

PTC MAIN Core Data Exchange (MAIN CDX) User Guide



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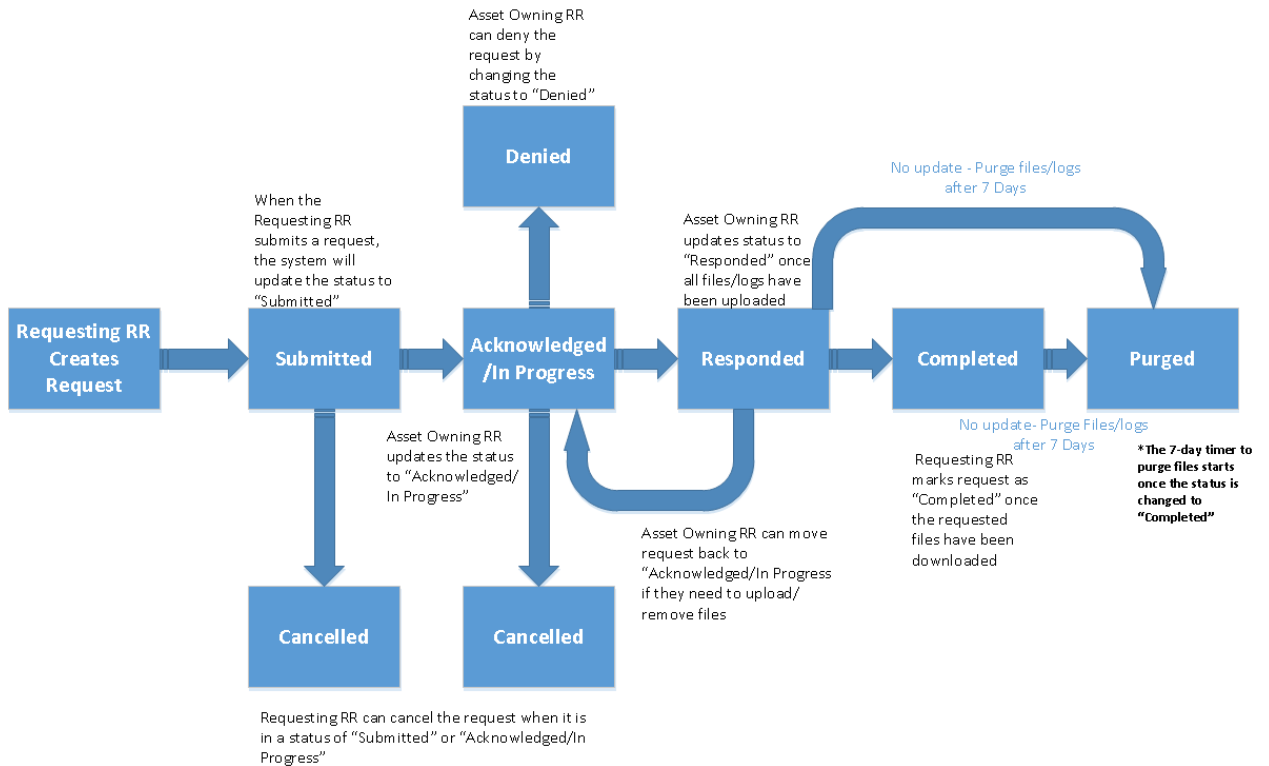
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Learning about MAIN CDX

Railinc’s Positive Train Control Monitoring and Analysis of Integrated Network Core Data Exchange (MAIN CDX) application provides a technology platform for railroads to request and receive the necessary data from each other to assist in PTC interoperability.

As shown in [Exhibit 1](#), MAIN CDX enables a requesting railroad to create and submit a request for PTC shared asset data and enables the asset owning railroad to respond (complete or deny) the request. During this process, the request undergoes various status changes, which are displayed on a Dashboard. Once a request is completed or responded to (or cancelled or denied), any PTC shared asset data is purged from MAIN CDX after seven days.

Exhibit 1. MAIN CDX Process Diagram



The MAIN CDX tasks are described in the following sections:

- [“Viewing the MAIN CDX Dashboard”](#) on page 7
- [“Creating New Requests”](#) on page 10
- [“Responding to Requests”](#) on page 15
- [“Downloading Requested Data”](#) on page 18
- [“Appendix A. Integration with Automated Railroads”](#) on page 20

Note: For detailed instructions about using the Railinc interface elements such as menus, calendar tools, and drop-down text boxes, refer to the [Railinc UI Dictionary](#).

System Requirements

For information about the system requirements of Railinc web applications and for information about downloading compatible web browsers and file viewers, refer to the [Railinc UI Dictionary](#).

Accessing the Railinc Customer Success Center

The Railinc Customer Success Center (CSC) provides reliable, timely, and high-level support for Railinc customers. Representatives are available to answer calls and respond to emails from 7:00 a.m. to 7:00 p.m. Eastern time, Monday through Friday, and provide on-call support via pager for all other hours to ensure support 24 hours a day, 7 days a week. Contact us toll-free by phone at 877-RAILINC (1-877-724-5462) or send an email directly to csc@railinc.com.

Getting Started with MAIN CDX

Access MAIN CDX by using Railinc Single Sign-On (SSO), a web application that provides convenient access to a variety of Railinc products. To get started, go to the Railinc portal at <http://www.railinc.com> and log in to SSO by selecting the Customer Login link at the top right. Enter your user ID and password in the fields on the resulting page and then select **Sign In**.

Registering to Use Railinc SSO

Each MAIN CDX user must register to use Railinc Single Sign-On (SSO). If you do not already have a Railinc SSO user ID and password, refer to the [Single Sign-On and Launch Pad User Guide](#). Once you have access to Railinc SSO, you must request access to MAIN CDX within SSO.

Requesting MAIN CDX Access

After you receive authorization to use Railinc SSO, you must request access to MAIN CDX as described in the [Single Sign-On and Launch Pad User Guide](#).

From the SSO Request Permissions page, choose one or both of the following options and enter the Mark for your railroad:

- Choose **MAIN CDX User** as the user role if you need general access to MAIN CDX.
- Choose **Image and Event Recorder Logs Access** as the user role if you need access to the Image and Event Recorder Logs.

When you complete the permission request process, your application access request is submitted for evaluation. If your request is approved, you will receive an approval email.

