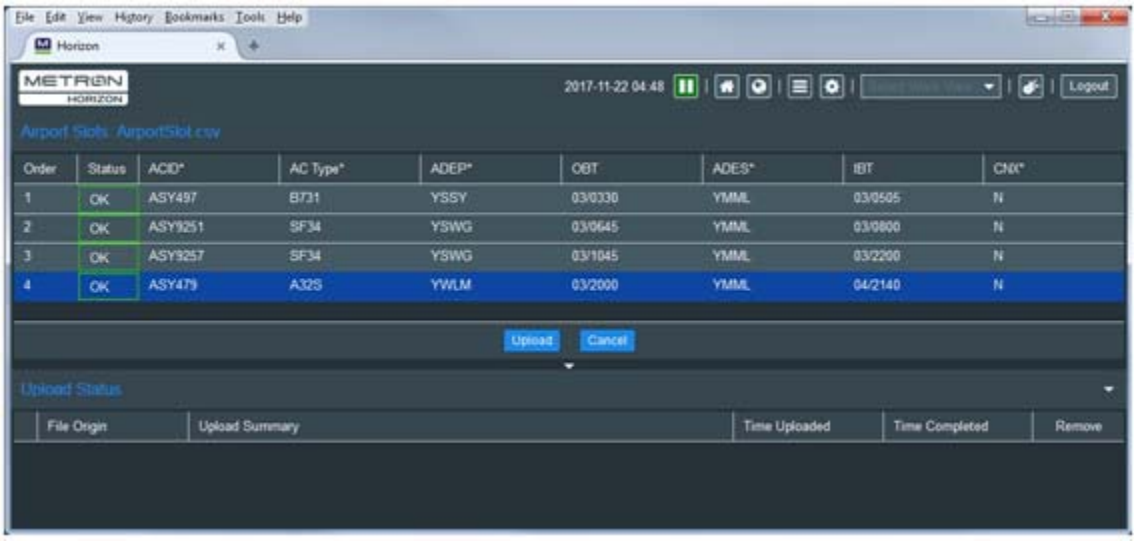


Figure 192: Airport Slots load

Post-Ops Flights

The Post-Operational Flight Times Upload component is used to upload your post-operational Aircraft Operator actual ground event times to the Harmony system. Post-Ops Flights data includes ACID, ADEP, ADES, AOBT, AIBT, AC Type, AC Reg, ATOT and ALDT (see Figure 193).

An * (asterisk) in the column header indicates that the data element is required.

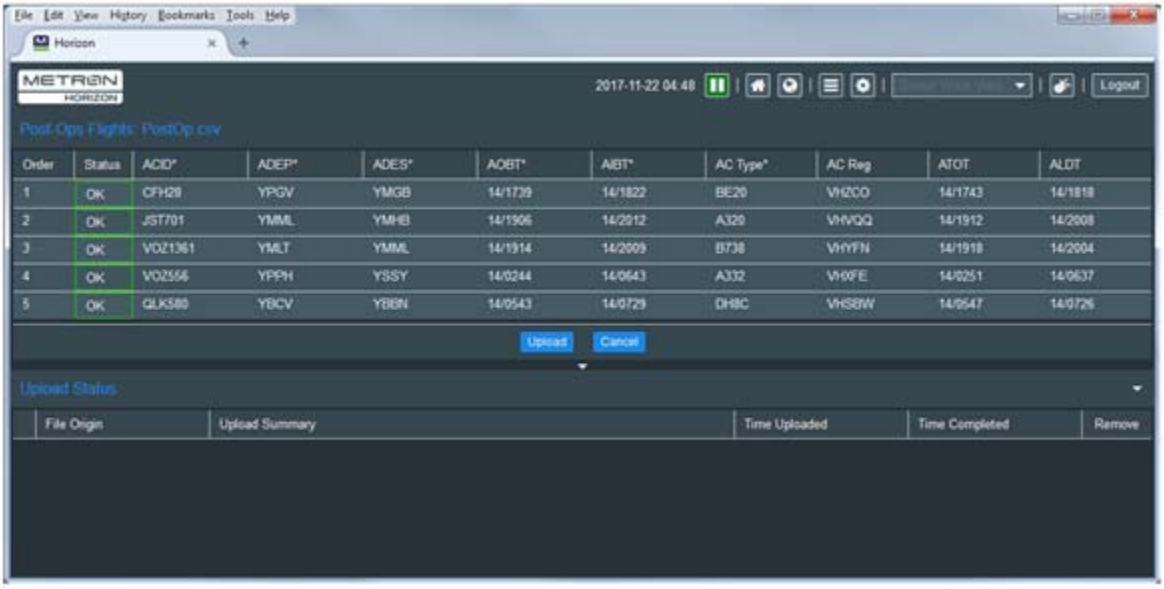
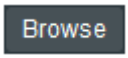
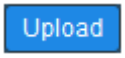
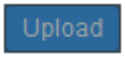


Figure 193: Post-Ops Flights load

Flight Data Upload Buttons and Controls

Table 30 describes the buttons, icons, and controls used in Flight Data Upload.

Table 30: Flight Data Upload buttons and controls

Button	Name	Description
	Data Tools	Access Data Tools (Flight Data Upload and Reporting)
	Browse	Navigate to CSV file
	Upload	Upload records for processing
	Inactive Upload	The Upload button is inactive (grayed out) until all errors are corrected.
	Cancel	Close window without uploading data
	Expand	Expand to show Upload Summary details
	Collapse	Collapse to hide Upload Summary details
	Remove	Remove Upload Status summary
	Collapse	Collapse Upload Status panel
	Expand	Expand Upload Status panel

Chapter 14. Reporting

The Reporting component has defined flight and airport data reports that you can generate and export. The toolbar has four border-separated subsections that contain the controls to run, export, view, and navigate reports (see Figure 194).

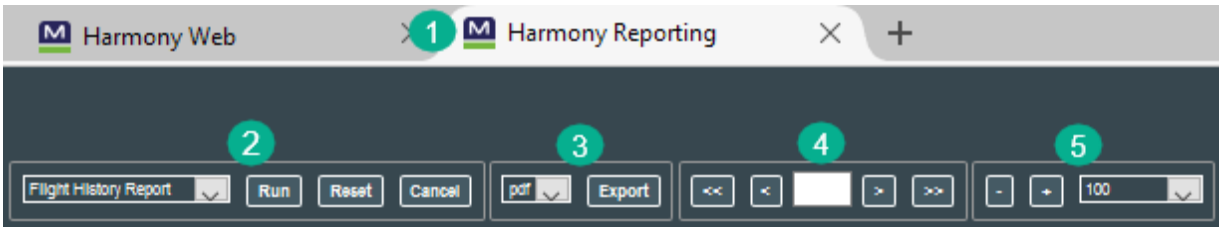


Figure 194: Reporting toolbar

1. Reporting opens in a separate tab.
2. Dropdown menu with a ist of reports and the **Run**, **Reset**, and **Cancel** buttons.
3. Export type dropdown and **Export** button.
4. Pagination section with navigations buttons to the first page, previous page, next page, and last page, as well as the text box for the current page number.
5. Zoom section with buttons to zoom in and zoom out, and select zoom level dropdown.

Report Types

The dropdown provides access to the following reports:

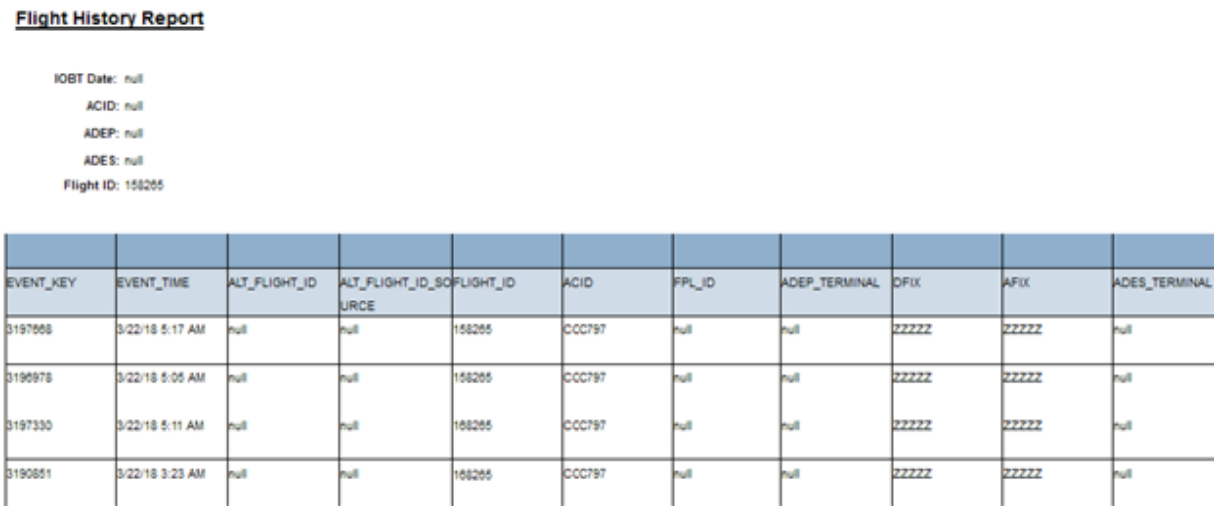
1. **Flight History Report** (see "Flight History Report" on page 174)
2. **Flight Summary Report** (see "Flight Summary Report" on page 175)
3. **Airport Summary Report** (see "Airport Summary Report" on page 176)
4. **Benefit Measure Metrics Report** (see "Benefit Measure Metrics Report" on page 179)
5. **ATFM Measure Performance Report** (see "ATFM Measure Performance Report" on page 181).

Flight History Report

The Flight History report provides flight information for a single flight. You can search for data by a Flight ID or by the flight's IOBT Time, ACID, ADEP, and ADES (see Figure 195).

Figure 195: Flight History search criteria

Figure 196 shows an example of the Flight History report. The search criteria is listed at the top of the report. Use the horizontal scroll bar to view all the columns.



Flight History Report

IOBT Date: null
ACID: null
ADEP: null
ADES: null
Flight ID: 158265

EVENT_KEY	EVENT_TIME	ALT_FLIGHT_ID	ALT_FLIGHT_ID_SOURCE	FLIGHT_ID	ACID	FPL_ID	ADEP_TERMINAL	DFIX	AFIX	ADES_TERMINAL
3197668	3/22/18 5:17 AM	null	null	158265	CCC797	null	null	ZZZZZ	ZZZZZ	null
3196978	3/22/18 5:05 AM	null	null	158265	CCC797	null	null	ZZZZZ	ZZZZZ	null
3197330	3/22/18 5:11 AM	null	null	158265	CCC797	null	null	ZZZZZ	ZZZZZ	null
3190851	3/22/18 3:23 AM	null	null	158265	CCC797	null	null	ZZZZZ	ZZZZZ	null

Figure 196: Flight History report

Flight Summary Report

The Flight Summary Report provides flight information for a range of flights. You can search for data by the IOBT Start Time and IOBT End Time; a specific flight ID; or include the ACID, ADEP, or ADES to further filter which data is returned (see Figure 197).

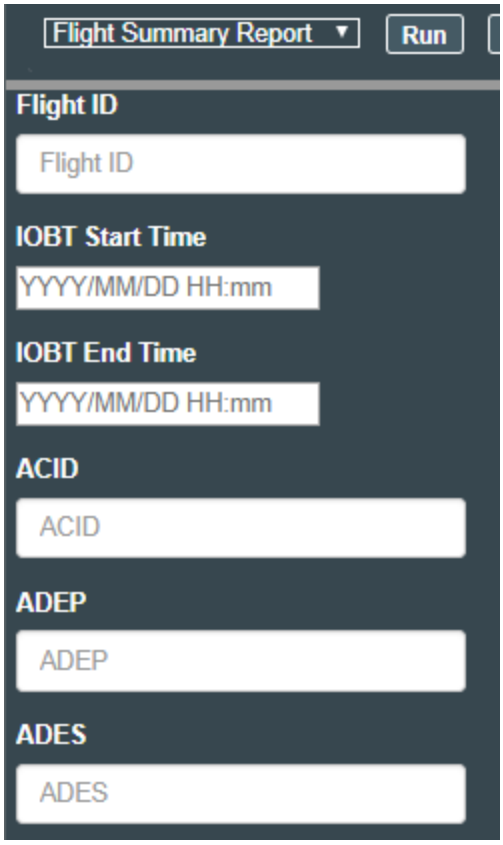


Figure 197: Flight Summary search criteria

Figure 198 shows an example of the Flight Summary report. The search criteria is listed at the top of the report. Use the horizontal scroll bar to view all the columns.

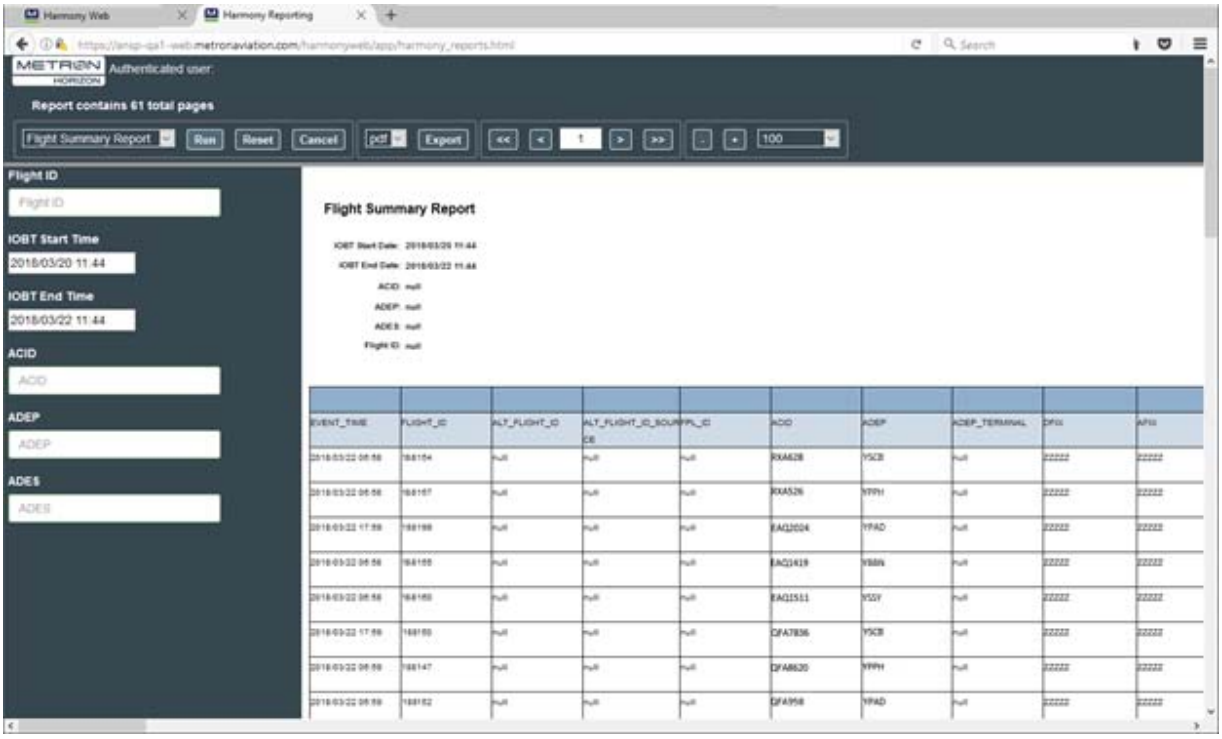


Figure 198: Flight Summary report

Airport Summary Report

The Airport Summary Report provides a graphical view of an airport's data (e.g., demand lead time, resource utilization, data overview, actual demand accuracy, pre-tactical demand, flight planning and schedule matching. You can search by the airport's ICAO identifier and start date (see Figure 199).

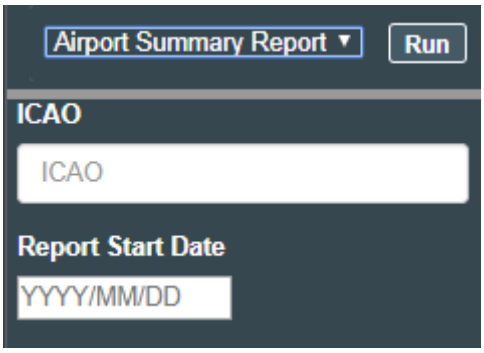


Figure 199: Airport Summary search criteria

Figure 200 shows an example of the Airport Summary report. The report has three sections.

- The table at the top contains the flight data.
- Below the table is a graph that compares the scheduled times to the ALDT and ETA.
- Below the ALDT-ETA graph are several bar graphs that further analyze the data. Table 31 describes the data elements in each section.

