



Congestion Revenue Rights (CRR) 2026 Pre-Auction

Customer Partnership Group

Nov. 12, 2025

9:00 a.m.–10:00 a.m. (Pacific Time)

Web Conference and Meeting Information
All calls are scheduled through the end of the year. A notice will be sent prior to each meeting with the latest call-in details.
Calls and webinars are recorded for stakeholder convenience, allowing those who cannot attend to access the recordings afterward. Recordings will be available on the ISO website for a limited time following each meeting.
For general questions about market simulation, please email marketsim@caiso.com . For training-related questions, please email CustomerReadiness@caiso.com . For specific issues or questions regarding the CRR System Upgrade project, please submit a CIDI ticket using the subject format:<Project Name>: <System Name> - <Issue Title>Include the associated functional environment in your ticket. To review previous materials, visit the Congestion Revenue Rights (CRR) Settlement Upgrade Project Customer Partnership Group page.

Reminders

- This call is being recorded for informational and convenience purposes only. Any related transcriptions should not be reprinted without ISO's permission.

The meeting is structured to stimulate dialogue and engage different perspectives.

Please keep comments professional and respectful.

Please try to be brief and refrain from repeating what has already been said so that we can manage this time efficiently.

To review previous materials, please caiso.com > Meetings and events > Meetings > [Congestion Revenue Rights \(CRR\) Settlement Upgrade Project customer partnership group](#)

Instructions for raising your hand to ask a question

- Open the Participant and Chat panels from the bottom right.
- If you are connected to audio through your computer or used the “call me” option, select the raise hand icon 🙋 located on the bottom of your screen.
 - **Note:** *3 only works if you dialed into the meeting.
- Please remember to state your name and affiliation before making your comment.
- You may also send your question via chat to either **Brenda Marquez** or to all panelists.
- Closed Captioning and Transparency Viewer are available

Agenda

Time (PST)	Topic
9:00 – 9:05	Welcome
9:05 – 9:15	RDFID-PSLF mapping for 2026 Auction Market
9:15 – 9:45	CRR EDAM implementation Update
9:35 – 9:45	Open Discussion and Questions
9:45-10:00	Next Steps

CRR - Congestion Revenue Right

PSLF - Power System Load Flow

RDFID - Resource Description Framework Identifier

RDFID-PSLF mapping for 2026 auction market

- The **FNM DB135** model is being used for the 2026 auction market, as well as the 2025 August and September monthly markets.
- We have posted the DB135 RDFID-PSLF mapping to the Market Participant Portal (MPP) under the following path:

CRR_FNM > 2025_08_August / 2025_09_September

- As part of our reporting transition, we are sunsetting the RDFID-PSLF mapping. This change reflects the fact that the CRR market reports use RDFID names directly, rather than PSLF identifiers.
- The final RDFID-PSLF mapping will be provided for the 2025 December monthly market. No further mappings will be published beyond that point.

CRR EDAM Implementation Update

- The existing CISO-intertie scheduling point will continue to be supported in EDAM for a transitional period through at least 2026, where non-EDAM transmission is available
- For CISO-intertie schedules that are associated with EDAM transmission rights EDAM transfers will be used with EDAM go-live
- CRR model will continue to use the existing CISO-intertie scheduling point for both 2026 annual and subsequent monthly CRR allocation and auction markets throughout the transitional period
- The posted informational SP-Tie to DGAP-Tie mapping is a reflection of the current CISO-intertie scheduling points to adjacent BAA DGAPs to be considered and evaluated after transitional period

OPEN DISCUSSION AND QUESTIONS

Next Steps

We also want to highlight two important stakeholder meetings happening this week:

1. Storage Design and Modeling Stakeholder Meeting

- **Date/Time:** Nov. 12, 10–5 p.m.
- **Overview:** We will review Three topic groups will be discussed during this meeting: Uplift & Default Energy Bids (DEB), Outage Management, and Mixed-Fuel and Distribution-Level Resources.
- **Details:** [Link to meeting information](#)

2. CAISO EDAM Q&A Workshop

- **Date/Time:** Friday, Nov. 14, 11 a.m.–3 p.m.
- **Overview:** This session will revisit topics from last week and address new stakeholder submissions related to Intertie Scheduling and Resource Adequacy Imports. Please bring your questions or submit them in advance using the [comment template](#) on the [initiative webpage](#).
- **Details:** [Link to workshop information](#)

Thank you for your engagement and patience as we work through these important discussions!