Once you receive e-mail notification of access to MAIN CDX, you can log in and begin using MAIN CDX (see “[Logging In](#)” on page 5); however, you must set up your MAIN CDX contact information in FindUs.Rail before you can receive email notifications of MAIN CDX requests or create new requests (see “[Registering to Use FindUs.Rail](#)” below for more information).

Registering to Use FindUs.Rail

Important: In order to receive email notifications of requests created using MAIN CDX or to create new requests, you must be registered in FindUs.Rail, a Railinc application that serves as a central directory of contacts for the rail industry.

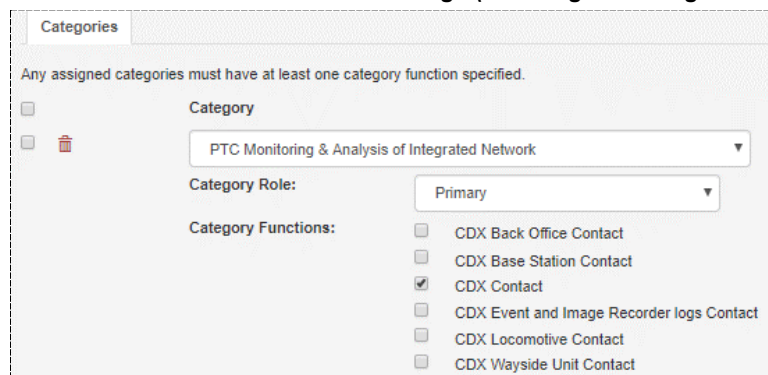
If you do not have access to FindUs.Rail, you must request access to the FindUs.Rail application as described in the [Single Sign-On and Launch Pad User Guide](#). When you are prompted to select a role, select **Contact Company Admin for MARK** unless you need permission to approve

FindUs.Rail access requests for other users at your company (in that case, select **FindUsRail Company Admin**). It may take up to two business days to process your request.

Once you have access to FindUs.Rail (or if you already have access), use the following procedure to set up FindUs.Rail to work with MAIN CDX:

1. Log in to www.railinc.com and select **FindUs.Rail** in the My Applications portlet.
2. Select **Contacts** from the menu bar, and then select **Add Contact**.
3. Complete the fields in the Contact section. Required fields are labeled in red. In the Email field, enter the email address where you would like to receive notifications from MAIN CDX. You can enter a group email in this field if you want multiple contacts to receive notifications.
4. In the Categories section, select “PTC Monitoring & Analysis of Integrated Network” from the Category drop-down (see [Exhibit 2](#)).

Exhibit 2. FindUs.Rail Add Contact Page (Showing the Categories Section)



Categories

Any assigned categories must have at least one category function specified.

Category

PTC Monitoring & Analysis of Integrated Network

Category Role: Primary

Category Functions:

- CDX Back Office Contact
- CDX Base Station Contact
- CDX Contact
- CDX Event and Image Recorder logs Contact
- CDX Locomotive Contact
- CDX Wayside Unit Contact

For a railroad to send or receive MAIN CDX notification emails, one email address must be set up with the category role of “Primary” for the “CDX Contact” category function.

5. If you are the primary CDX Contact, select “Primary” in the Category Role field, and then select “CDX Contact” in the Category Functions area.

Note: There can only be one primary contact per category, but there can be many secondary contacts. If a primary contact already exists for a category, simply add yourself as a secondary contact.

6. As needed, set up the remaining category functions. If there is no primary contact specified for a category function, you can select “Primary”. If you want to be a secondary contact for the remaining category functions, select **Add** to add a new category, select “PTC Monitoring & Analysis of Integrated Network” from the Category drop-down, select “Secondary”, and select the checkboxes for the remaining category functions.
7. When you have completed the Contact and Categories sections, select **Save** at the bottom right of the page. The contact information is saved and will be used to send email notifications for MAIN CDX requests and responses.

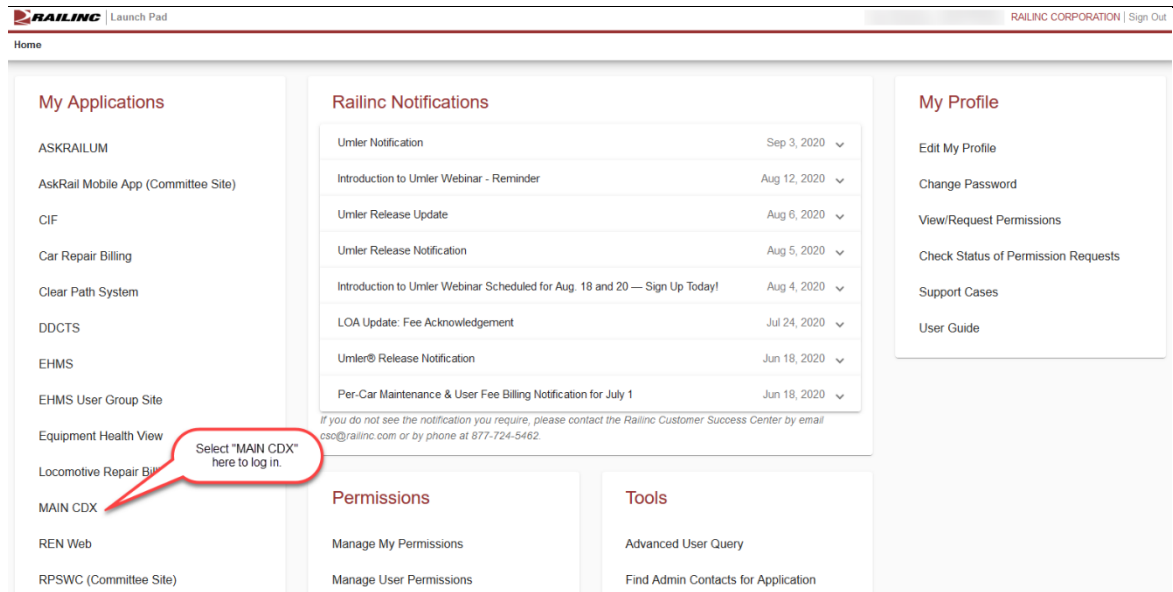
Refer to the [FindUs.Rail web page](#) for more information, including a user guide and demos.