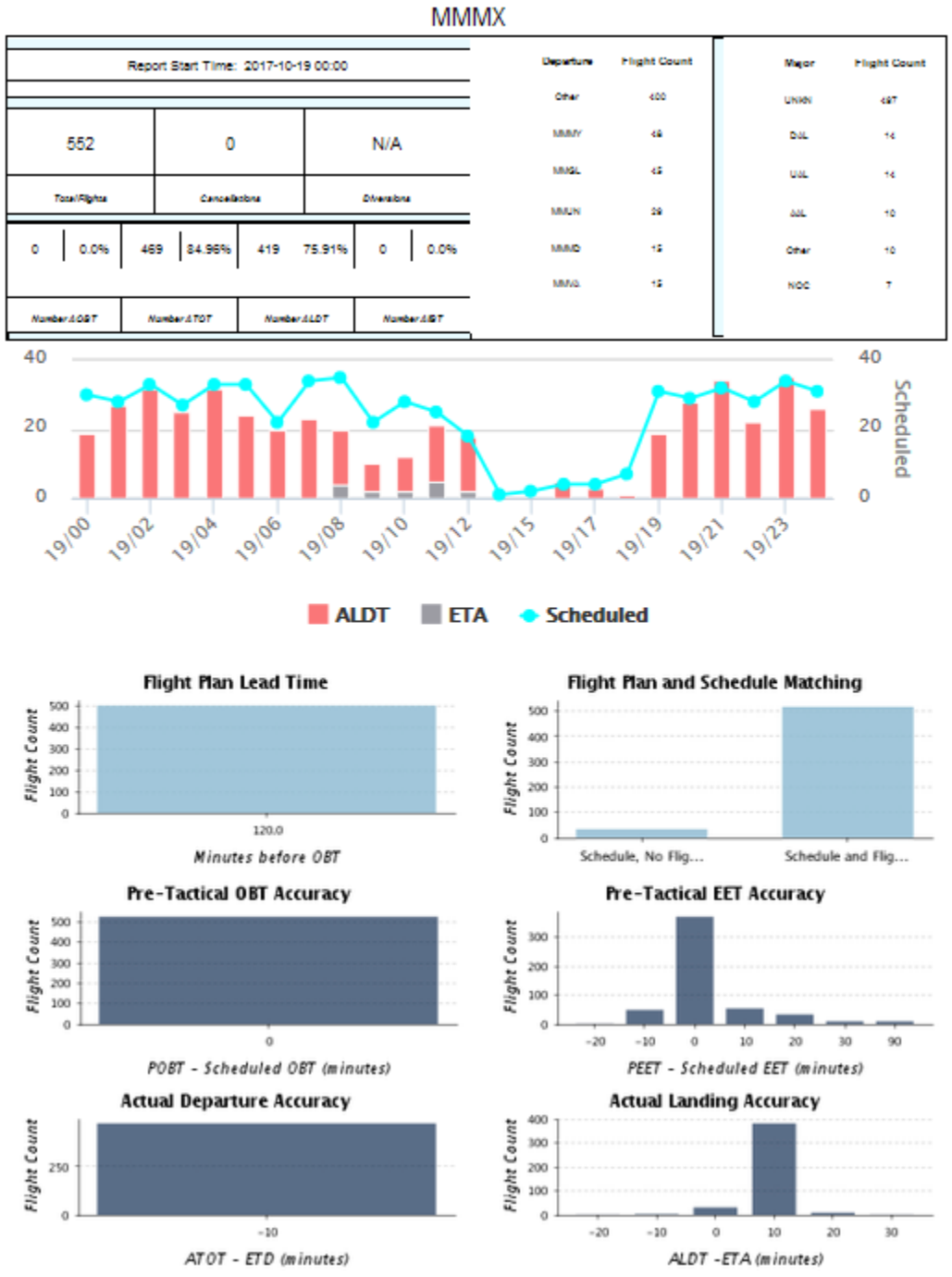


Figure 200: Airport Summary report

Airport Summary Data Elements

Table 31 describes the Airport Summary report's data elements.

Table 31: Airport Summary data elements

Data Element	Description
Heading	Airport for which the report was generated
TABLE	
Report Start Time	Start Time in YYYY/MM/DD (default time is start of the operational day (e.g., 18:00)
Total Flights	Total arrival flights
Cancellations	Number of cancelled flights
Diversions	Number of diverted flights
Number AOBT	Number and percentage of Actual Off Block Times
Number ATOT	Number and percentage of Actual Take Off Times
Number ALDT	Number and percentage of Actual Landing Times
Number AIBT	Number and percentage of Actual In Block Time
Departure Flight Count	Flight count from the departure airport
Major Flight Count	Flight count per Major
GRAPH	
Y-axis	Number of scheduled flights
X-axis	Date and time in DD/HH format
ALDT bar (red)	Total flights that actually landed in the specified time
ETA bar (gray)	Total ALDT flights that met their ETA in the specified time
BAR GRAPHS	
Flight Plan Lead Time	Minutes before OBT
Flight Plan and Schedule Matching	Schedule, No Flights and Schedule and Flight Plan
Pre-Tactical OBT Accuracy	POBT - Scheduled OBT (minutes)
Pre-Tactical EET Accuracy	PEET - Scheduled EET (minutes)
Actual Departure Accuracy	ATOT - ETD (minutes)
Actual Landing Accuracy	ALDT - ETA (minutes)

Benefit Measure Metrics Report

The Benefit Measure Metrics report provides information about the reduction in airborne holding attributable to an ATFM initiative (GDP and AFP measures). This report is for determining how much airborne holding and fuel was saved by an implemented measure. This information is also useful to track efficiency and fuel savings benefits derived from the ATFM System.

Figure 201 shows an example of the Benefit Measure Metrics report.

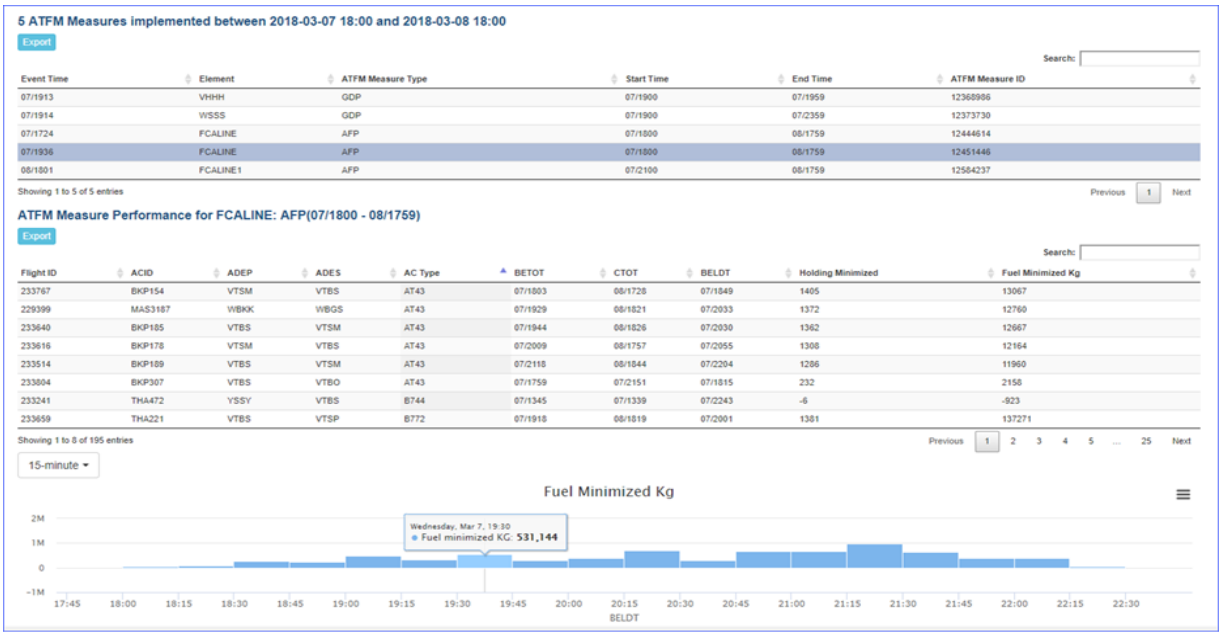


Figure 201: Benefit Measure Metrics report

- The top of the report lists the implemented measures. When you select a measure, the following two sections are populated with the data for the selected measure. Click the **Export** button to export the data.
- The middle of the report lists the benefits report for the flights in the selected measure. Click the **Export** button to export the data.
- The bottom of the report displays a bar graph depicting the fuel savings. Use the time bin dropdown (located in the upper left corner) to select the increments (e.g., 15 minutes, 30 minutes) that the data is displayed (see Figure 202). Hover over a bar to display the date and amount of fuel minimized (see Figure 202).

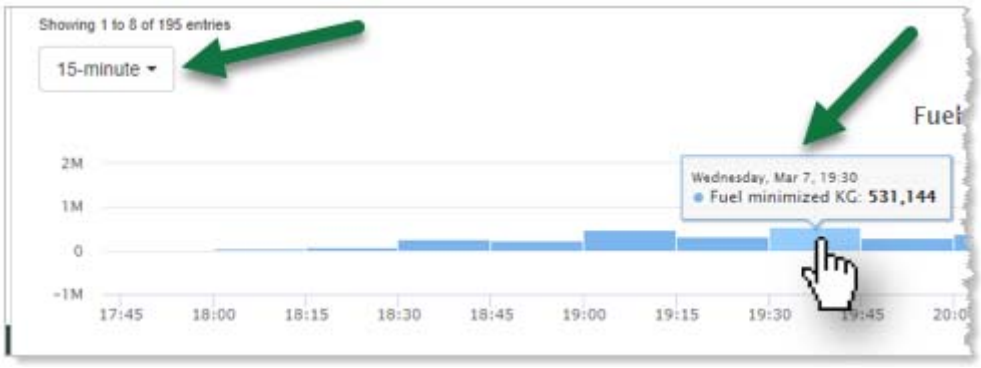


Figure 202: Time bin and bar information

To save an image of the bar graph, right-click on the pie chart and select the option to download it in PNG, JPEG, SVG or PDF format.

Benefit Measure Metrics Report Data Elements

Table 32 describes the Benefit Measure Metrics Report's data elements.

Table 32: Benefit Measure Metrics Report data elements

Data Element	Description
Summary statement above table	Measure Implemented between [time range]
• Event Time	• Event Time in YYYY-MM-DD HH:mm format
• Element	• Airport or FCA
• ATFM Measure Type	• GDP or AFP
• Element Type	• APT for airport or FCA
• Start Time	• Start Time in YYYY-MM-DD HH:mm format
• End Time	• End Time in YYYY-MM-DD HH:mm format
• ATFM Measure ID	• Identifying number for the event
Summary Statement above table	Benefits report for [number of flights] during [Measure ID]; [number of minutes of holding minimized]; [amount in Kg] of fuel minimized
• Flight ID	• Flight identifier
• ACID	• Aircraft identifier
• ADEP	• Departure airport
• ADES	• Arrival airport
• AC Type	• Aircraft type or UNKN for unknown
• BETOT	• Base Estimated Time of Take Off
• CTOT	• Calculated Time of Take Off
• BELDT	• Base Estimated Landing Time
• Holding Minimized	• Number of holding minutes that were minimized

Data Element	Description
• Fuel Minimized Kg	• Amount of fuel that was minimized (in Kg)
Bar Graph Heading	• Fuel Minimized Kg
• Y-axis	• Number of Kg in millions
• X-axis	• Base Estimated Landing Time per hour

ATFM Measure Performance Report

The ATFM Measure Performance Report provides information about the departure compliance for flights in a selected ATFM measure (TMI).

- Compliance is measured at the departure airport as [ATOT-CTOT].
- Flights are considered compliant if ATOT-CTOT is between -5 and +10 minutes. Flights that are outside this range are considered non-compliant.
- Exempt flights are not included in the compliance statistics nor categorized as compliant/non-compliant.

The top of the report lists the implemented measures (see Figure 203). When you select a measure. The measures are based on the user-selected operational date (with the default start-of-operational-day time of 18:00). For example, 2018-03-05 18:00 and 2018-03-06 18:00.

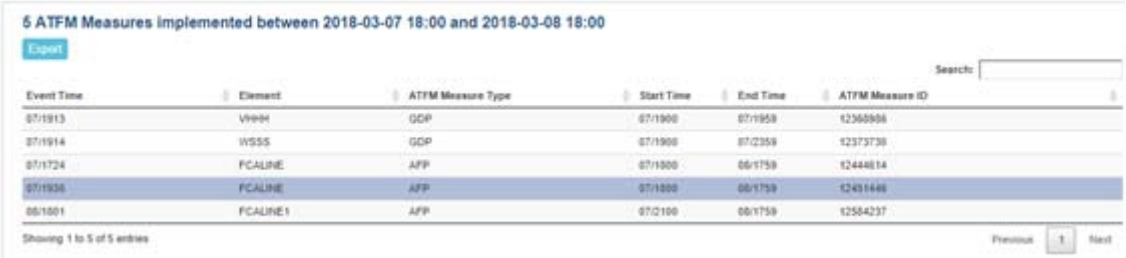


Figure 203: Top section of ATFM Measure Performance Report

When you select a measure, the lower portion of the report displays the Departure Compliance analysis of the flights in the selected measure. Each of the red-encircled numbers corresponds with the corresponding number listed below Figure 204.

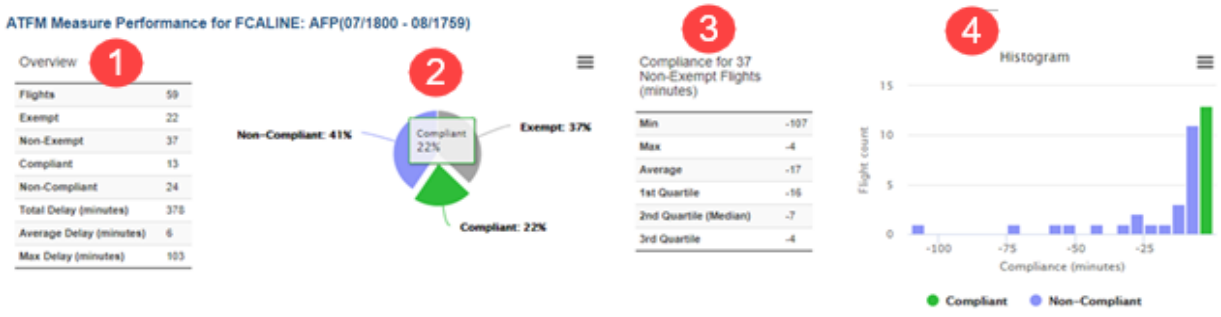


Figure 204: Departure compliance analysis

1. The Overview summarizes the measure's flight information, which includes the number of flights; exempt and non-exempt flights; compliant and non-compliant flights; and total, average, and max delay.
2. The pie chart illustrates the non-compliant (blue slice), compliant (green slice), and exempt (gray slice) flights. As you hover your cursor over a slice, it separates from the pie and displays the percentage of flights. The percentage is also displayed in each slice's label.

   To view the compliance percentage by carrier, click a slice (see Figure 205).

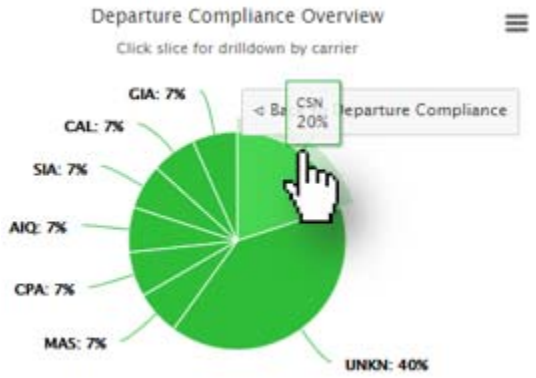


Figure 205: Click to view compliance of carriers

   To save an image of the pie chart, right-click on the pie chart and select the option to download the image as an image (PNG, JPEG, SVG) or document (PDF).
3. To the right of the pie chart, is a statistical summary of the compliance for the non-exempt flights. The summary includes the following statistics: minimum, maximum and average minutes of compliance; and the 1st, 2nd (median), and 3rd quartiles.
4. To the far right, the histogram provides a side-by-side comparison of the compliant and non-compliant flight counts. As you hover your cursor over a bar, a pop-up box displays the number of flights and the range of compliance (e.g., 13 flights with compliance -5 to -1 minutes). Note that the color scheme is the same as the pie chart (i.e., green idicates "compliant" and blue indicates "non-compliant").

Generating Reports

The following steps are for generating all reports. While the search criteria is different for the reports, the steps to run the reports are the same.