- Please contact Brenda Marquez at bmarquez@caiso.com or ISOStakeholdersaffairs@caiso.com with any questions.
- For training questions, contact CustomerReadiness@caiso.com.
- Visit CPG webpage for more information: <https://www.caiso.com/meetings-events/topics/congestion-revenue-rights-crr-settlement-upgrade-project-customer-partnership-group>



Energy Matters blog provides timely insights into ISO grid and market operations as well as other industry-related news.

<https://www.caiso.com/about/news/energy-matters-blog>



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APPENDIX REFERENCE SLIDES

MapStage AIM Provisioning

- For CRR Holders and Load-Serving Entities that are currently provisioned in AIM as:
 - **EXTERNAL MUI USER WITH NDA or**
 - **EXTERNAL MUI RESTRICTED WITHOUT NDA**
- The ISO will provision/migrate access to:
 - **EXTERNAL CRR HOLDER READ/WRITE ACCESS**
- For CRR NDA Users that are currently provisioned as:
 - **CRRFNM EXTERNAL READ-ONLY or**
 - **EXTERNAL MUI USER WITH NDA**
- The ISO will provision/migrate their access to:
 - **EXTERNAL CRR NDA REPORTS READ-ACCESS**

MapStage AIM Provisioning

- If you have new users that need to be provisioned for testing, please make sure you provision them to any of these new roles:
 - **EXTERNAL CRR HOLDER READ/WRITE ACCESS** or
EXTERNAL CRR HOLDER READ ACCESS
(both above follows the existing CRR Holder participant registration process)
 - **EXTERNAL CRR NDA REPORTS READ-ACCESS**
(follows the existing CRR ISO Non-Disclosure Agreement process)

CRR – B2B Spec Updates

Spec File	Changes
caiso_crr_historical_forecasted_load_v1.1.1.yaml	- Added error code SEC0002 for invalid participant name
caiso_crr_load_migration_v1.3.1.yaml	- Added error code SEC0002 for invalid participant name - Added error code LMV1003 for the specified load migration market name does not exist in the system
caiso_crr_secondary_market_v1.2.1.yaml	- Added error code SEC0002 for invalid participant name - Added error code SMT0016 for nonexistence of request ID in the system - Added error code SMT0063 for mismatched asset owner of specified request and participant name - Added error code SMT0145 when price in the response does not match price in the corresponding offer - Correct description of error code SMT0082 to "Unable to retrieve a secondary market record by the given request ID and participant name."
caiso_crr_tor_conversion_v1.2.1.yaml	- Remove Start Date and End Date from ConversionApprovalRecord to be consistent with MUI TOR Conversion Approval Editor - Added error code SEC0002 for invalid participant name - Modified description of error code TOR0016 for nonexistence of TOR conversion window name in the system
caiso_crr_messages_v1.2.1.yaml	- Added error code SEC0002 for invalid participant name

CRR – JSON Schema Update

Schema Name	Changes
CRRHistoricalForecastLoad_v1.0.2.draft-07.schema	- Corrected time in date example to '2025-07-01T 07 :00:00Z'

CRR MUI CSV Templates, API Connectivity Guidance

Developer Site <https://developer.caiso.com>

Apps > CRR > Release Notes

(1) CRR v4.x.x MUI Upload CSV Template for MP DRAFT.zip

CSV Template for MP_draft

CRRH Only	CLSE/CRRH	CUDC	TOR	CEC
• CRR bids/Offers • Secondary market	• CRR nominations • CRR bids/Offers • Historical and forecasted load • Secondary market • LT Nomination Election • MT_TOR CRR Approvals	• Customer rate (once a year) • Customer number • DASR	• TOR Conversion Request	• Load data - no change