Logging In

To log in to MAIN CDX:

1. Open your internet browser.
2. Go to the Railinc web portal at <http://www.railinc.com>.
3. Log in to SSO (select **Customer Login** at upper right). Your Railinc Launch Pad showing authorized Railinc applications is displayed (see [Exhibit 3](#)).

Exhibit 3. Launch Pad Showing MAIN CDX as an Authorized Application



Note: For more information about the Launch Pad, refer to the [Single Sign-On and Launch Pad User Guide](#).

4. Select **MAIN CDX**. One of the following pages is displayed:
 - If you manage only one company, the MAIN CDX Dashboard is displayed immediately. Continue with [“Viewing the MAIN CDX Dashboard”](#) on page 7.
 - If you manage more than one company, the User Mark Selection popup is displayed. Continue with [“Managing Multiple Companies”](#) on page 6.

Managing Multiple Companies

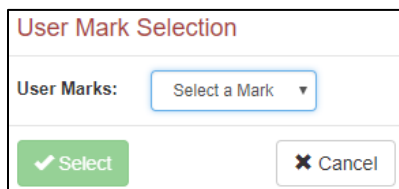
Some MAIN CDX users manage more than one company.

Note: If you only manage one company, your company is automatically selected – you do not need to select a company to manage – and the MAIN CDX Dashboard appears when you log in (see “[Viewing the MAIN CDX Dashboard](#)” on page 7).

If you manage more than one company or Mark, use the following procedure to select the company that you want to manage when you login:

1. Login to MAIN CDX. The User Mark Selection popup is displayed (see [Exhibit 4](#)).

Exhibit 4. User Mark Selection



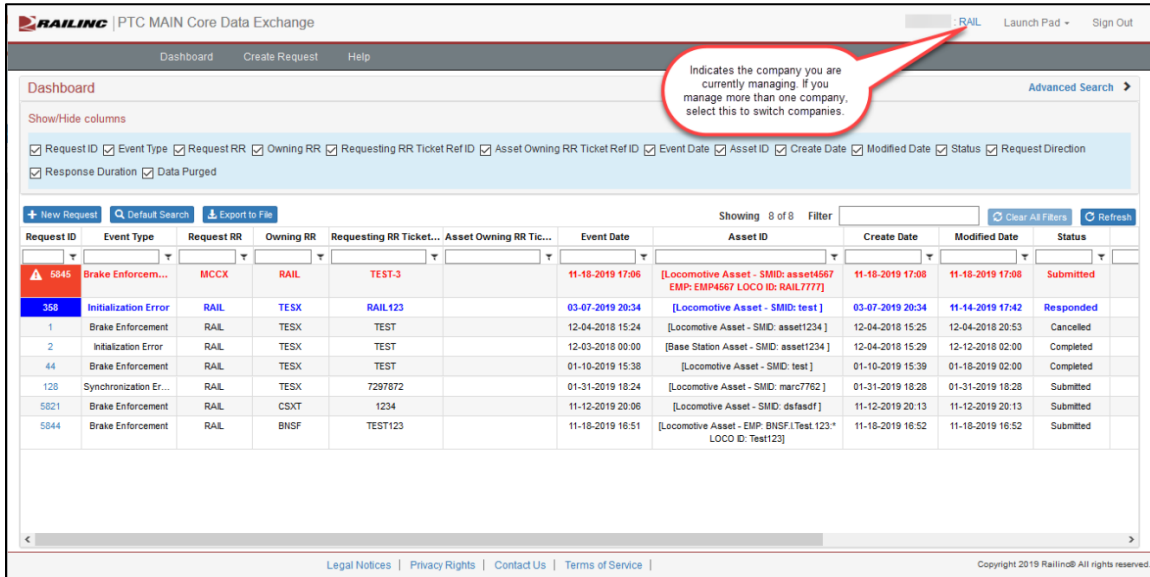
2. From the **User Marks** drop-down, select the company that you want to manage.
3. Select the **Select** button. The Home page for the selected company is displayed allowing you to manage that company.

You can change the company that you are managing at any point while logged in to MAIN CDX. Simply select the company link as indicated in [Exhibit 5](#) and choose another company

Viewing the MAIN CDX Dashboard

Once you successfully log in to MAIN CDX, you can see the MAIN CDX Dashboard page, which contains a menu bar and the Dashboard (see [Exhibit 5](#)).

Exhibit 5. MAIN CDX Dashboard Page



The MAIN CDX menu bar provides access to the following functions:

- Dashboard** Enables you to return to the MAIN CDX Dashboard page at any time.
- Create Request** Enables you to create a new request for PTC shared asset data (see [“Creating New Requests”](#) on page 10). You can also select **New Request** at the top left of the Dashboard to create a new request.
- Help** Provides access to the *MAIN CDX User Guide* (this document).


The Dashboard consists of a table with rows of requests that have been submitted to MAIN CDX. These rows contain the following columns: (You can choose which columns to display by selecting checkboxes in the Show/Hide columns section at the top of the Dashboard.)

- Request ID** Displays a numerical ID, which is also a link that you can select to view and respond to the request (see [“Responding to Requests”](#) on page 15). You can also select this link to copy a request.
- Event Type** Describes the type of event associated with the request.
- Request RR** Lists the Mark of the railroad that is requesting information.
- Owning RR** Lists the Mark of the railroad that owns the requested information.
- Requesting RR Ticket Ref ID** Displays a reference ID from the requesting railroad’s internal tracking system.

Asset Owning RR Ticket Ref ID	Displays a reference ID from the asset owning railroad’s internal tracking system.
Event Date	Shows the date and time of the event associated with the request.
Asset ID	Displays the type of asset as well as the asset SMID, Locomotive ID, and/or EMP address.
Create Date	Displays the date and time when the request was originally submitted.
Modified Date	Indicates the date and time of last modification to the request.
Status	Displays the current status of the request.
Request Direction	Indicates whether a request is inbound (from another railroad) or outbound (to another railroad).
Response Duration	Indicates how long a request has been (or was) open waiting for logs to be made available before it was responded to or denied.
Data Purged	Displays whether or not the requested data has been purged.

Note: Uploaded data is purged seven days after a request status is changed to “Responded”, “Completed”, “Cancelled”, or “Denied”. An email is sent to the requesting railroad one day before the data is purged. No changes may be made to a request after its data has been purged.