To generate reports, complete the following steps:

1. From the Data Tools  (located on the main toolbar), select 

.

   The Harmony Reporting component opens in separate tab that is labelled *Reporting*.
2. To select the type of report, click the dropdown arrow and select the report.

   The search criteria fields for the selected report are displayed.

3. Enter the search criteria. The search criteria for each report is describe in Table 33. If you want to clear the fields, click Reset.

4. Click Run.

   The aqua-colored processing indicator and "Executing report…" message are displayed below the logo.

   When the report successfully executes, a confirmation message with the number of total pages "*Report contains # total pages*" is displayed below the logo and the report is displayed on the right side of the screen.

Cancelling an In-progress Report

An in-progress report can be stopped by clicking Cancel.

To stop an in-progress report, complete the following steps:

1. For a report that has the aqua-colored processing indicator and "Executing report…" message, click Cancel.

   The aqua-colored processing indicator and "*Cancelling report…*" message are displayed below the logo.

   The report stops processing and the cancellation message "*Report run cancelled*" is displayed below the logo.

   Note: Sometimes, the report may successfully complete even though you clicked **Cancel**. This is because the data had already been retrieved and was uploading to your screen before you clicked **Cancel**.

Exporting Reports

Reports can be exported in PDF and CSV formats.

To export a report, complete the following steps:

1. After running the report, from the file type dropdown list (see Figure 206), select the format of the report.

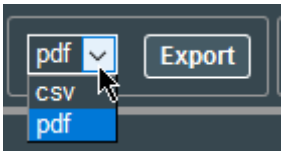


Figure 206: Export file type dropdown

2. Click Export. For the Benefit Measure Metrics Report, a blue **Export** button is displayed both in the *Measures Implemented* and *Benefit Report* section.

A file is created for the selected format is created with the filename (e.g., *flight-list-[name]-YYYYMMDDhhmm.csv)*

A dialog box with file save/open options opens (see Figure 207). Note that the dialog box will vary depending on your browser and operating system.

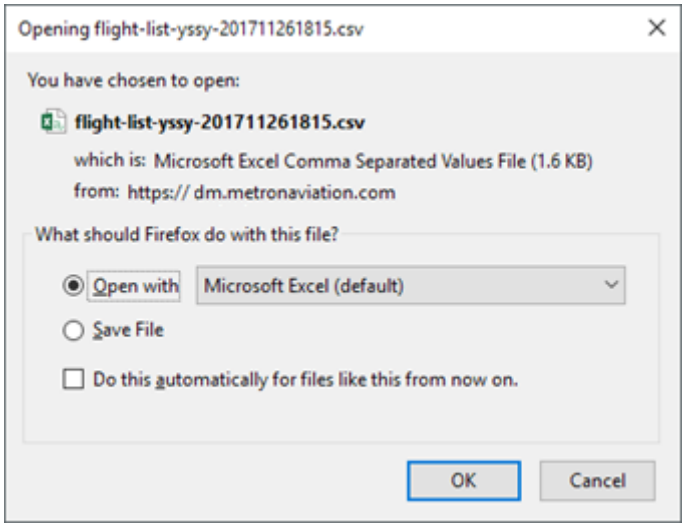


Figure 207: Example of Save/Open dialog box

3. Select the option to either open or save the file and click **OK**.

   Depending on which options you selected, the file is either opened or saved to your default folder for downloads.

Search Criteria Data Elements

Table 33 describes the search criteria's data elements.

Table 33: Search Criteria Data Elements

Data Element	Description	Report
Flight ID	Flight Identification • Must be 1–19 numeric characters. • Must be greater than 0.	• Flight History • Flight Summary
IOBT Time	Initial Off Block Time • Must be 16 characters. • Must be in YYYY/MM/DD HH:mm format. • When Flight ID is provided, IOBT Time must be empty.	• Flight History

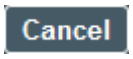
Data Element	Description	Report
IOBT Start Time	Initial Off Block Time Start Time • Must be 16 characters. • Must be in YYYY/MM/DD HH:mm format. • When Flight ID is provided, IOBT Time must be empty.	• Flight Summary
IOBT End Time	Initial Off Block Time End Time • Must be 16 characters. • Must be in YYYY/MM/DD HH:mm format. • When Flight ID is provided, IOBT Time must be empty.	• Flight Summary
Start Time	Starting date of report. The default time range is the start of the operational day (e.g., 18:00) of the selected date to the start of the operational day for the following day.	• Benefits Dashboard • ATFM Measure Dashboard
End Time	Ending date and time of report	• Arrival Delay Dashboard (for Benefit Measure Metrics Report)
Report Start Date	Starting date and time of report • Must be 16 characters. • Must be in YYYY/MM/DD	• Airport Summary
ACID	Aircraft Identification • Must contain only alphanumeric characters.	• Flight History • Flight Summary
ADEP	Departure Airport • Each entry must be 2–5 characters. • Multiple entries require commas with no space between entries. • Entries must be alphanumeric characters or a comma.	• Flight History • Flight Summary
ADES	Arrival Airport • Each entry must be 2–5 characters. • Multiple entries require commas with no space between entries. • Entries must be alphanumeric characters or a comma.	• Flight History • Flight Summary • Benefits Dashboard

Data Element	Description	Report
ICAO	International Civil Aviation Organization airport identifier • Must be 4 characters.	• Airport Summary

Reporting Buttons and Controls

Table 34 describes the buttons, icons, and controls used in Reporting.

Table 34: Reporting Buttons and Controls

Button	Name	Description
	Run	Generate and load the selected report
	Reset	Clear data from the entry fields
	Cancel	Cancel the in-progress report
	Export	Export the report in the selected format
	First Page	Display the first page of the data
	Previous Page	Display the previous page of data
	Page Number	Display the page number
	Next Page	Display the next page of data
	Last Page	Display the last page of the data
	Increase	Zoom in
	Decrease	Zoom out
	Records per page	Number of records displayed on the page, page width, and page height
	Time dropdown	Select increment of time to display Benefit Measure Metrics Report data in bar graph
	Search field	Enter search parameter for Benefit Measure Metrics Report data

Chapter 15. TMI Parameters Display

The TMI Parameters Display enables you to view the TMI parameters for scheduled and currently active TMIs (i.e., GDP-A for airports and runways; GDP-D for airports; AFP and GS for FCAs and airports). Note that Proposed programs are not displayed.

GDP and AFP program rates are displayed in a line graph. GDP-D runway rates are displayed in stacked bars per runway. The TMI Parameters Display (see Figure 208) is accessed via Data Tools menu or a button in TMI Alerts.

The TMI parameters are automatically updated per the Auto-Update Interval defined in the System Settings' General tab. Note that if the **Pause** button in the main toolbar is selected, the parameters are not updated until you click the **Pause** button to resume the updates.

Figure 208 shows an example of the TMI Parameters Display for an AFP. The data elements in the TMI Parameters Display are specific to the selected TMI. For more information about which data elements are available for each TMI type, see Table 35 in "TMI Parameters Data Elements" on page 191. The table also includes a description of the data elements.

Figure 208: TMI Parameters Display window

The reference numbers in Figure 208 are described in the following list:

1. The TMI Parameters Display title bar heading parenthetically indicates whether the selected TMI is Actual or Proposed.

2. The left-side panel displays a hierarchy in which the two top-level folders are for the element type (Airport and FCA). A subfolder exists for each resource (airport or FCA) that has a scheduled or currently active TMI. Within each subfolder, the TMIs for the airport or FCA are listed.
3. FCA or airport name, type of program, and the start and end times.
4. Slot List is available only for AFPs. For more information, see "Slot List Option for AFPs" on page 188.
5. Timestamp of when the data was received.
6. Subs indicator.
7. See the sections outlined in red. The data is presented in multiple subsections (e.g., Times, Include, Impacting Condition, General, Exemptions, FCAs, Departure/Arrival Groups, Departure/Arrival Airports, Flights, and the graphical Rates section.

   Note: The following reference numbers correspond with the Rates section. GS TMIs do not have the Rates section.

8. Program – Click to show or hide the program rate.
9. Time Bin – Display the graph's capacity and demand information based on the selected time increment (i.e., 15-min, 30-min, 60-min).
10. Rates line graph: Rates are listed on the y-axis and the time is listed on the x-axis. The line represents the AAR for GDP-A programs and ADR for GDP-D programs. Runway rates for GDP-A programs are displayed as stack bars per runway.
11. Locked/Unlocked toggle button. The button shows the current state (locked or unlocked. The desired action (unlock or lock) is the opposite of the button:

    - Click  to the lock / move the thumbs (orange squares) together to change the range of the time displayed.
    - Click  to unlock / independently move the sliders to change the total number of hours displayed.

12. Time (UTC) slider bar. Move the thumbs to adjust the time range.
13. Click Reset to undo your changes and reset the Rates graph to its default settings.

Slot List Option for AFPs

AFPs have an additional row in the Times section for Slot List options (see Figure 209). There are two Slot List options, *Default* and *Schedule*. The Schedule view displays the Slot List schedule and removed slots.

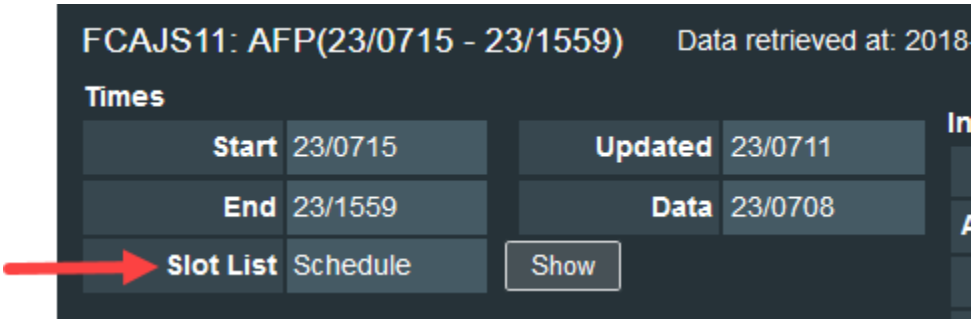


Figure 209: Slot List row for an AFP

To view the Schedule, complete the following steps:

1. In the *Slot List Schedule* cell, click Show or View.

   The **Show/View** button toggles to Hide.

   The Slot List opens and displays the Slot List schedule and list of removed slots (see Figure 210).

   The *Start* and *End Times* and *Slot Interval* are shown for each slot.

   Removed Slots are displayed.

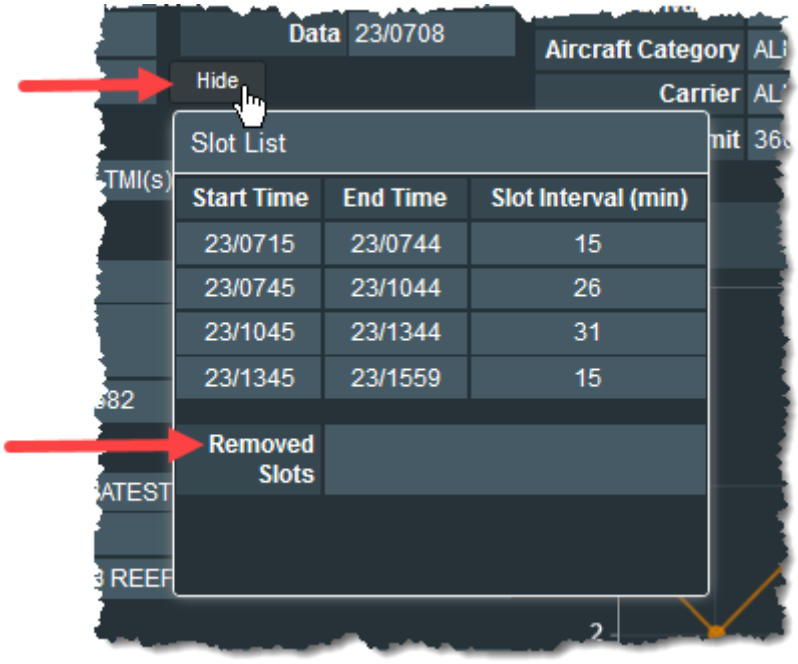


Figure 210: Schedule Slot List

2. To collapse/hide the Schedule, click Hide.

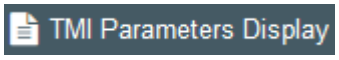
   The Schedule closes.

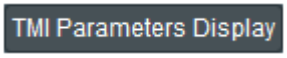
Viewing TMI Parameters Display

TMI Parameters Display can be accessed via Data Tools or TMI Alerts.

To view the TMI Parameters Display, complete the following steps:

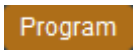
1. Open the TMI Parameters Display view with one of the following methods:

   - Click  and select 

     from the Data Tools menu.
   - Click  (TMI Alerts in the main toolbar). In the upper right corner of the TMI Alerts window, click 

     .

   The TMI Parameters Display window opens (as previously shown in Figure 208).

2. To show or hide the Program Rate, click 

   or roll your mouse over the circle.

   The center of the circle is colored yellow to show selection and the rate is displayed in a pop-up box (see Figure 211).

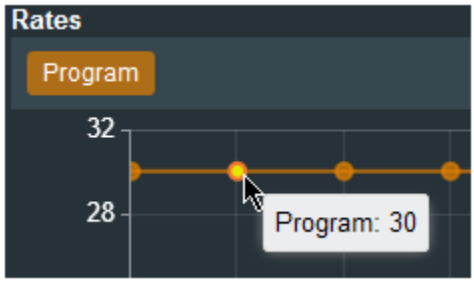


Figure 211: Roll over circle to display program rate

3. To change the time display of the graph, from the Time Bin dropdown, select a time increment (15-min, 30-min, or 60-min) (see Figure 212).

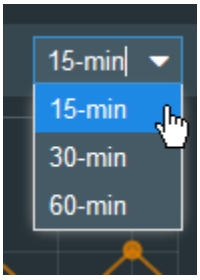


Figure 212: Time Bin dropdown

4. To undo your changes, click 

   .

   The Rates line graph to its default settings.

   Note: If the TMI currently being viewed no longer is available (e.g., it expires or is purged), a message is displayed (see Figure 213).

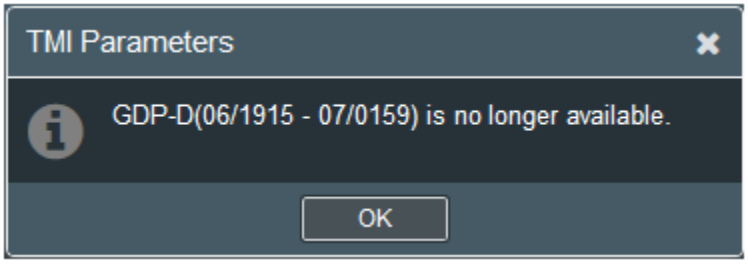


Figure 213: Message when TMI is no longer available

TMI Parameters Data Elements

Table 35 describes the TMI Parameters data elements.

Table 35: TMI Parameters data elements

Element	Description	Program Type
Times		
Start	Start time of program	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA
End	End time of program	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA,
Slot List	Start Time: Start time for generating slots End Time: End time for generating slots Slot Intervals (Minutes): Count of created slots (in 15 minute intervals) Removed Slots: List of removed slots	AFP
Update	Last ADL time that passed before running the program	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA
Data	ADL time on which you are modelling and analyzing data	GDP-A, GDP-D, GS-Airport, GS-FCA, AFP

Element	Description	Program Type
Include		
Arrival Fix	Arrival fixes included in the TMI.	AFP, GDP-A, GS-FCA
Departure Fix	Departure fixes included in the TMI.	GDP-D, GS-Airport
Aircraft Category	Aircraft types (e.g., Heavy, Light, Jet, Turbo, or All) included in the TMI.	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA
Carrier	Carriers (i.e., ALL or carrier code for aircraft operator) included in the TMI.	GDP-A, GDP-D, GS-Airport, GS-FCA, AFP
Delay Limit	The maximum number of minutes a flight can be delayed. Default value is 360 minutes.	AFP, GDP-A, GDP-D
Impacting Condition		
Category	Reason for running the TMI	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA
Cause	Cause of the selected category	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA
Probability of Extension	Lists probability of FCA extension (i.e., Low, Medium, High)	GS-Airport, GS-FCA
General		
Controlled by	Controlled flights can be prevented from having their controlling TMI changed when a new program is issued. Flights can be selected by TMI Scope, Exemption Status, or Other TMI(s).	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA
EXEMPTIONS		
Exempt By	Type of exemption (i.e. Distance or Tier) Distance exemption includes distance in nautical miles (NM.)	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA

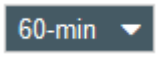
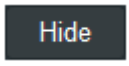
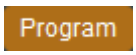
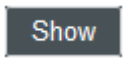
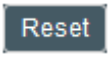
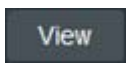
Element	Description	Program Type
Non-Exempt Internationals	Indicates whether international flights are included in the TMI: Y = International flights are included N = International flights are excluded	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA,
Exclude Flights	List of excluded flights.	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA
FCAs		
Exempt	Flights in listed FCAs are excluded from the TMI.	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA
Departure Groups		
Exempt	Departure groups that will be excluded from the TMI.	AFP, GDP-A, GS-Airport, GS-FCA
Non-Exempt	Departure groups that will be included in the TMI.	AFP, GDP-A, GS-Airport, GS-FCA
Arrival Groups		
Exempt	Arrival groups that will be excluded from the TMI.	GDP-D
Non-Exempt	Arrival groups that will be included in the TMI.	GDP-D,
Departure Airports		
Exempt	Departure airports that will be excluded from the TMI.	AFP, GDP-A, GS-Airport, GS-FCA
Non-Exempt	Departure airports that will be included in the TMI.	AFP, GDP-A, GS-Airport, GS-FCA
Arrival Airports		
Exempt	Flights arriving at the listed airports will be excluded from the TMI.	GDP-D
Non-Exempt	Flights arriving at the listed airports will be included in the TMI.	GDP-D,

Element	Description	Program Type
Flights		
Exempt	Flights that will be excluded from the TMI.	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA
Pre-departure Exempt by	Pre-departure flights departing within the specified time parameters (e.g., Departure Time, Data Time + [number of minutes]) will be excluded from the TMI.	AFP, GDP-A, GDP-D, GS-Airport, GS-FCA
Active Exempt by Arrival Time	Active flights arriving within the specified time parameters (e.g., Data Time + [number of minutes]) will be excluded from the TMI.	AFP, GDP-A

TMI Parameters Display Buttons

Table 36 describes the buttons, icons, and controls used in TMI Display Parameters.

Table 36: TMI Parameters Display alerts buttons, icons, and controls

Button	Name	Description
	Time Bin	Select the time increments of the display (15-min, 30-min, 60 min)
	Locked	Indicates the Time (UTC) thumbs on the slider bar are locked, which means they move together Click to unlock the thumbs
	Unlocked	Indicates the Time (UTC) thumbs on the slider bar are unlocked, which means they move independently Click to lock the thumbs
	Hide	Collapse the Slot List
	Program	Click to show or hide the program rate.
	Show	Open the Slot List
	Reset	Reset to default settings
	View	Open the Slot List

Chapter 16. Runway Configuration

Runway Configuration provides a view of the active and scheduled runway configurations, including the start and end time, name, landing rules, arrival (ARWY) and departure (DRWY) runways, and the airport arrival (AAR) and departure (ADR) rates. The expanded details of a runway includes its AC group. The list of Runway Configurations is automatically updated per the Auto-Update Interval defined in the System Settings' General tab. Note that if the **Pause** button in the main toolbar is selected, the runway data is not updated until the button is re-clicked to resume updates.

Viewing Runway Configurations

Runway Configurations can be accessed via the Data Tools menu or the *Airport Event* tab in Resource Alerts.

To view runway configurations, complete the following steps:

1. Open the Runway Configuration view with one of the following methods:

   - Click  and select 

     from the Data Tools menu.
   - Click  (Resource Alerts in the main toolbar). In the upper right corner of the Resource Alerts window, click 

     .

   The Runway Configuration window opens (see Figure 214). For more information about the data, see "Runway Configuration Data Elements" on page 198.

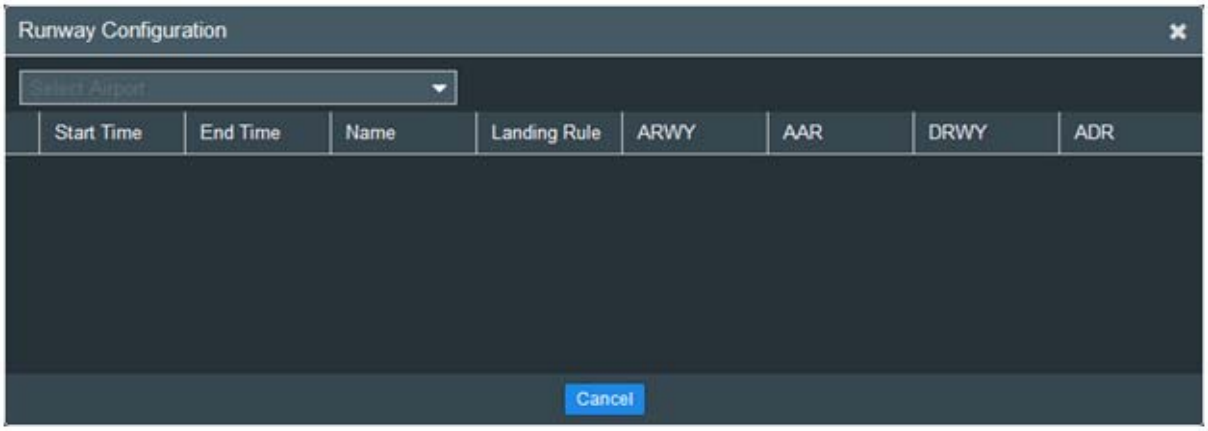


Figure 214: Runway Configuration window when first opened

2. From the 

   (*Select Airport)* dropdown, select an airport or begin to type the airport code and the smart filter will navigate the list.

   The airport's runway configurations are displayed (see Figure 215).

Figure 215: List of runways at a selected airport

3. To view the runway's aircraft types as well as the departure/arrival runways and capacities, click  to expand the row.

   The row expands (see Figure 216). For more information about the data, see "Runway Configuration Data Elements" on page 198.

   The **Expand** button toggles to the **Collapse** button  .

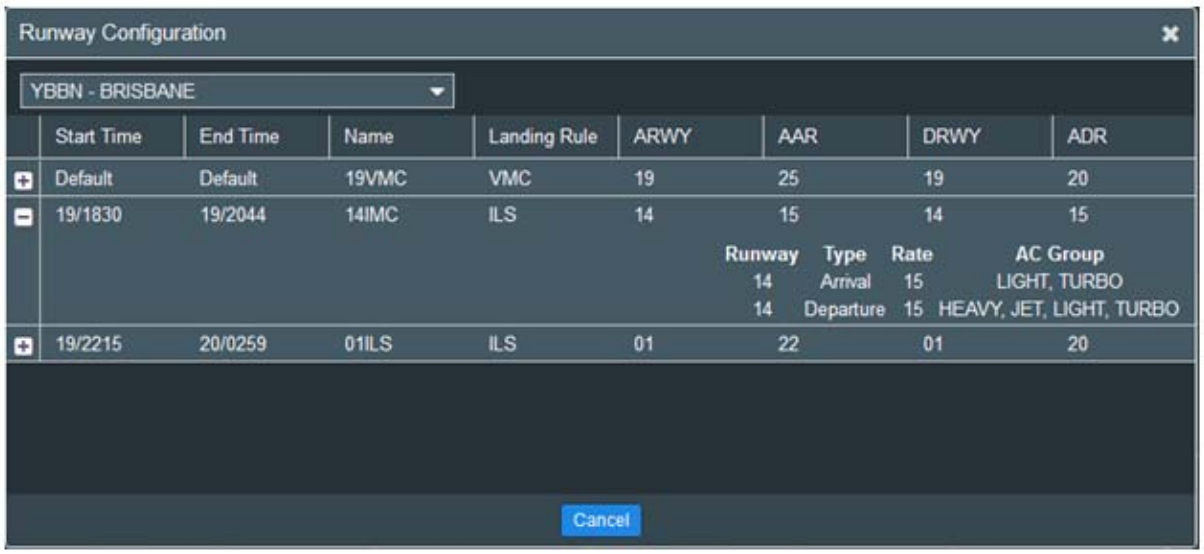


Figure 216: Expanded view of runway configuration

Sorting the Data

You can sort the data in ascending or descending order for the current view. That is, as soon as you close and reopen the window, it reverts to the default sort.

To sort the list, complete the following steps:

1. Roll over the column heading that you want to sort by ascending or descending order.

A dropdown arrow is displayed (see Figure 217).

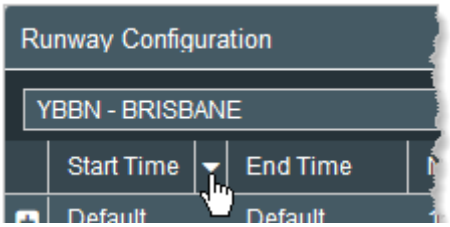


Figure 217: Roll over column heading reveals the sort arrow

2. Click the dropdown arrow.

   The dropdown menu opens and displays the options *Sort Ascending*, *Sort Descending*, and *Columns* (see Figure 218).

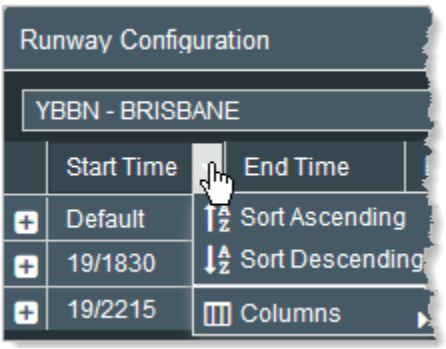


Figure 218: Dropdown menu

3. Select *Sort Ascending* or *Sort Descending*.

   The list of runways is sorted according to your selection.

Showing and Hiding Columns

You can configure which columns are shown or hidden in the *current* view. That is, as soon as you close and reopen the window, it reverts to the default display of all available columns.

To configure which columns are displayed, complete the following steps:

1. Roll over any column heading.

   A dropdown arrow is displayed (as previously shown in Figure 217).

2. Click the dropdown arrow.

   The dropdown menu opens and displays the options *Sort Ascending*, *Sort Descending*, and *Columns* (as previously shown in Figure 218).

3. From the dropdown menu, select Columns.

   A list of the columns is displayed with a checkbox for each column (see Figure 219).

   The check indicates the column is shown and the absence of a check indicates the column is hidden.

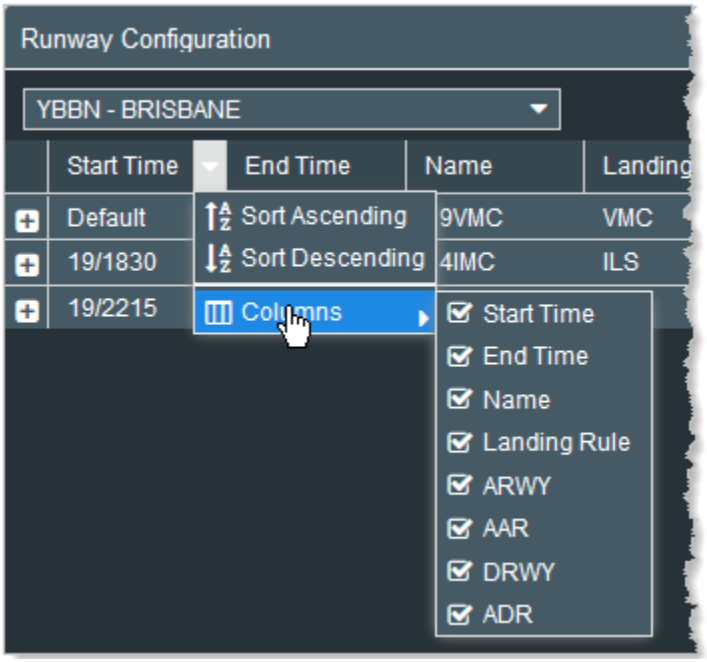


Figure 219: List of columns

4. In the list of columns, select a column heading to show it or unselect a column heading to hide it.

   The column is added or removed from the display based on your selection or deselection.

Runway Configuration Data Elements

Table 37 describes the Runway Configuration data elements.

Table 37: Runway Configuration data elements

Data Element	Description
Start Time	The start time of the runway configuration in DD/HHMM format
End Time	The end time of the runway configuration
Name	Name of predefined configuration
Landing Rule	ILS – Instrument Landing System IFR – Instrument Landing Rules IMC – Instrument Meteorological Conditions PRM – Precision Runway Monitor VFR – Visual Flight Rules VMC – Visual Meteorological Conditions
ARWY	Arrival runway identifier
AAR	Airport Arrival Rate
DRWY	Departure runway identifier
ADR	Airport Departure Rate

Data Element	Description
Runway	The runway identifier
Type	Type of runway: Arrival or Departure
Rate	Runway capacity: AAR or ADR
AC Group	Aircraft Equipment Classification (e.g., Heavy, Jet, Light, Turbo, or Unknown)

Runway Configuration Buttons

Table 38 describes the buttons, icons, and controls used in Runway Configuration.

Table 38: Runway Configuration buttons

Button	Name	Description
	Close or X	Close the window
	Plus Sign / Expand	Expand the row to display more data
	Minus Sign / Collapse	Collapse the expanded view
	Cancel	Close the window

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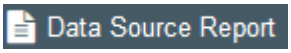
Chapter 17. Data Source Report

The Flight Data Source Report component displays arrival flight counts for the current and following operational day. The counts are based on the latest source of data for each flight as provided by airline marketing schedules (e.g., the Official Airline Guide [OAG]), flight schedule uploads, and flight plans). The report is available to Super Users and Flow Managers.

Flight Data Source Report Window

To open the Flight Data Source Report window, complete the following steps:

1. Click  and select 

from the Data Tools menu.

   The Flight Data Source Report window opens (see Figure 220).

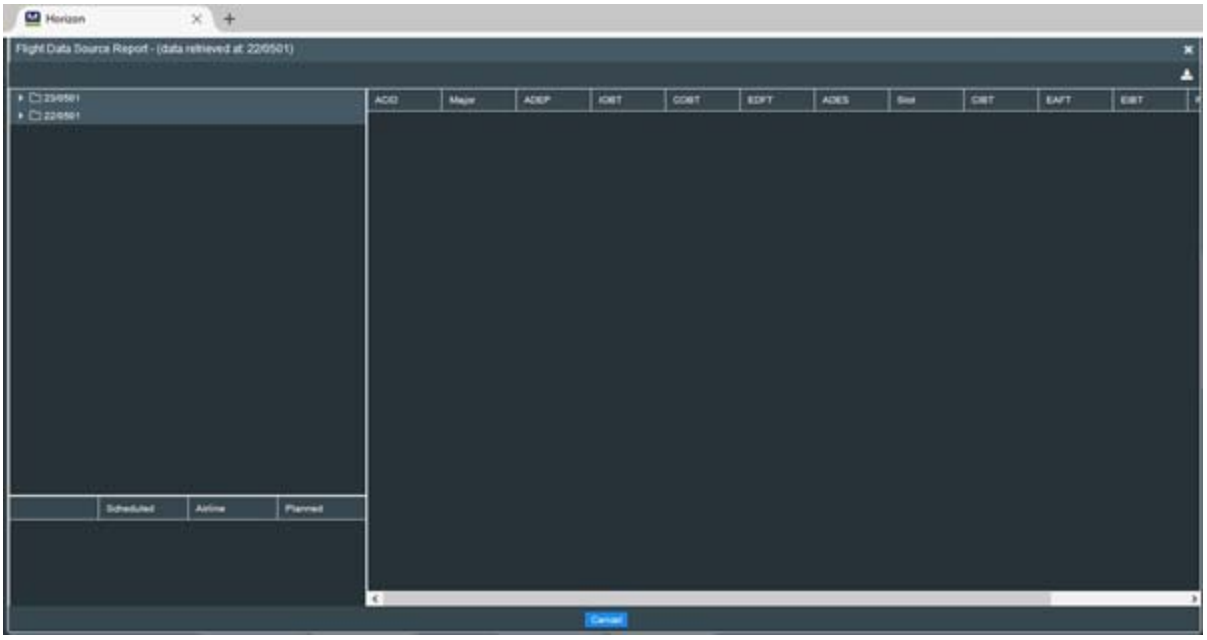


Figure 220: Flight Data Source Report window

   The heading has the date and time of the data retrieval in DD/HHMM format.

   The left-side panel displays two collapsed folders. One folder is named with the date of the current operational date and the other is named with the date of the following operational day.

2. Click  to expand the operational day folder.

   The list of airports and counts is displayed with the Scheduled/Airline/Planned counts (e.g., YSSY 141 / 0 / 0).

3. Select an airport to view the scheduled flights.

   The airlines are listed in the lower left panel where the matrix presents their Scheduled, Airline, and Planned counts (see Figure 221).