By default, the Dashboard displays requests in the following order:

1. Requests that have been identified as urgent and actionable for your railroad. These requests are identified with  in the Request ID column, and the entire row is highlighted in red.
2. Requests that have been identified as non-urgent and actionable for your railroad. For these requests, the entire row is highlighted in blue.
3. Requests that have been identified as urgent, but are not actionable for your railroad.
4. Requests that have been identified as non-urgent and not actionable for your railroad.

A request is actionable for a requesting railroad when the request is in “Responded” status. The requesting railroad needs to download files and complete the request.

A request is actionable for an asset owning railroad when the request is in either “Submitted” or “Acknowledged” status. The asset owning railroad needs to determine how to respond to the request (see “[Responding to Requests](#)” on page 15).

To see all the rows in the table, use the vertical scroll bar. Use the horizontal scroll bar to view any data that exceeds the width of the viewable area.

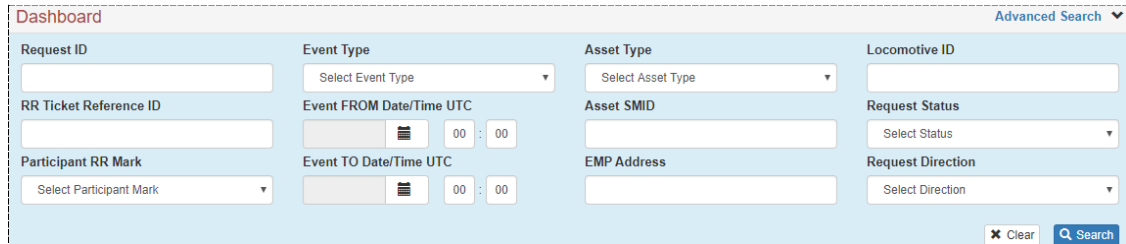
Select **Export to File** to save the Dashboard contents to a CSV file for viewing in a spreadsheet.

You can also search, sort, and filter the rows of information in the Dashboard.

Searching

You can search using a variety of search criteria. Select **Advanced Search** at the top right of the Dashboard to expand the Dashboard and show the search fields (see [Exhibit 6](#)).

Exhibit 6. Dashboard Page (Showing the Advanced Search Fields)



The screenshot shows the 'Advanced Search' section of the dashboard. It features a grid of search fields:

- Request ID**: Text input field.
- Event Type**: Dropdown menu with 'Select Event Type'.
- Asset Type**: Dropdown menu with 'Select Asset Type'.
- Locomotive ID**: Text input field.
- RR Ticket Reference ID**: Text input field.
- Event FROM Date/Time UTC**: Date and time picker.
- Asset SMID**: Text input field.
- Request Status**: Dropdown menu with 'Select Status'.
- Participant RR Mark**: Dropdown menu with 'Select Participant Mark'.
- Event TO Date/Time UTC**: Date and time picker.
- EMP Address**: Text input field.
- Request Direction**: Dropdown menu with 'Select Direction'.

At the bottom right, there are 'Clear' and 'Search' buttons.

See “[Creating New Requests](#)” on page 10 for a description of the fields available for searching.

To perform an advanced search, type your search criteria in one or more of the fields, and select **Search**. The Dashboard displays all the rows that contain the search criteria you entered. After performing an advanced search, you can clear your search criteria by selecting **Clear**. You can return to the original search criteria by selecting the **Default Search** button.

Sorting

You can sort the rows by selecting the heading of the column by which you want to sort. You can also sort by multiple columns by pressing and holding the Shift key while selecting additional columns. If you sort by multiple columns, the column heading for the primary sort is appended with “1”, and the column heading for the secondary sort is appended with “2”, etc.

Filtering

You can filter using two different methods – whole table filtering and column filtering.

- For whole table filtering, go to the Filter field at the top and simply begin typing the string that you want to see. The table displays only the rows that contain the characters you typed (in any column). The count to the left of the Filter field reflects the number of currently displayed rows and the number of rows in the entire table. To return to viewing the entire table, delete the Filter field content.
- For column filtering, select the column filter icon (▼) at the top of any column to filter the data in that column. A tool is displayed that enables you to select parameters such as “Contains”, “Equals”, “Starts with”, and “Ends with”, and type characters into a Filter field. The table displays only the rows that meet the filter rule you set up (in that column). A filter icon (▼) is displayed in the column heading to remind you about the filter. The count to the left of the Filter field at the top right reflects the number of currently displayed rows and the number of rows in the entire table. To return to viewing the entire table, select the filter icon (▼) and delete the text in the Filter field.

Note: Once you apply a filter, that filter remains in effect throughout your use of the application. Select **Clear All Filters** at the top to remove all of the filters. Select **Refresh** to update the table.

Tip! You can apply filters to multiple columns at once. For example, you could apply a column filter containing “Brake Enforcement” on the Event Type column, and another column filter containing “BNSF” on the Owning RR column. This would enable you to display requests for all Brake Enforcement events where the owning railroad is BNSF.

Creating New Requests

You can use MAIN CDX to create new requests for PTC shared asset data.

Important: In order to create new requests using MAIN CDX, you must be registered in FindUs.Rail, a Railinc application that serves as a central directory of contacts for the rail industry. See “[Registering to Use FindUs.Rail](#)” on page 3 for more information.

Use the following procedure to create a new request:

Tip! Once you are familiar with the Create New Request process, it may be more efficient for you to copy (clone) an existing request to create a new request. To do this, simply select the Request ID link for the request you want to copy in the Dashboard. Then, scroll to the bottom of the resulting Update Request page and select **Copy Request**. Make the changes you need and select **Create Request**. A new request is created with a new Request ID.

1. Select **Create Request** from the MAIN CDX menu bar (or select **New Request** on the Dashboard). The New Request page is displayed (see [Exhibit 7](#)).