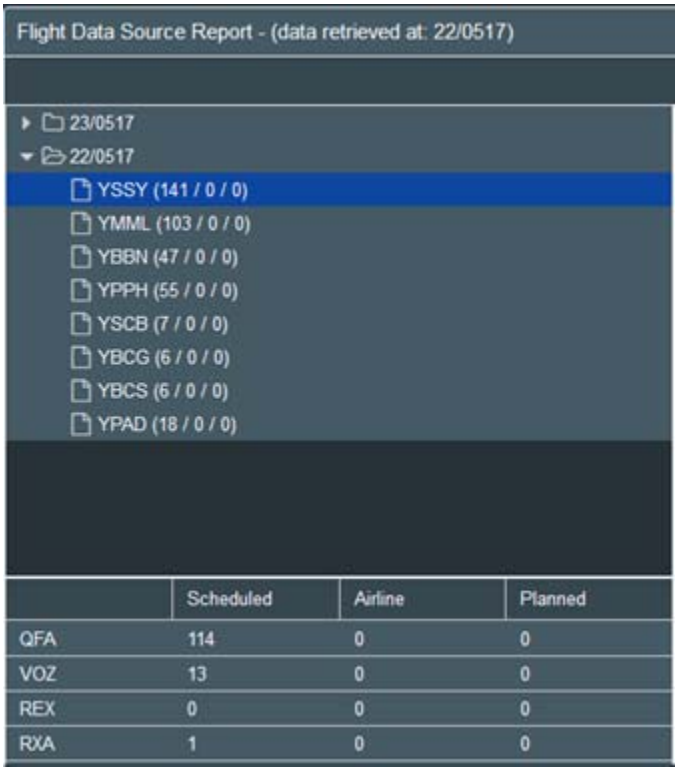


Figure 221: The lower panel shows counts

4. In the lower panel, select an airline to view its scheduled flights.

   The flights are loaded into the right-side panel (see Figure 222). For more information about the data, see Table 39 in "Data Source Report Data Elements" on page 204).

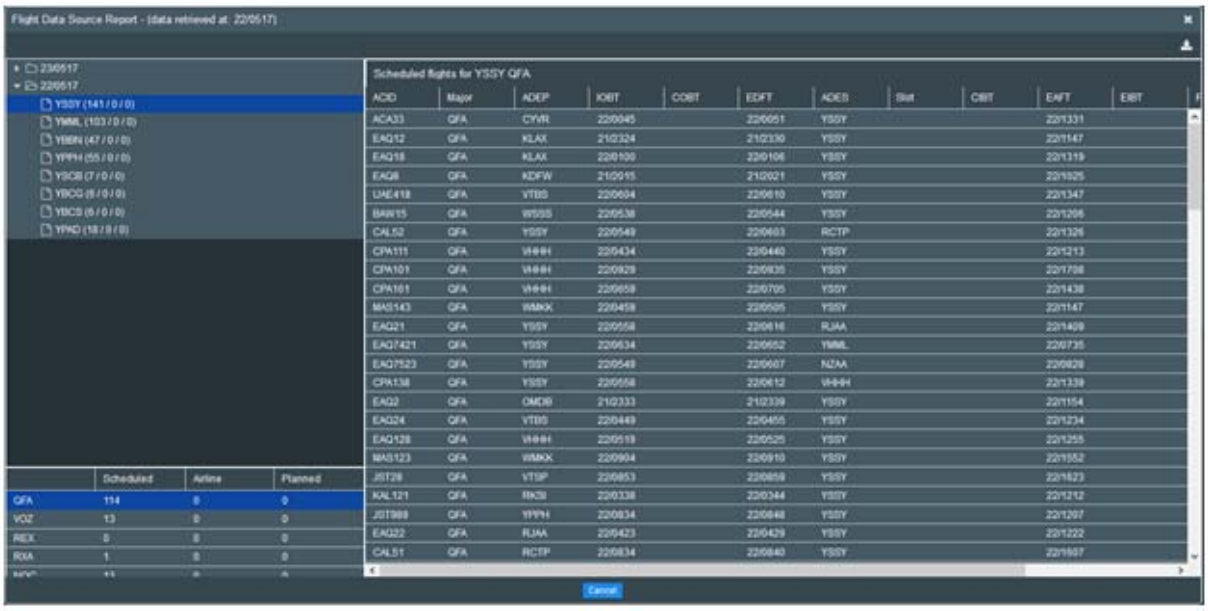


Figure 222: Scheduled flights for selected airline displayed in the right-side panel

Sorting the Data

You can sort the data in ascending or descending order for the current view. That is, as soon as you close and reopen the window, it reverts to the default sort. This functionality is the same throughout the application. For more information, see "Sorting the Data" on page 196 in Chapter 16: Runway Configuration.

Showing and Hiding Columns

You can configure which columns are shown or hidden in the *current* view. That is, as soon as you close and reopen the window, it reverts to the default display of all available columns. This functionality is the same throughout the application. For more information, see "Showing and Hiding Columns" on page 203 in Chapter 16: Runway Configuration.

Exporting Data

You can export the data to a CSV file.

To export the data to a CSV file, complete the following steps:

1. In the upper right corner, click the download button  .

   A CSV file is created with the format: *flight-list-[name]-YYYYMMDDhhmm.csv*

   A dialog box with file save/open options opens (see Figure 223). This dialog box will vary depending on your browser and operating system.

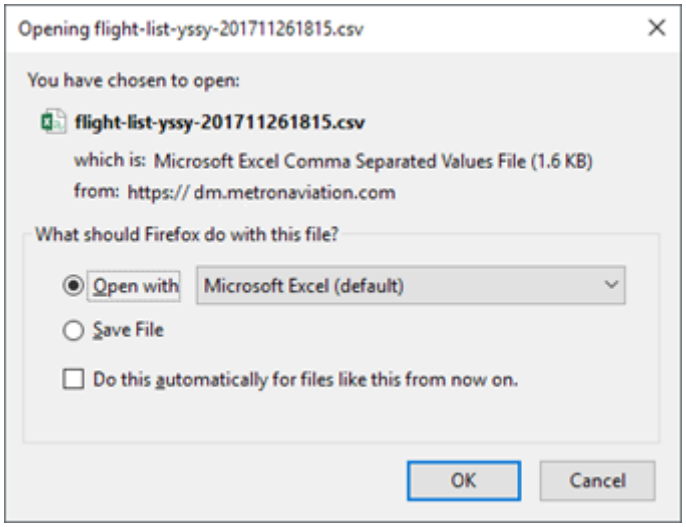


Figure 223: Example of Open/Save dialog box

2. Select the option to either open or save the file and click **OK**.

   The CSV file is either opened or saved to your default folder for downloads.

Data Source Report Data Elements

Table 39 describes the Data Source Report's data elements.

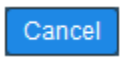
Table 39: Data Source Report data elements

Data Element	Description
ACID	Aircraft Identifier
Major	The flight's major
ADEP	Departure Airport
IOBT	Initial Off Block Time in DD/HHMM format
EDFT	Estimated Departure Fix Time
ADES	Arrival Airport
Slot	Slot
CIBT	Calculated In Block Time in DD/HHMM format
EAFT	Estimated Arrival Fix Time in DD/HHMM format
EIBT	Estimated In Block Time in DD/HHMM format
Program Delay	Amount of delay created by a TMI
Initial Delay	Amount of initial delay

Data Source Report Buttons and Controls

Table 40 describes the buttons, icons, and controls used in Data Source Report.

Table 40: Data Source Report buttons and controls

Button	Name	Description
	Expand Folder	Expand the closed operational day folder to view the airports and airline counts
	Collapse Folder	Collapse the expanded operational day folder
	Data File	Data file for each airport
	Export	Export data to CSV file
	Cancel	Close the window without uploading data
	Close or X	Close the window

Chapter 18. System Settings

The default settings for data update intervals, layout configurations, Flight List, Demand Graph, Work Views, Maps, Substitution List, and Alerts are defined in System Settings. Note that updates made in System Settings will dictate the configuration of components created in the future.

There are seven tabs: General, Flight List, Demand Graph, Work Views, Map, Substitution List, and Alerts (see Figure 224). The active tab is highlighted blue. In the following figure, *General* is the active tab.

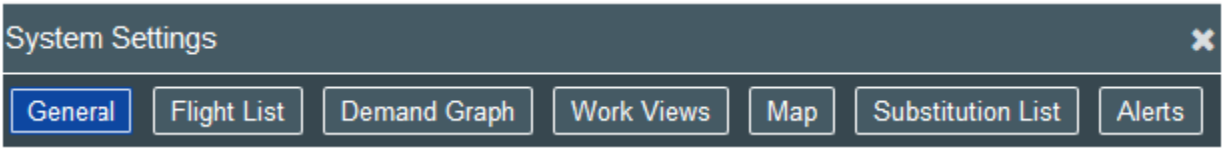


Figure 224: System Settings tabs

General Settings

On the General tab, update the data update interval, and the default layout, position, and default module (see Figure 225).

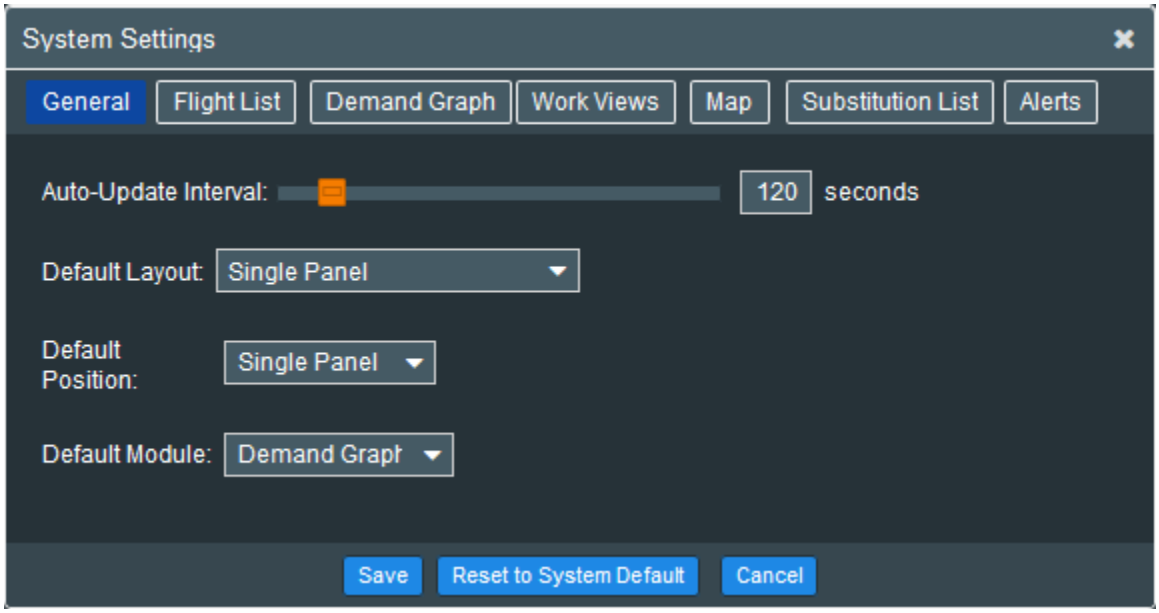


Figure 225: General settings

- **Auto-Update Interval**: Define how often the data is updated. Move the slider bar's thumb (orange square) or enter a number between 30 and 900 seconds.
- **Default Layout**: Define the default layout of the panels. The dropdown list includes a diagram of each layout.
- **Default Position**: Define the default position based on the *Default Layout* selection.

- **Default Module**: Select which module (Flight List, Demand Graph, or Edit Mode) is selected by default on the Home Page (see Figure 226).

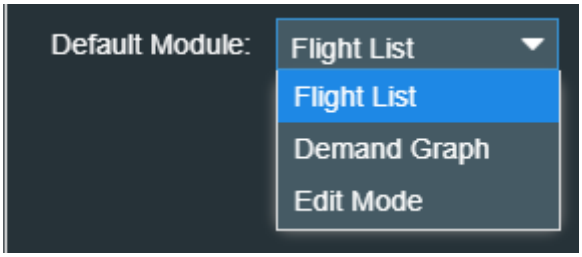


Figure 226: Select Home Page default module

The Default Module selection is reflected on the Home Page dropdown (see Figure 227). In the following example, Flight List was selected in System Settings as the Default Module.

Figure 227: Module dropdown menu on Home Page

- **Reset to System Defaults**: Replace your settings for all components with the settings that were set during the installation of Harmony Web. For more information, see "Resetting Settings to System Default" on page 216.

Flight List Settings

On the Flight List tab, configure the default number of records per page and select which airport or airspace columns are displayed when a Flight List is opened for every component created in the future. (see Figure 228).

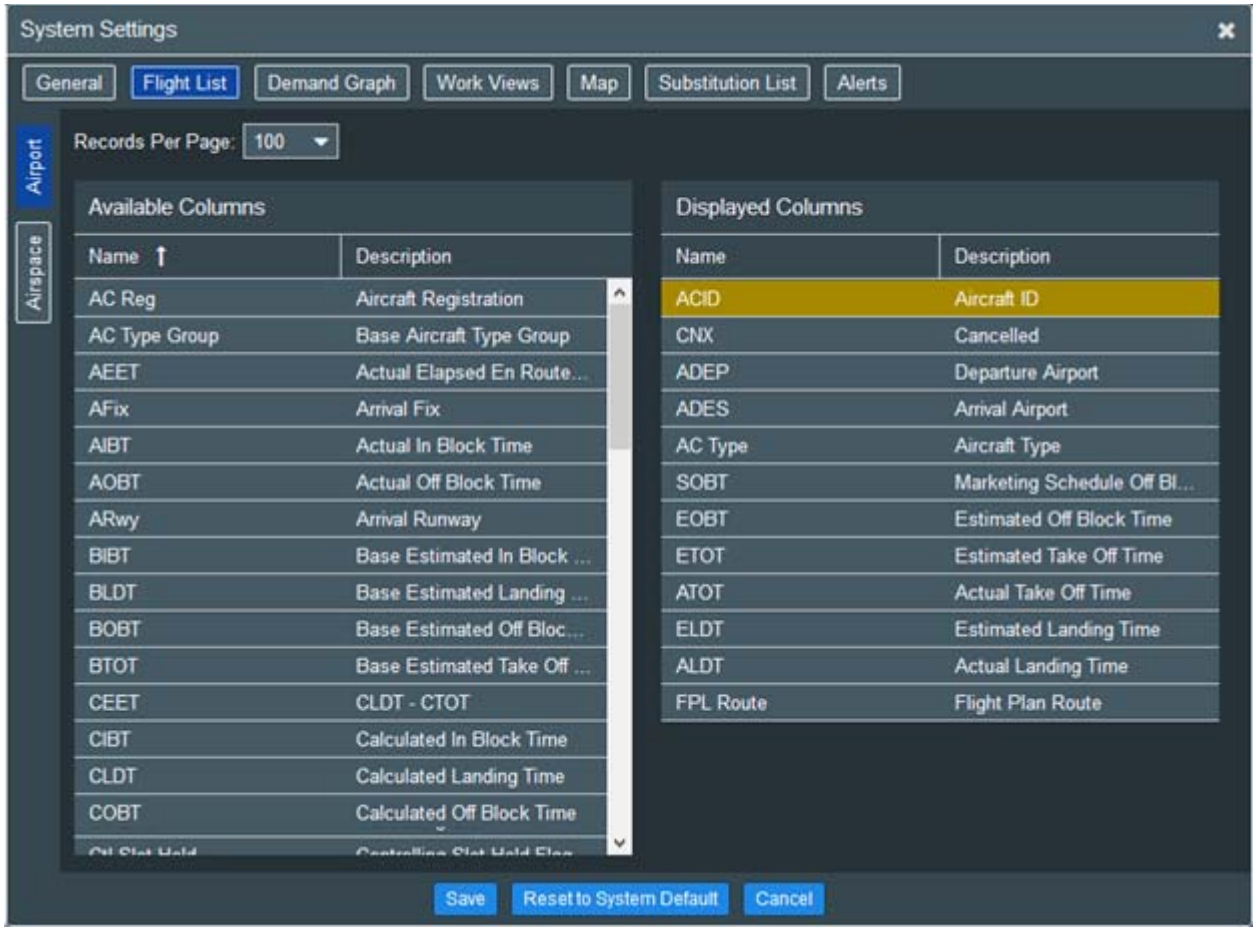


Figure 228: Flight List settings

- **Records Per Page**: Define the default number of records per page (i.e., 50, 100, 250, or All)
- **Airspace / Airport**: Click **Airspace** or **Airport** to list the corresponding columns (see Figure 229).

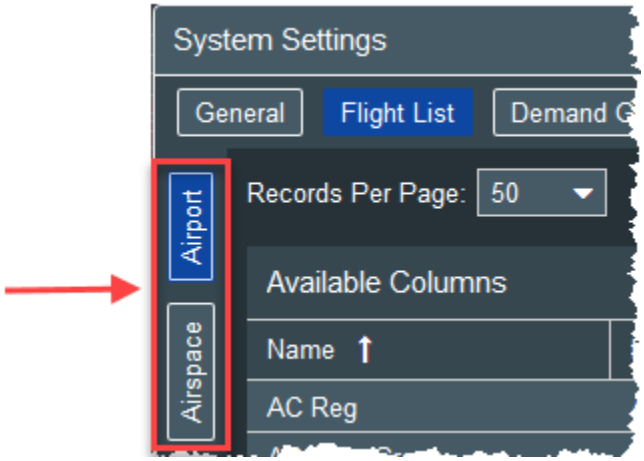


Figure 229: Columns correspond with selected element: Airport or Airspace

- **Available Columns / Displayed Columns**: Define which columns are displayed by default. For information about moving columns, see "Managing Columns (Flight List Tool)" on page 48.

Demand Graph Settings

On the Demand Graph tab, for airports and airspace, the selected data type (arrival, departure, or both), the time bin, and whether to show capacity and cancelled flights will be the default for all Demand Graphs created in the future (see Figure 230).

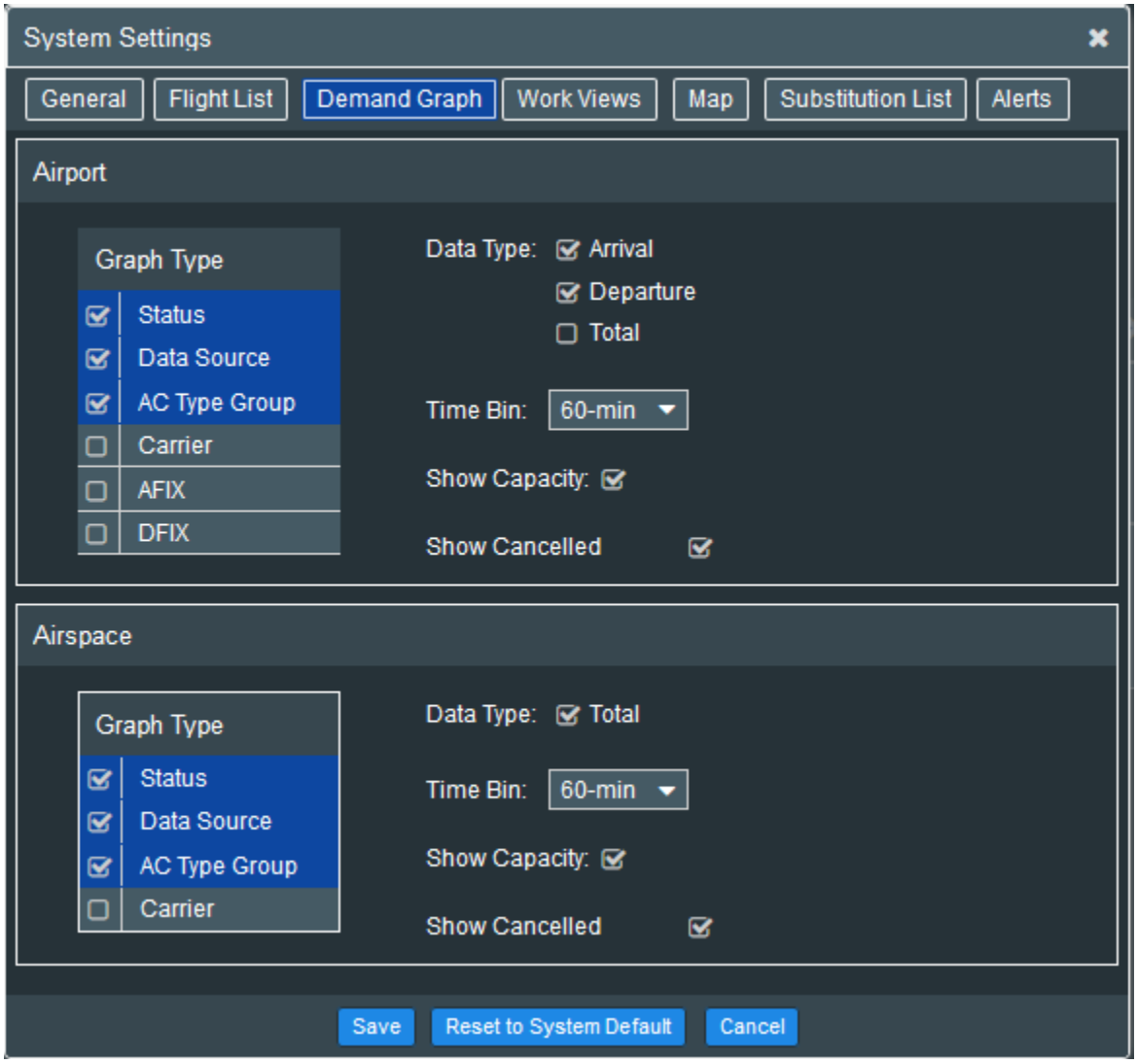


Figure 230: Demand Graph settings

Airport

- **Graph Type** – Select the types of graphs available for display (i.e., Status, Data Source, AC Type Group, Carrier, FIX, and DFIX).
- **Data Type** – Select the type of data that the bars display (i.e., Arrival flights, Departure flights, Total demand).
- **Time Bin** – Select the time increment (i.e., 15-min, 30-min, 60-min) to display the graph capacity and demand information.
- **Show Capacity** – Select to show the capacity.
- **Show Cancelled** – Select to show the cancelled flights.

Airspace

- **Graph Type** – Select the types of graphs available for display (i.e., Status, Data Source, AC Type Group, and Carrier,).

- **Data Type** – Total demand is selected by default.
- **Time Bin** – Select the time increment (i.e., 15-min, 30-min, 60-min) to display the graph capacity and demand information.
- **Show Capacity** – Select to show the capacity.
- **Show Cancelled** – Select to show the cancelled flights.

Work Views Settings

The Work Views tab displays all system-defined Work Views as well as any Work Views that you created (see Figure 231).

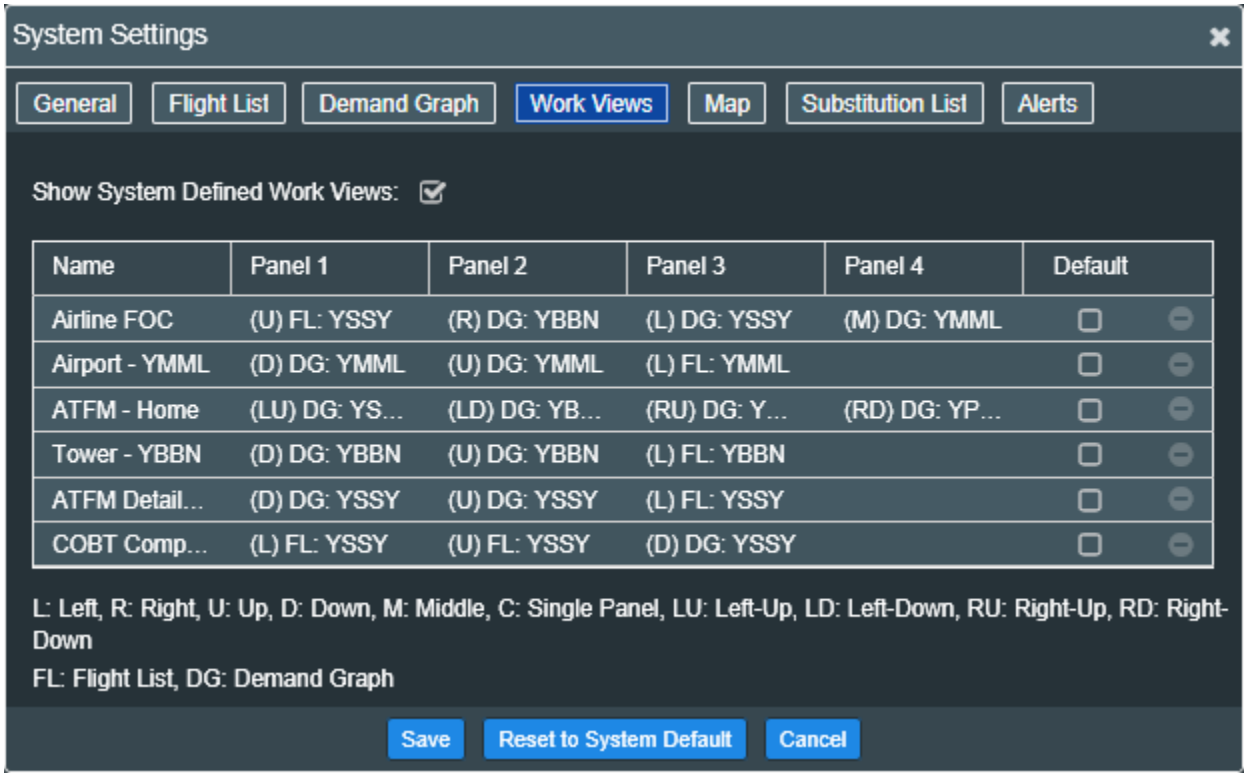


Figure 231: Work View settings

- **Show System Defined Work Views**: Select if you want the list to show the system-defined Work Views. Unselect if you want to hide the system-defined Work Views.
- **Work View List**: Lists the Work View name, the layout position of the element (panels 1–4), and the type of element. The abbreviations are defined in the legend below the Work View matrix (see in Figure 231).
- **Default Check box:** Is selected if the Work View was saved as the Default (see "Managing Columns (Flight List Tool)" on page 48). Unselect the box if you do not want it to be the default Work View.
- **Remove** : Removes the Work View from Harmony Web (system settings and Home Page)

Deleting Work Views

User-created Work Views can be deleted only from System Settings. System-defined Work Views cannot be deleted. The delete buttons for system-defined Work Views are inactivated (grayed out).

To delete a Work View, complete the following steps:

1. Go to the Work View tab.
2. Locate the Work View that you want to delete, and at the end of the row, click ⊖.

   The Work View is deleted from the list and from the Home Page.

Map Settings

The Map tab defines how often the map is updated and how to manage "stale" flights. When Harmony Web does not receive flight updates, the flight is said to be "stale" and remains in the same position. Stale flights are represented by an outline of the icon. The Map tab also defines the default location that is displayed when the map is opened and the map's zoom level (see Figure 232).

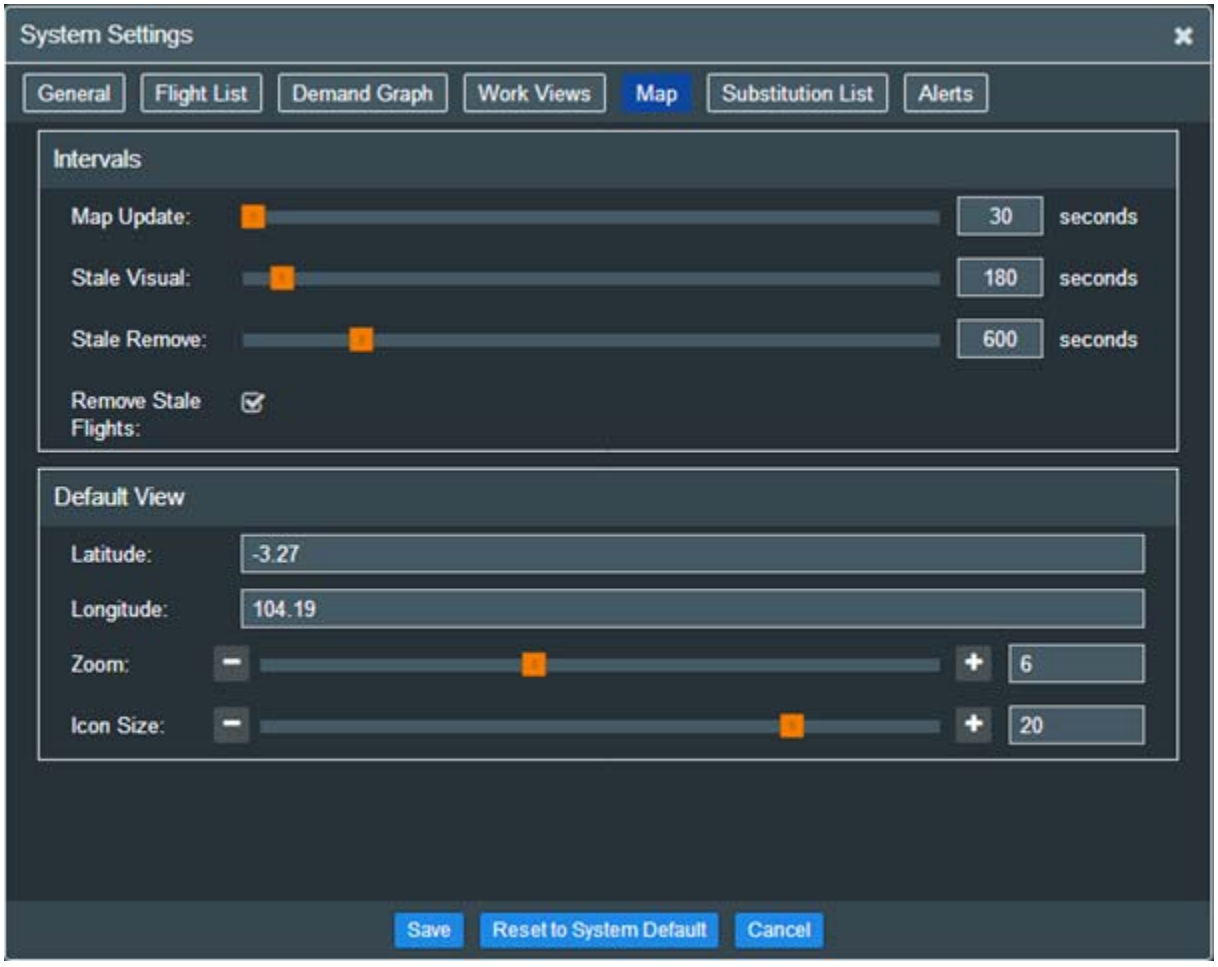


Figure 232: Map tab

- **Intervals**
  - **Map Update**: Defines how often the map data is updated. Move the slider bar's thumb or enter a numeric value up to 3600 seconds.

    - **Stale Visual**: Defines how long before a flight is considered "stale." That is, how long since Harmony last received any updates for the flight. Move the slider bar's thumb or enter a numeric value up to 3600 seconds.
    - **Stale Remove**: Defines how long a stale flight should remain on the map. The Remove Stale Flight option must be selected in order to change this value. Once the option is selected, you can move the slider bar's thumb or enter a numeric value up to 3600 seconds.
- **Default View**:
    - **Latitude and Longitude**: Lists the coordinates (in decimal degrees) of the default location, that is, the location that is displayed when you open the map. This is based on updates made in System Settings or the default location saved in Manage Locations (see "Saving a Default Location (Map View)" on page 147).
    - **Zoom**: Defines the zoom level set in the Map component. Change the zoom level with one of the following methods: move the slider bar's thumb, enter a numeric value up to 12, or click  and  to decrease or increase the value.
    - **Icon Size**: Adjust the size of aircraft on the map. Move the slider bar's thumb, use the + or - buttons, or enter a numeric value up to 25.

Substitutions List Settings

On the Substitutions List tab, select which airport or airspace columns are displayed when a Flight List is opened for every component created in the future. (see Figure 233).

Along the upper-left border, click **Airspace** or **Airport** to list the corresponding columns.