Exhibit 7. New Request Page

The screenshot shows the 'New Request' form with the following details:

- Contact Information:**
 - Requesting RR MARK: RAIL - RAILINC CORPORATION
 - Asset Owning RR MARK: Select Asset Owning RR MARK
 - Notification Frequency: Any Files/Data uploaded, All Files/Data uploaded
 - Primary Contact: [Redacted]
 - Email: First Name [Redacted], Last Name [Redacted], Phone: 919.523.4 ext.1234
 - Link: [Please click here to view, add or manage the contacts of your organization in Findus.Rail](#)
- Event Information:**
 - Event Type: Select Event Type
 - Log FROM Date/Time (Hours:Minutes) - UTC: 11/13/2019 16:03
 - Event Date/Time (Hours:Minutes) - UTC: 11/13/2019 16:18
 - Log TO Date/Time (Hours:Minutes) - UTC: 11/13/2019 16:33
 - Priority: URGENT
 - Requesting RR Ticket Ref ID: [Empty field]
 - Comments: [Empty text area]
- Asset Information:**
 - + Add Asset

Buttons: [Create Request](#)

The New Request page is divided into three major sections:

- | | |
|---------------------|--|
| Contact Information | Contains contact information for the requesting mark and the mark that owns the PTC shared asset data being requested. |
| Event Information | Contains information about the event for which PTC shared asset data is being requested, including the event type, date and time of the event, the log to/from date and time, and a ticket ID. |
| Asset Information | Contains information about the asset(s) for which PTC shared asset data is being requested, including the asset type and identifiers, as well as the types of files and data requested. |

In the Contact Information section, the Requesting RR MARK drop-down displays the railroad mark for which you have access and the Primary Contact information.

Note: If you have access to FindUs.Rail, you can select the **Please click here to view, add or manage the contacts of your organization in FindUs.Rail** link to change the contact information for your railroad.

2. Use the Asset Owning RR MARK drop-down to select the mark of the railroad that owns the PTC shared asset data you want to request.
3. In the Notification Frequency field, select whether you want to be notified when *any* requested files or data have been uploaded or if you only want to be notified when *all* requested files or data have been uploaded.
4. In the Event Information section, use the Event Type drop-down to specify the type of event for which information is being requested. Choose one of the following event types:

Brake Enforcement	An event where a locomotive is stopped due to PTC being enabled
Initialization Error	Any PTC issue that arises at the start or during the process of a crew trying to initialize the locomotive
Onboard – Active → Disengaged	The PTC state of the onboard transitioning (unexpected) from an active status to disengaged status
Onboard – Active → Failed	The PTC state of the onboard transitioning from an active status to disengaged status
Onboard – Active → Cut-Out	The PTC state of the onboard transitioning (unexpected) from an active status to Cut-Out status
Failed State	The current state of the onboard is failed and the previous state is unknown
Red Fence	The onboard is in an active state but the display is showing a red fence (stop) that is not clearing/expected
Non-Comm	The onboard display is showing the Non-Comm flag
Synchronization Error	The onboard display is showing the SYNC flag
Other	Any issue that is not listed in the drop-down

Note: The information required in the Asset Information section is different depending on the event type you choose.


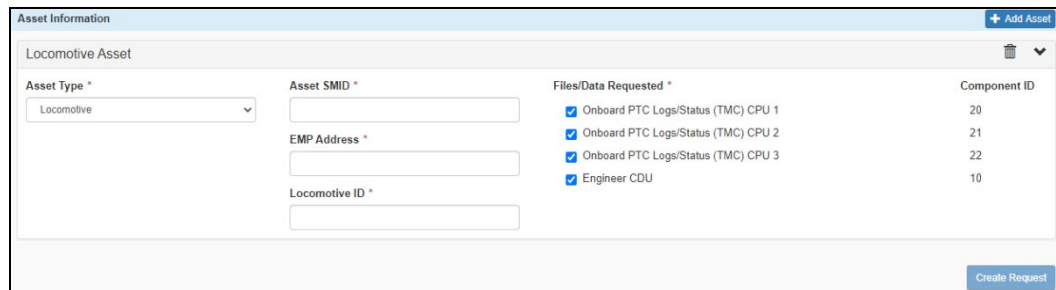
5. In the Event Date/Time (Hours:Minutes) - UTC field, select the calendar icon  to specify the event date. Then, enter the event time using the specified time format.
6. In the Log FROM Date/Time (Hours:Minutes) - UTC field, specify the *start* of the date and time period for which you want to request information logs.
7. In the Log TO Date/Time (Hours:Minutes) - UTC field, specify the *end* of the date and time period for which you want to request information logs.
8. If the priority is urgent, check the URGENT box.
9. In the Requesting RR Ticket Ref ID field, enter your railroad's internal ticket ID for reference.
10. Optionally, enter any comments in the Comments field.
11. In the Asset Information section, select **Add Asset**. The Asset Information section expands with fields appropriate for the selected event type (see [Exhibit 8](#)).

Exhibit 8. New Request Page (Showing Expanded Asset Information Section)



Asset Type *	Asset SMID *	Files/Data Requested *	Component ID
Locomotive		<input checked="" type="checkbox"/> Onboard PTC Logs/Status (TMC) CPU 1	20
		<input checked="" type="checkbox"/> Onboard PTC Logs/Status (TMC) CPU 2	21
		<input checked="" type="checkbox"/> Onboard PTC Logs/Status (TMC) CPU 3	22
		<input checked="" type="checkbox"/> Engineer CDU	10

12. Use the Asset Type drop-down to specify the type of asset for which PTC shared asset data is being requested. Choose one of the following asset types:

- Locomotive
- Locomotive 220MHz Radio
- Locomotive Messaging Logs
- Locomotive CHM
- Locomotive Image Logs
- Wayside Unit 220MHz Radio
- Wayside Messaging Logs
- Wayside PTC Logs
- Base Station 220MHz Radio
- Other

Notes:

- If you only have the Image and Event Recorder Logs Access user role (see [“Requesting MAIN CDX Access”](#) on page 3), the only asset types available to you are Locomotive CHM and Locomotive Image Logs.
 - The available asset fields are different depending on the asset type you select.
13. Complete the fields required to identify the asset you selected. Certain assets may have Asset SMIDs or EMP Addresses (or they may have both). All assets have an ID field specific to the type of asset.
14. For the Files/Data Requested field, select the checkboxes for the logs you want to request (some checkboxes are selected by default, but you can check and uncheck any boxes as needed). Each log requested has an industry-standard Component ID assigned to it, which is shown in the right-hand column of the asset box. The following list describes the logs that may be available for each asset type:

Logs for the Locomotive Asset Type:

Onboard PTC Logs/Status (TMC) CPU 1	Onboard I-ETMS logs from CPU1
Onboard PTC Logs/Status (TMC) CPU 2	Onboard I-ETMS logs from CPU2
Onboard PTC Logs/Status (TMC) CPU 3	Onboard I-ETMS logs from CPU3
Engineer CDU	Onboard I-ETMS logs from CDU1

Logs for the Locomotive 220MHz Asset Type:

Onboard Radio Logs/Status	Logs from the PTC 200MHz radio on the locomotive
------------------------------	--

Logs for the Locomotive Messaging Logs Asset Type:

Onboard Messaging Logs/Status (Slot 10 – ITCM/ITCSM)	ITCM logs from the onboard messaging server (also known as Slot 10 logs)
--	---

Logs for the Locomotive CHM Asset Type:

Event Recorder Logs/Status	Logs from the PTC event recorder on the locomotive
-------------------------------	--

Logs for the Locomotive Image Logs Asset Type:

Image Recorder Logs	Logs from the image recorder on the locomotive
---------------------	--

Logs for the Base Station 220MHz Radio Asset Type:

Base Station Radio Logs/Status	Logs from the PTC 200MHz radio at the specified base station
-----------------------------------	---

Logs for the Wayside Unit 220MHz Radio Asset Type:

Wayside Radio Logs/Status	Logs from the PTC 200MHz radio at the wayside
------------------------------	---


Logs for the Wayside Messaging Logs Asset Type:

Wayside Messaging Logs/Status (WMS – ITCM/ITCSM)	ITCM logs from the wayside messaging server (also known as WMS logs)
--	---

Logs for the Wayside PTC Logs Asset Type:

Wayside PTC Logs/Status (WIU)	PTC logs from the wayside unit
----------------------------------	--------------------------------

If the asset you want to request is not available in the list of assets, select “Other” from the Asset Type drop-down list. When you select this asset type, an entry field is displayed that enables you to specify the type of log you want to request.

Note: You can select **Add Asset** to add additional assets of the same type or you can select a different type. If you want to delete an asset from the Asset Information section, select the trashcan icon .

15. Once you have completed the fields in all of the sections, select the **Create Request** button at the bottom of the New Request page to submit your request. If required information is missing, the Create Request button is not selectable.

The request is saved with the status of “Submitted”, and the asset owning railroad contacts (as set up in FindUs.Rail) are notified of the request via email. The asset owning railroad can respond to the request as described in “[Responding to Requests](#)” on page 15.

Notes:

- Once a request has been submitted, you can cancel the request until it has been responded to by changing the status to “Cancelled”.
- For requests marked as urgent, reminder emails are sent to the asset owning railroad *every four hours* until the asset owning railroad changes the status to “Acknowledged” or “Responded” (or the requesting railroad cancels the request).
- For non-urgent requests, reminder emails are sent to the asset owning railroad *every twenty-four hours* until the asset owning railroad changes the status to “Acknowledged” or “Responded” (or the requesting railroad cancels the request).
- Once the asset owning railroad uploads files, the requesting railroad contacts (as set up in FindUs.Rail) are notified via email, depending on the selected Notification Frequency. See “[Downloading Requested Data](#)” on page 18 for information about downloading files.

Responding to Requests

You can use MAIN CDX to respond to submitted requests for PTC shared asset data.

Important: To receive email notifications of requests created using MAIN CDX, you must be registered in FindUs.Rail, a Railinc application that serves as a central directory of contacts for the rail industry. See [“Registering to Use FindUs.Rail”](#) on page 3 for more information.

As described in [“Learning about MAIN CDX”](#) on page 1, requests for PTC shared asset data go through a process that begins with the “Submitted” status, and proceeds through other statuses such as “Acknowledged”, “Responded”, “Cancelled”, and “Denied”.

The Dashboard (see [“Viewing the MAIN CDX Dashboard”](#) on page 7) lists requests for PTC shared asset data. Use the following procedure to respond to a “Submitted” request:

1. On the Dashboard, locate a request that has been submitted to your railroad.

Tip! You can use the Advanced Search, sorting, or filtering to help locate requests that are in the “Submitted” status for assets that are owned by your railroad.

2. Select the Request ID link for the request that you want to view and respond to. The Update Request page is displayed (see [Exhibit 9](#)).

Note: If you only have the Image and Event Recorder Logs Access user role, you can only respond to requests that pertain to Image Recorder Logs and Event Recorder logs.

Exhibit 9. Update Request Page

Update Request

Request Status

Request ID	17549	Requesting RR	RAIL	Comments
Request Status	Submitted	Asset Owning RR	TESX	
		Request Date	09-25-2020 17:31 UTC	
		Last Updated	09-25-2020 17:31 UTC	

Event Information

Event Type	Onboard - Active -> Disengaged	Log FROM Date	09-25-2020 17:16 UTC	Requesting RR Ticket Ref ID	1234
Event Date	09-25-2020 17:31 UTC	Log TO Date	09-25-2020 17:46 UTC		
		Priority	NORMAL		

Contact Information

RAIL Primary Contact	TESX Primary Contact	Notification Frequency	All Files/Data uploaded
Email	Email		
First Name	First Name		
Last Name	Last Name		
Phone	Phone		

Asset Information

Locomotive Image Logs Asset

Asset SMID rail:4567

Image Recorder logs (Component ID - 0)

Complete
 Partially Complete
 Denied

Comment

Copy Request Save Changes

The Update Request page is divided into four major sections:

Request Status	Contains information about the status of the request for PTC shared asset data and allows you to change the status. You can also add comments and view a history of comments by expanding the Comment History field. Note: In addition to user comments, the Comment History field also captures status changes for audit trail purposes.
Event Information	Contains information about the event for which PTC shared asset data is being requested, including the event type, date and time of the event, the log to/from date and time, the priority, and the requesting railroad's internal ticket ID. As the asset owning railroad, you can optionally enter your railroad's internal ticket ID for reference also.
Contact Information	Contains contact information for the requesting railroad and the railroad that owns the PTC shared asset data being requested. The Notification Frequency field displays whether the requesting railroad will be notified when <i>any</i> data is uploaded or only when <i>all</i> requested data has been uploaded.
Asset Information	Contains information about the asset(s) for which PTC shared asset data is being requested, including the asset type and identifiers, as well as the types of files and data requested. You can select checkboxes in this section to indicate whether the requested PTC shared asset data is available, and whether the request has been completed for this asset. This section also contains the Upload File button, which enables you to upload requested files into MAIN CDX.