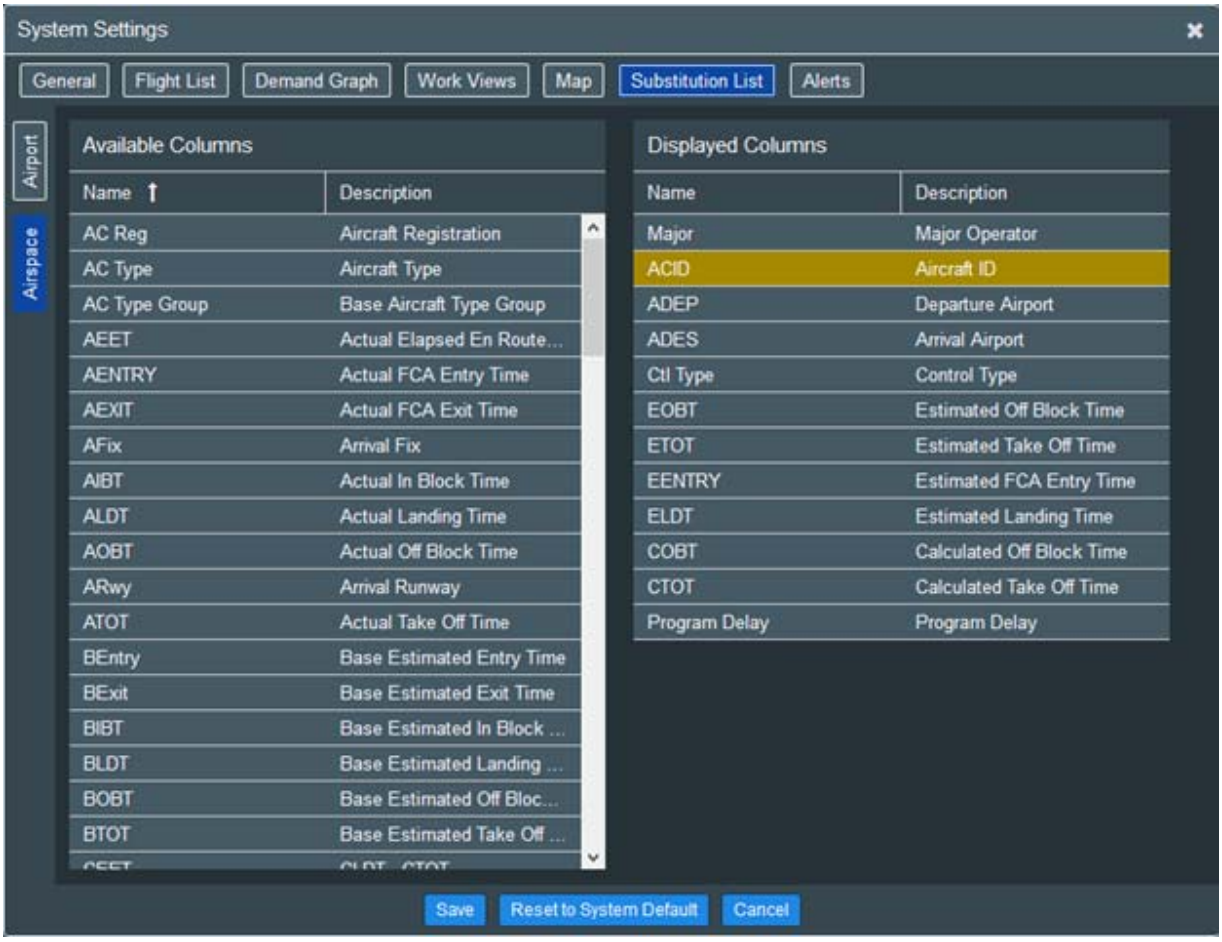


Figure 233: Substitutions Lists tab

Alerts Settings

On the Alerts tab, configure how you want to be notified of Resource alerts (see Figure 234). Note that the set the Flight Alert Filter and COBT Compliance Window settings are not applicable to Harmony Web's functionality.

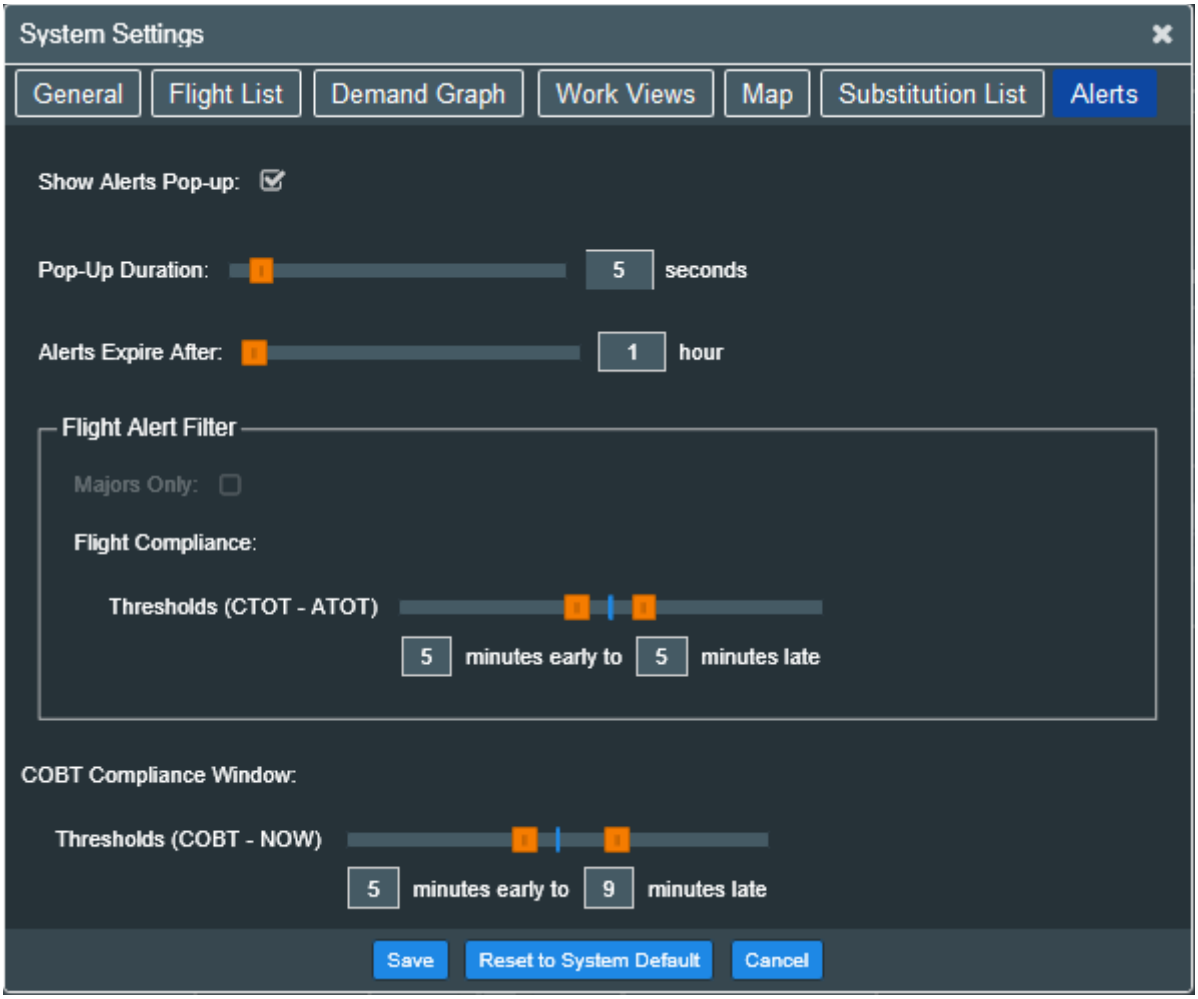


Figure 234: Alert settings

Top Section

- **Show Alerts Pop-up** – Select to display pop-up alerts.
- **Pop-Up Duration** – Move the slider bar's thumb (orange square) to set how many seconds (1–60) the pop-up is displayed.
- **Alerts Expire After** – Move the slider bar's thumb to set how many hours (1–24) an alert remains in the list.

Flight Alert Filter

- **Major Only** – If checked, this indicates that the user has the RESTRICTED_MAJOR role; therefore, alerts are generated only for the user's matching major.

- **Flight Compliance Thresholds (COBT - NOW)** – Move the thumbs to set the flight compliance range for alerts. On the left side of the slider bar, select the number of early minutes (-30–0). On the right side of the slider bar, select the number of late minutes (0–30). The default range is 5 minutes early and 5 minutes late.

COBT Compliance Window

- **Thresholds (COBT - NOW)** – Move the thumbs to set the COBT compliance range for alerts. On the left side of the slider bar, set the number of early minutes (-30–0). On the right side of the slider bar, set the number of late minutes (0–30).

  Note: When you change the thresholds, existing alerts are still shown in the Flight Alerts' Compliance Alert tab even though they no longer meet the new criteria.

Resetting Settings to System Default

You can reset all settings for all components to the system defaults that were set during the installation of Harmony web. The Reset to System Default button at the bottom of each tab, will reset all settings for the Flight List, Demand Graph, Work Views, Map, Substitution List, and Alerts.

Note: The Reset to System Default function will delete any Work Views that you created.

To reset all the settings for all components, complete the following steps:

1. On any tab in System Settings, click Reset to System Default.

   The following warning message is displayed for you to confirm the reset (see Figure 235).

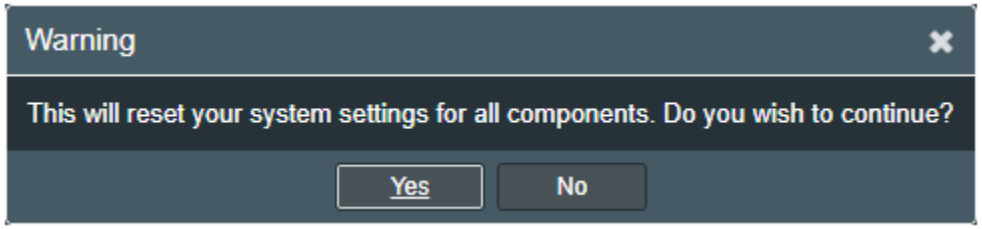


Figure 235: Reset to System Default warning message

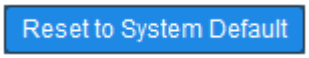
2. Click **Yes** to confirm the reset of all components, or click **No** to cancel the reset.

   All your settings are removed and Harmony Web returns to the settings set during installation.

System Settings Buttons and Controls

Table 41 describes the buttons used in System Settings.

Table 41: System Settings Buttons

Button	Name	Description
	Save	Save system settings for all tabs and closes System Settings.
	Reset to System Default	Click to reset to system settings that were configured during Harmony Web installation. **Warning**: This will reset all settings for all components to the settings that were set during the installation of Harmony Web.
	Cancel	Cancel unsaved changes and close System Settings
	Close	Close without saving updates
	Remove	Work Views tab: Remove Work View from Harmony Web system
	Airport	Flight List tab: Display columns unique to an airport
	Airspace	Flight List tab: Display columns unique to an airspace
	Decrease	Map tab: Decrease zoom level
	Increase	Map tab: Increase zoom level

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Appendix A. Flight Details Data Elements

Table 42: Flight Details Data Elements

Data Element	Description
Flight Information	
ACID	Aircraft ID that identifies the aircraft operator and flight number
Major	The aircraft operator that controls the flight
AC Type	Aircraft Type
AC Type Group	Aircraft equipment classification (e.g., Heavy, Jet, Light, Turbo, Unknown)
AC Reg	Aircraft Registration
Delay Status	ALD – Aircraft Operator Delay GDP – Delayed by CTOT/CLDT GSD – Delayed by Ground Stop TOD – Time Out Delayed past the flight's ETD
Alarm	CC – CLDT non-compliance: Flights arriving more than 5 minutes before or more than 5 minutes after their Control Time of Arrival. EC – CTOT non-compliance: The departure boundaries are more than 5 minutes before or more than 5 minutes after their estimated departure clearance time. EA – EET vs. Actual Value: The actual flight time is greater than a specified value, but the flight status is not cancelled. The default value is 15 minutes. SF – Spurious Flight: Spurious Flights or flights submitted as SI cancellations with no corresponding entries in the OAG. CF – Cancelled but Flew: Flights that were cancelled but later flew without the flight being reinstated properly.
FPL Route	Lists the route from ADEP to ADES
Flight Leg Information	
Airport	Departure and Arrival airports
Runway	Departure and Arrival runways
Fix	Departure (DFIX) and Arrival (AFIX)
Estimated Fix Time	Estimated Arrival and Departure Fix Times
LTOD	Length of Time Out Delay (in minutes)
Estimated (E) Flight Event Times	
EOBT	Estimated Off Block Time

Data Element	Description
ETOT	Estimated Take Off Time
DFix	Departure Fix
Entry	Entry
Exit	Exit
AFix	Estimated Arrival Fix
ELDT	Estimated Landing Time
EIBT	Estimated In Block Time
EET	Estimated En Route Time
Actual (A) Flight Event Times	
AOBT	Actual Off Block Time
ATOT	Actual Take Off Time
DFix	Departure Fix
Entry	Entry
Exit	Exit
AFix	Arrival Fix
ALDT	Actual Landing Time
AIBT	Actual In Block Time
AEET	Actual Estimated En Route Time
Calculated (C) Flight Event Times	
COBT	Calculated Off Block Time
CTOT	Calculated Take Off Time
Dfix	Departure Fix
Entry	Entry
Exit	Exit
AFix (CAFT)	Calculated Arrival Fix Time
CLDT	Calculated Landing Time
CIBT	Calculated In Block Time
CEET	Calculated Estimated En Route Time
Flight Plan (P) Flight Event Times	
POBT	Flight Plan Off Block Time
PTOT	Flight Plan Take Off Time
DFix	Departure Fix
Entry	Entry
Exit	Exit
AFix	Arrival Fix
PLDT	Flight Plan Landing Time
PIBT	Flight Plan In Block Time
PEET	Flight Plan Estimated En Route Time

Data Element	Description
Aircraft Operator (L) Flight Event Times	
LOBT	Aircraft Operator Off Block Time
LTOT	Aircraft Operator Take Off Time
DFix	Departure Fix
Entry	Entry
Exit	Exit
AFix	Arrival Fix
LLDT	Aircraft Operator Landing Time
LIBT	Aircraft Operator In Block Time
LEET	Aircraft Operator Estimated En Route Time
Strategic Airport Slot (R) Flight Event Times	
ROBT	Strategic Airport Off Block Time
RTOT	Strategic Airport Take Off Time
DFix	Departure Fix
Entry	Entry
Exit	Exit
AFix	Arrival Fix
RLDT	Strategic Airport Landing Time
RIBT	Strategic Airport In Block Time
REET	Strategic Airport Estimated En Route Time
Marketing Schedule (S) Flight Event Times	
SOBT	Marketing Schedule Off Block Time
STOT	Marketing Schedule Take Off Time
DFix	Departure Fix
Entry	Entry
Exit	Exit
AFix	Arrival Fix
SLDT	Marketing Schedule Landing Time
SIBT	Marketing Schedule In Block Time
SEET	Marketing Schedule Estimated En Route Time
Initial (I) Flight Event Times	
IOBT	Initial Off Block Time
ITOT	Initial Take Off Time
DFix	Departure Fix
Entry	Entry
Exit	Exit
AFix	Arrival Fix
ILDT	Initial Landing Time
IIBT	Initial In Block Time

Data Element	Description
IEET	Initial Estimated En Route Time
Earliest Aircraft Operator (EL) Flight Event Times	
ELOBT	Earliest Aircraft Operator Off Block Time
ELIBT	Earliest Aircraft Operator Take Off Time
DFix	Departure Fix
Entry	Entry
Exit	Exit
AFix	Arrival Fix
ELLDT	Earliest Aircraft Operator Landing Time
ELIBT	Earliest Aircraft Operator In Block Time
ELEET	Earliest Aircraft Operator Estimated En Route Time
Original (O) Flight Event Times	
OOBT	Original Off Block Time
OTOT	Original Take Off Time
DFix	Departure Fix
Entry	Entry
Exit	Exit
AFix	Arrival Fix
OLDT	Original Landing Time
OIBT	Original In Block Time
OEET	Original Estimated En Route Time
Base (B) Flight Event Times	
BOBT	Base Off Block Time
BTOT	Base Take Off Time
DFix	Departure Fix
Entry	Entry
Exit	Exit
AFix	Arrival Fix
BLDT	Base Landing Time
BIBT	Base In Block Time
BEET	Base Estimated En Route Time
Original Calculated (OC) Flight Event Times	
OCOBT	Original Calculated Off Block Time
OCIBT	Original Calculated Take Off Time
DFix	Departure Fix
Entry	Entry
Exit	Exit
AFix	Arrival Fix
OCLDT	Original Calculated Landing Time

Data Element	Description
OCIBT	Original Calculated In Block Time
OCEET	Original Calculated Estimated En Route Time
Traffic Management Initiatives	
Controlling TMI	Legend that indicates the controlling TMI is outlined with a green border
Name of TMI	Airport/FCA name (DD/HHmm - DD/HHmm)
Slot Time, Runway	The flight's slot time and runway (for Runway GDP)
Control Type	AFP, GDP-A, GDP-D
Control Exempt	Indicates whether flight was exempt from departure delay in the most recent TMI event. Checked means *Yes* and unchecked means *No*.
Pop-Up	Indicates whether the flight is a pop-up. Checked means *Yes* and unchecked means *No*.