3. Review the Update Request page and determine how you will respond to the request for the PTC shared asset data.
4. In the Request Status section, select the Request Status drop-down and change the status to one of the following to indicate your decision from step 3:

Acknowledged	Indicates that you have received the request for PTC shared asset data and are researching or determining how to proceed. You can select "Acknowledged" if you have uploaded <i>some</i> of the requested PTC shared asset data.
Denied	Indicates that you will not provide the PTC shared asset data being requested. If you select "Denied", you are also required to select a reason in the Denied Reason field.
Responded	Indicates that you have provided <i>all</i> of the PTC shared asset data being requested.

You have the option of adding a comment for any of the status changes you make.

5. In the Event Information section, optionally enter your railroad's internal ticket ID for reference in the Asset Owning RR Ticket Ref ID field.
6. Review the contact information and contact the requesting railroad directly if needed.
7. In the Asset Information section, go to each requested asset and select **Upload File** to upload the requested PTC shared asset data and select the **Completed** checkbox. If you do not have the requested PTC shared asset data for a particular asset, select the **Not Available** checkbox. Optionally add a comment.

Note: You can upload a maximum of ten files for each log, and each file can be no larger than 100MB. Supported filetypes for upload include: .7z, .csv, .doc, .docx, .gz, .jpeg, .jpg, .log, .mp4, .pdf, .ppt, .pptx, .rtf, .tgz, .txt, .xls, .xlsx, and .zip.

8. Select **Save Changes** at the bottom right when you have completed the fields in all of the sections.

Notes:

- You may select the “Acknowledged” status, upload some of the requested files, and save your changes several times before you complete your response, change the status to “Responded”, and select **Save Changes** again for the final time.
- Once a request has been changed to “Responded” or “Denied” status, the requesting railroad has seven days to retrieve any uploaded files before the files associated with that request are purged from MAIN CDX.
- You can select **Copy Request** to make a copy of the request and use it to create a new request. This process is known as cloning, and it can be the most efficient way to create a new request that is similar to an existing request. Once you copy a request, make the changes you need and then select **Create Request**. A new request is created with a new Request ID.

Downloading Requested Data

The requesting railroad can use MAIN CDX to download PTC shared asset data that has been uploaded by an asset owning railroad in response to a submitted request.

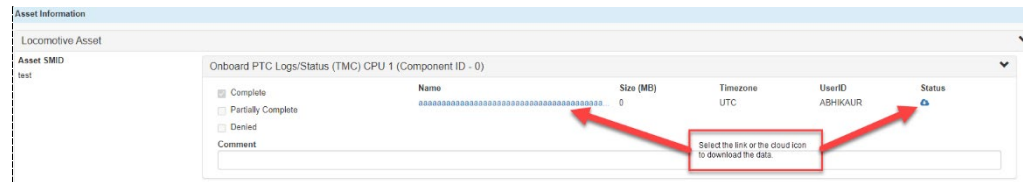
Important: In order to receive email notifications about the status of requests created using MAIN CDX, you must be registered in FindUs.Rail, a Railinc application that serves as a central directory of contacts for the rail industry. See [“Registering to Use FindUs.Rail”](#) on page 3 for more information.

Use the following procedure if you receive an email notification that an asset owning railroad has uploaded PTC shared asset data you requested to MAIN CDX:


Note: If you only have the Image and Event Recorder Logs Access user role, you can only download Image Recorder Logs and Event Recorder logs.

1. Log in to MAIN CDX. The Dashboard is displayed (see [Exhibit 5](#)).
2. Review the Dashboard and locate the Request ID associated with the request referenced in the email notification (see [“Viewing the MAIN CDX Dashboard”](#) on page 7 for more information).
 - If the Status column indicates “Acknowledged”, the asset owning railroad may have uploaded some of the requested PTC shared asset data, but they have not yet completed the request.
 - If the Status column indicates “Responded”, the asset owning railroad has completed the request (i.e., they have either uploaded all of the requested PTC shared asset data or they have marked some information as “Not Available”).
3. Select the Request ID link associated with the request. The Update Request page is displayed (see [Exhibit 9](#)).
4. Review the Request Status section, including any comments.
5. Review the Asset Information section, including any comments, and note any files that may have been uploaded as well as any requested PTC shared asset data that may have been marked as “Not Available” (see [Exhibit 10](#)).

Exhibit 10. Update Request Page (Showing Uploaded Files)



Downloading Requested Data

6. Select the links for the file(s) you want to download (or select the  icon for each file). Depending on your browser, the downloaded file(s) may be displayed at the bottom of your browser window, or a popup may prompt you for a save location. If you cannot locate the saved file(s), check your Downloads folder.

Note: Once an asset owning railroad has changed a request to “Responded” status, any PTC shared asset data uploaded for that request is purged from MAIN CDX after seven days. The filename(s) of the purged file(s) remains visible. Also, note that once information is purged, the request can no longer be modified.

7. After you have downloaded the PTC shared asset data, change the Request Status to “Completed” to indicate that you have received the information you requested.

Appendix A. Integration with Automated Railroads

Automated railroads (or *auto railroads*) refers to railroads that are set up to send Interoperable Train Control Systems Management (ITCSM^{®1}) messages (10303 and 10304). Auto railroads create requests in MAIN CDX using these messages instead of using the MAIN CDX user interface. Railroads that do not use ITCSM messages are referred to as *manual railroads*. Manual railroads only use the MAIN CDX user interface.

This appendix contains the following sections, which describe the process depending on the type of railroad submitting a request and the type of railroad receiving the request.

- [Auto to Manual](#)
- [Manual to Auto](#)
- [Auto to Auto](#)

¹ ITCSM is a registered trademark of Meteorcomm.

Auto to Manual

In an Auto to Manual request, an auto railroad submits a 10303 request to MAIN CDX and the request is added to the MAIN CDX Dashboard (see “[Viewing the MAIN CDX Dashboard](#)” on page 7). The manual railroad can log into the MAIN CDX application and respond using the user interface.

Note: File size and filetype restrictions are different from other transaction types. When responding to an Auto to Manual request, you can only upload one file for each log, and each file can be no larger than 15.89MB (16281KB). The only supported filetypes for upload are: .txt and .log. Zipped files are not supported.

When the manual railroad views requests using the Dashboard, any requests from auto railroads are identified as “Automated Request” in the Event Type column (see [Exhibit 11](#)).

Exhibit 11. MAIN CDX Dashboard Page (Showing Requests from Auto Railroads)

Request ID	Event Type	Request RR	Owning RR	Requesting RR Ticket...	Asset Owning RR Tic...	Event Date	Asset ID	Create Date	Modified Date
16990	Initialization Error	RAIL	TESX	1		09-11-2020 17:25	[Locomotive Asset - SMID: rail:4567]	09-11-2020 17:25	10-14-2020 01:01
16992	Initialization Error	RAIL	MCCX	1234		09-11-2020 20:24	[Locomotive Asset - EMP: mccc.Lrail.1234 LOCO ID: RAIL1234]	09-11-2020 20:25	10-17-2020 01:01
16998	Brake Enforcement	RAIL	MCCX	1		09-16-2020 12:58	[Locomotive Asset - EMP: mccc.Lmccc:1234]	09-16-2020 13:00	09-30-2020 01:00
17000	Brake Enforcement	RAIL	MCCX	6541		09-16-2020 15:32	[Wayside Messaging Logs Asset - EMP: mccc.Lmccc:65431], [Base Station 220MHz Radio Asset - SMID: rail:3221]	09-16-2020 15:33	10-18-2020 01:01
17024	Brake Enforcement	RAIL	MCCX	1		09-29-2020 12:42	[Locomotive Asset - SMID: mccc:1432]	09-29-2020 12:43	11-18-2020 02:01
17035	Automated Request	UP	RAIL			09-03-2020 10:34	[Locomotive Asset - SMID: rail1234]	10-01-2020 11:22	10-08-2020 20:10
17040	Automated Request	UP	RAIL			09-03-2020 10:34	[Other Asset - SMID: rail2222]	10-01-2020 12:20	10-01-2020 12:20
17049	Automated Request	MCCX	RAIL			09-03-2020 10:34	[Other Asset - SMID: rail3333]	10-02-2020 03:10	10-02-2020 03:10
17050	Automated Request	MCCX	RAIL			09-03-2020 10:34	[Locomotive Asset - SMID: comp20]	10-02-2020 03:13	10-02-2020 03:13

Important! When responding to a request from an auto railroad on the Update Request page, you cannot select “Denied” in the Request Status section until you first select “Denied” in the Asset Information section. Also, in the Asset Information section, you must upload a file before you can mark the request as “Complete” or “Partially Complete”.

Manual to Auto

In a Manual to Auto request, a manual railroad submits a request through the user interface to an auto railroad. The following differences from a Manual to Manual request apply:

- When sending a request to an auto railroad, you must choose only one type of field (e.g., SMID, EMP, etc.) to identify the asset you selected (see [Exhibit 12](#)).

Exhibit 12. New Request Page (Showing Asset Information Fields for Sending to an Auto Railroad)

The screenshot shows a web form titled "Asset Information" for a "Locomotive Asset". The form includes a dropdown menu for "Asset Type" set to "Locomotive", radio buttons for "SMID" (selected), "EMP", and "LOCO ID", and a text input field for "Asset SMID". To the right, there is a section for "Files/Data Requested" with a table of checked items and their "Component ID". A "Create Request" button is at the bottom right.

Files/Data Requested *	Component ID
<input checked="" type="checkbox"/> Onboard PTC Logs/Status (TMC) CPU 1	20
<input checked="" type="checkbox"/> Onboard PTC Logs/Status (TMC) CPU 2	21
<input checked="" type="checkbox"/> Onboard PTC Logs/Status (TMC) CPU 3	22
<input checked="" type="checkbox"/> Engineer CDU	10

- For Manual to Auto requests, the Locomotive CHM and Locomotive Image Logs asset types are not supported through messaging as these are manual logs. Requests involving these asset types must be handled through the user interface.

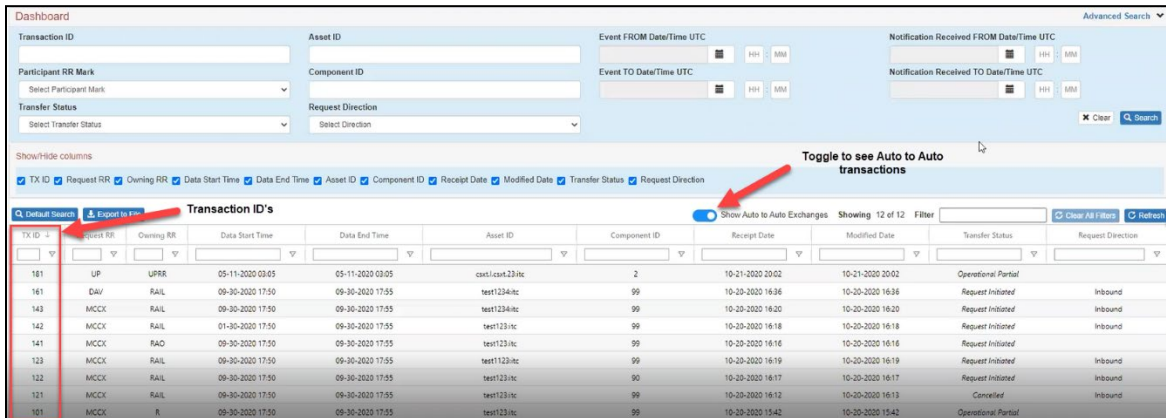
Auto to Auto

In an Auto to Auto request, the sending auto railroad submits a request via ITCSM 10303 message to an auto railroad. The receiving auto railroad responds via ITCSM 10304 message.

The sending auto railroad also sends an ITCSM 10305 logging message to MAIN CDX for information purposes.

You can view a record of Auto to Auto transactions (10305 messages) by selecting the **Show Auto to Auto Exchanges** toggle on the MAIN CDX Dashboard (see [Exhibit 13](#)).

Exhibit 13. Dashboard Page (Showing Auto to Auto Exchanges)



In this mode, the Dashboard operates exactly as described in “[Viewing the MAIN CDX Dashboard](#)” on page 7, and the fields are very similar with the following exceptions:

TX ID Represents the Transaction ID.

Transfer Status Hover over this field to view a brief history of the transfer statuses.

Note: None of the columns can be selected for additional information.