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Appendix B. Flight List Data Elements

Table 43: Flight List Data Elements

Data Element	Description
AC Reg	Aircraft Registration
AC Type	Aircraft Type
AC Type Group	Base Aircraft Type Group
ACID	Aircraft ID
ADEP	Departure Airport
ADES	Arrival Airport
AEET	Actual Elapsed En Route Time
AFix	Arrival Fix
AIBT	Actual In Block Time
Airborne Max Delay	Airborne Max Delay
ALDT	Actual Landing Time
AOBT	Actual Off Block Time
ARwy	Arrival Runway
ATOT	Actual Take Off Time
BIBT	Base Estimated In Block Time
BLDT	Base Estimated Landing Time
BOBT	Base Estimated Off Block Time
BTOT	Base Estimated Take Off Time
CAFT	Calculated Arrival Fix Time
CEET	CLDT - CTOT
CIBT	Calculated In Block Time
CLDT	Calculated Landing Time
CNX	Cancelled
COBT	Calculated Off Block Time
COBT - NOW	COBT - NOW (minutes)
COBT - IOBT	COBT - IOBT (minutes). Shows Initial Delay (ground delay)
Compliance	ATOT-CTOT
Ctl Slot	Controlling Slot
Ctl Slot Hold	Controlling Slot Hold Flag
Ctl TMI ID	Controlling TMI Identification
Ctl Type	Control Type
CTOT	Calculated Take Off Time
DFix	Departure Fix
DRwy	Departure Runway
EAFT	Estimated Arrival Fix Time

Data Element	Description
EDFT	Estimated Departure Fix Time
EEET	Estimated Elapsed En Route Time
EIBT	Estimated In Block Time
ELDT	Estimated Landing Time
Elem Slot	Element Slot
Elem Slot Hold	Element Slot Hold Flag
Elem TMI ID	Element TMI Identification
ELIBT	Earliest Aircraft Operator In Block Time
ELLDT	Earliest Aircraft Operator Landing Time
ELOBT	Earliest Aircraft Operator Off Block Time
ELTOT	Earliest Aircraft Operator Take Off Time
Email	Contact Email
Entry GCD	Distance To FCA
EOBT	Estimated Off Block Time
ETOT	Estimated Take Off Time
FID	Unique Flight ID
Flight State	Flight State
FPL Route	Flight Plan Route
Gate Max Delay	Gate Max Delay
IEET	Initial Estimated Elapsed Time
IIBT	Initial In Block Time
ILDT	Initial Landing Time
IOBT	Initial Off Block Time
ITOT	Initial Take Off Time
LEET	Aircraft Operator Estimated Time
LIBT	Aircraft Operator In Block Time
LLDT	Aircraft Operator Landing Time
LOBT	Aircraft Operator Off Block Time
LOBT-COBT	LOBT- COBT (in minutes) If a flight is moved early, this shows airlines users that have moved to an earlier timeslot
LTOD	Length of Time Out Delay
LTOT	Aircraft Operator Take Off Block Time
Major	Major Operator
Mobile	Contact Mobile Phone Number
Mobile Carrier	Contact Mobile Carrier Service
OCIBT	Original Calculated In Block Time
OCLDT	Original Calculated Landing Time
OCOBT	Original Calculated Off Block Time
OCTOT	Original Calculated Take Off Time

Data Element	Description
OIBT	Original In Block Time
OLDT	Original Landing Time
OOBT	Original Off Block Time
OTOT	Original Take Off Time
PEET	Flight Plan Estimated Elapsed Time
PIBT	Flight Plan In Block Time
PLDT	Flight Plan Landing Time
POBT	Flight Plan Off Block Time
Pop-up	Flight is a pop-up flight
Program Delay	Program Delay
PTOT	Flight Plan Take Off Time
REET	Strategic Airport Slot Estimated Elapsed Time
RIBT	Strategic Airport Slot In Block Time
RLDT	Strategic Airport Slot Landing Time
ROBT	Strategic Airport Slot Off Block Time
RTOT	Strategic Airport Slot Take Off Time
SEET	Marketing Schedule Estimated Elapsed Time
SIBT	Marketing Schedule Block Time
SLDT	Marketing Schedule Landing Time
SOBT	Marketing Schedule Off Block Time
Status	Flight Status
STOT	Marketing Schedule Take Off Time
Surface Max Delay	Surface Max Delay
TOD	Time Out Delay (Y or N)

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Appendix C. User Roles and Permissions

Your assigned role determines your system access and which actions you are authorized to perform in Harmony Web, Harmony Client, and ESM. This section provides a comparative view of user roles in these Harmony for ANSPs systems. Note that Aircraft Operator's update actions are restricted to its major and subcarriers.

Roles in Harmony for ANSPs Web

All roles have Harmony Web access and capabilities. Table 44 lists the Harmony Web functionality specific to each role. Note that Aircraft Operator's update actions are restricted to its major and subcarriers and that the Super User has enhanced capabilities.

Table 44: Harmony Web role functionality comparison

Element	Description	Super User	Flow Manager	ANSP User	Aircraft Operator	Read Only
AMEND_FLIGHT_ROUTE	Amend Flight Route	X	X			
CANCEL_FLIGHT_FX	Cancel Flight (FX)	X	X		X	
CANCEL_FLIGHT_OVERRIDE	Super User Cancel Flight Override	X				
CANCEL_FLIGHT_RM	Remove Cancel Flight (RM)	X	X			
CANCEL_FLIGHT_SX	Suspend Cancel Flight (SX)	X	X			
CONTROL_OVERRIDE_ADD_FLIGHT	Add Flight to TMI Override	X				
CONTROL_OVERRIDE_FREE_SLOT	Super User Free Slot from TMI Override	X				
CREATE_FLIGHT	Create Flight	X	X		X	
IMPLEMENT_SLOT_TMIS	Implement TMIs (Proposed/Actual)	X	X			
LOAD_ESM	Load Client ESM component				X	
LOAD_HARMONY_CLIENT	Load Harmony Client	X	X	X	X	X
LOAD_HARMONY_WEB	Load Harmony Web	X	X	X	X	X
LOAD_WEATHER	Load Web's Map Weather	X	X	X	X	X
MANAGE_AIRPORT_CAPACITY	Manage Airport Capacity (AAR/ADR)	X	X			
MANAGE_AIRPORT_RWY_CFG	Manage Runway Configurations	X	X			
MANAGE_ALERTS	Manage Alerts	X	X	X	X	X
MANAGE_DISPLAY_PROFILE	Manage Display Profile	X	X	X	X	X
MANAGE_FCA	Manage FCAs (Create/Edit/Delete)	X	X	X		
MANAGE_FCA_CAPACITY	Manage FCA Capacity (AAR)	X	X			
MODEL_DECISION_TMIS	Model Decision Support TMIs	X	X			
MODEL_SLOT_TMIS	Model TMIs (New/Revise/Purge/Comp)	X	X			

Element	Description	Super User	Flow Manager	ANSP User	Aircraft Operator	Read Only
QUERY_AVIATION_RESOURCE	Query Aviation Resource	X	X	X	X	X
QUERY_FLIGHT	Query Flight	X	X	X	X	X
QUERY_TMI	Query TMI	X	X	X	X	X
RESTRICTED_MAJOR	Restricting other roles to user's Major				X	
SUBSTITUTION_ADVANCED	Advanced Substitution	X	X		X	
SUBSTITUTION_OVERRIDE_ACTIVE_FLT	SU Active Flight ETA Substitution Override	X				
SUBSTITUTION_OVERRIDE_MAJOR_CHECK	SU Swap Any Major	X	X			
SUBSTITUTION_OVERRIDE_MIN_DEP_NTF	SU Min Dep Notification Substitution Override	X	X		X	
SUBSTITUTION_SIMPLE	Simple Substitution	X	X		X	
UNASSIGNED_SLOT_REQUEST	Unassigned Slot Request				X	
UPDATE_FLIGHT	Update flight's ACID, ACREG, AC TYPE, Contact Info data	X	X		X	
UPDATE_FLIGHT_ACTUALS	Update flight's actual times	X	X	X		
UPDATE_FLIGHT_AIRLINE	Update flight's L, EL times	X	X		X	
UPDATE_FLIGHT_PLAN	Update Flight Plan	X	X			
UPDATE_FLIGHT_POSITION	Update Flight Postion (lat/lon)	X	X			
UPLOAD_AIRPORT_SLOTS	Airport slot bulk schedule upload	X	X		X	
UPLOAD_FLIGHT_SCHEDULE	Flight Schedule Upload bulk schedule upload	X	X		X	
UPLOAD_POST_OPS	Post-operational schedule upload of airline actuals	X	X		X	
VIEW_AIRPORT_RWY_CFG	View Airport runway configuration	X	X	X	X	X
VIEW_DISPLAY_PROFILE	View Display Profile	X	X	X	X	X
VIEW_FCA	View FCA data (FCAs, flights in FCAs)	X	X	X	X	X
VIEW_REPORT_DATA_SOURCE	Data source report window (of flight schedules by airlines)	X	X			
VIEW_REPORT_GENERAL	View Reports	X	X	X	X	X
VIEW_TMI	View TMI data (TMIs, flights in TMIs, TMI Control times)	X	X	X	X	X

Roles in Harmony for ANSPs Client

All roles have Harmony Client access and capabilities. Table 45 lists the Harmony Client functionality specific to each role. Note that Aircraft Operator's update actions are restricted to its major and subcarriers.

Table 45: Harmony Client role functionality comparison

Element	Description	Super User	Flow Manager	ANSP User	Aircraft Operator	Read Only
MANAGE_ALERTS	Alert Manager	X	X	X	X	X
EDC_COMMANDS	ADL Request	X	X			
MODEL_SLOT_TMIS	Model TMI	X	X	X		
IMPLEMENT_SLOT_TMIS	Implement TMI (Actual/Proposed, New, Revision, Purge)	X	X			
EDC_COMMANDS	EDC Commands (Tools > Commands)	X	X			
MANAGE_AIRPORT_RWY_CFG	Runway Configuration Tool	X	X			
VIEW_AIRPORT_RWY_CFG	Runway Configuration Display	X	X	X	X	X
UPDATE_FLIGHT, UPDATE_FLIGHT_AIRLINE,	Update (Set ELOBT, Cancel, Slot Hold)	X		X	X	
CANCEL_FLIGHT_SX	Update (Cancel flight with Slot Hold)	X	X			
ECR_COMMAND	ECR	X	X			
MANAGE_FCA	FCA Creation, Update and Deletion	X	X	X		
VIEW_FCA	Query FCA Times	X	X	X	X	X
MANAGE_DISPLAY_PROFILE	Manage Display Profiles (Save, Load, Update, Remove)	X	X	X	X	X
CONTROL_OVERRIDE_ADD_FLIGHT	Force Slot Assignment	X				
CONTROL_OVERRIDE_FREE_FLIGHT	Remove Slot Assignment	X				
CANCEL_ANY_FLIGHT_OVERRIDE	Cancel Any Flight	X				
SUBSTITUTION_OVERRIDE_MIN_DEP_NTF	Substitute within minimum departure notification time	X				
SUBSTITUTION_OVERRIDE_ACTIVE_FLT	Force substitution between active and pre-departure flights	X				

Role in Harmony for ANSPs ESM (Aircraft Operator only)

Aircraft Operator is the only role with ESM access and capabilities. Table 46 lists the ESM functionality unique to the Aircraft Operator role.

Table 46: ESM Roles and permissions

Element	Description	Super User	Flow Manager	ANSP User	Aircraft Operator	Read Only
CANCEL_FLIGHT_FX	Cancellation				X	
CREATE_FLIGHT	Create Flight From				X	
LOAD_ESM	View ESM Flight List				X	
SUBSTITUTION_ADVANCED	Advanced Substitution				X	
SUBSTITUTION_ADVANCED	ISE Plus FM				X	
SUBSTITUTION_SIMPLE	ISE				X	
SUBSTITUTION_SIMPLE	Substitution - Swap				X	
UNASSIGNED_SLOT_REQUEST	USR				X	
UPDATE_FLIGHT	Reinstatement				X	
UPDATE_FLIGHT_AIRLINE	Edit ELOBT/ELIBT				X	
UPDATE_FLIGHT_AIRLINE	Edit LOBT/LIBT				X	

Appendix D. Acronyms

Table 47: List of Acronyms

Acronym	Description
AAR	Airport Acceptance Rate
AC	Carrier or Aircraft
AC Reg	Aircraft Registration
AC Type	Aircraft Type
AC Type Group	Base Aircraft Type Group
ACID	Aircraft Identifier
ADEP	Airport of Departure
ADES	Airport of Destination
ADR	Airport Departure Rate
AEET	Actual Elapsed En Route Time
AFIX	Arrival Fix
AIBT	Actual In Block Time
ALDT	Actual Landing Time
ANSP	Air Navigation Service Providers
AOBT	Actual Off Block Time
ARwy	Arrival Runway
ATFM	Air Traffic Flow Management
ATOT	Actual Take Off Time
BEET	Base Estimated En Route Time
BELDT	Base Estimated Landing Time
BETOT	Base Estimated Time of Take Off
BIBT	Base Estimated In Block Time
BLDT	Base Estimated Landing Time
BOBT	Base Estimated Off Block Time
BTOT	Base Estimated Take Off Time
CAFT	Calculated AFix Time
CEET	Calculated Estimated En Route Time
CIBT	Calculated In Block Time
CLDT	Calculated Landing Time
CNX	Cancelled Flights
COBT	Calculated Off Block Time
CTOT	Calculated Take Off Time
DFIX	Departure Fix
DRwy	Departure Runway
EAFT	Estimated Arrival Fix Time

Acronym	Description
EDFT	Estimated Departure Fix Time
EEET	Elapsed En Route Time
EIBT	Estimated In Block Time
ELDT	Estimated Landing Time
ELEET	Earliest Aircraft Operator Estimated En Route Time
ELIBT	Earliest Aircraft Operator In Block Time
ELLDT	Earliest Aircraft Operator Landing Time
ELOBT	Earliest Aircraft Operator Off Block Time
ELTOT	Earliest Aircraft Operator Take Off Time
EOBT	Estimated Off Block Time
ETOT	Estimated Take Off Time
Email	Contact Email
FCA	Flight Constraint Area
FID	Unique Flight ID
FIR	Flight Information Region
FPL Route	Flight Plan Route
IEET	Initial Elapsed En Route Time
IIBT	Initial In Block Time
ILDT	Initial Landing Time
IOBT	Initial Off Block Time
ITOT	Initial Take Off Time
LEET	Aircraft Operator En Route Time
LIBT	Aircraft Operator In Block Time
LLDT	Aircraft Operator Landing Time
LOBT	Aircraft Operator Off Block Time
LTOD	Length of Time Out Delay
LTOT	Aircraft Operator Take Off Time
OAG	Official Airline Guide
MAFix	Modelled Arrival Fix
Major	Major Operator
MEAFT	Modelled Estimated Arrival Fix Time
Mobile	Contact Mobile Phone Number
Mobile Carrier	Contact Mobile Carrier Service Provider
OCEET	Original Calculated Estimated En Route Time
OCIBT	Original Calculated Operator In Block Time
OCLDT	Original Calculated Operator Landing Time
OCOBT	Original Calculated Operator Off Block Time
OCTOT	Original Calculated Operator Take Off Time
OEET	Original Estimated En Route Time

Acronym	Description
OETA	Original Estimated Time of Arrival
OETD	Original Estimated Time of Departure
OIBT	Original In Block Time
OLDT	Original Landing Time
OOBT	Original Off Block Time
OTOT	Original Time of Take Off
PEET	Planned Elapsed En Route Time
PIBT	Planned In Block Time
PLDT	Planned Landing Time
POBT	Planned Off Block Time
PTOT	Planned Take Off Time
REET	Strategic Airport Slot Estimate
RIBT	Strategic Airport Slot In Block Time
RLDT	Strategic Airport Slot Landing Time
ROBT	Strategic Airport Slot Off Block Time
RTOT	Strategic Airport Slot Take Off Time
SEET	Scheduled Elapsed En Route Time
SIBT	Marketing Scheduled In Block Time
SLDT	Marketing Scheduled Landing Time
SOBT	Marketing Scheduled Off Block Time
STOT	Marketing Scheduled Take Off Time
TOD	Time Out Delay

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Appendix E. Revision History

Table 48: Revision History

Software Version	Document Version	Date MM/DD/YYYY	Updates	Updated By	Approved By
6.0.0	6.0.0	12/22/2017	Initial Version, Software Release 6.0.0	JS Sullivan	B. Fujisaki
7.0.0	7.0.0	03/30/2018	Updated for Software Release 7.0.0	JS Sullivan	J. Nalevanko
7.0.0	7.0.0	05/04/2018	Documented additional Release 7.0.0 functionality: ATFM Measure Performance Report section	JS Sullivan	J. Nalevanko
7.0.3	7.0.3.1	11/01/2019	Updated for Release 7.0.3	JS Sullivan	B. Fujisaki

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