CRR MUI CSV Templates, API Connectivity Guidance

Developer Site <https://developer.caiso.com>

Apps > CRR > Release Notes

[\(2\) CRR v4.x.x API Connectivity.zip](#)

CRR_APIConnectivitySoapUI_v1.0.xml: SoapUI project

CRRv4.x.x.APIConnectivity.pdf: Contains information about the API testing tool (SoapUI) request and responses for CRR B2B API connectivity testing purposes

Purpose

This document is an accompaniment to the CRR v4.x.x. Application Programming Interface (API) connectivity/sample SoapUI project <CRR_APIConnectivitySoapUI_v1.0.xml>; which is comprised of a subset of CRR endpoints' screenshots, illustrating its respective request and response.

Market participants may utilize the provided SoapUI project to confirm initial integration with the CRR application via APIs manually, such that: API submissions can successfully connect to CRR endpoints and servers, with a valid return response code
Verifying that the API authenticates and authorizes user to access the CRR application

Pre-requisites/Dependencies

Market participants who would utilize the SoapUI project would need:

SoapUI 5.7.2, to import the project

Valid ISO certificate and correct user access role provisioned

To execute the API requests within the same network as where your system API calls would be coming from

API Connectivity Checklist

The provided SoapUI project contains one POST and/or GET method sample for each of the ten (10) RESTful CRR v4.x.x services available.

Please refer to the ISO Developer Portal CRR application page for the comprehensive/complete endpoint service definitions per API.

CRR Service Endpoint Details

#	Service	GET	POST	Likelihood that file submission may be greater than > 1 MB filesize	CRR System (UI / API)
1	CRR Historical & Forecasted Load	x	x	Yes	Phase 1: Use UI for submission for now, no API available Phase 2: API submission pattern - TBD
2	CRR Auction	x	x	Yes	Maximum 500 recs for any file submission to the system 20 bid segments per bid (business rule)
3	CRR Load Migration	x	x	No	-
4	CRR Nomination	x	x	Yes	Maximum 500 recs for any file submission to the system
5	CRR Secondary Market	x	x	No	Maximum 500 recs for any file submission to the system

CRR Service Endpoint Details

#	Service	GET	POST	Potential submission for >1mb filesize	Comments
1	CRR App Status	x	n/a	n/a	Only retrieve data, no submission
2	CRR Market Data	x			
3	CRR Market Status	x			
4	CRR Messages	x			

RECAP: CRR Upgrade Project - Overview

- The ISO has decided to upgrade the existing CRR system with a new system that adopts the latest technology stack aligned with the ISO's technology standards, consolidates all CRR related functions, minimizes human errors, reduces processing time, eliminates manual workarounds, and positions the system to accommodate policy changes down the road.
- This on-going Customer Partnership Group (CPG) will provide an overview of the schedule, review of external BRS and answer questions. Subsequent meetings will include detailed review and discussion of business process changes impacting market participants.
- http://www.caiso.com/Documents/BusinessRequirementsSpecification_Con gestionRightsRevenueUpgrade.pdf
- The goal of this CPG is to ensure customer readiness as this project deploys to Production in 2024.

RECAP: CRR Upgrade Project – Overview of changes

- **Load submission process**
 - At the time of load submission participant will be notified of any failed validation per sink location based on the exceedance load and allow to resubmit
- **OBAALSE process**
 - EQ load election will be submitted through the UI during the OBAALSE load submission
- **Consolidate data publishing in MUI and/or OASIS**
 - Calendar: change from webpost to OASIS
 - Model data: change from webpost to MUI, including both NDA and non NDAfiles
 - Market Result data: from webpost to MUI
- **Modeling data**
 - Powerflow case to be released in PSSE v30
 - ITC definition will be modeled as source and sink
- **Features added to enable user performing additional tasks**
 - MT_TOR: user to submit through UI, currently performed by CRR group
- **Changes to Load Migration and Source and Sink processes**
- **User access**
 - User will be provisioned to specific functions within the system, based on the application access request approval process
- **Webservices interface for interacting with MUI**

Market Sim - Overview

- Market participant training will complete prior to last week of connectivity, and one week before start of Market Sim
- 4 weeks connectivity
 - Week two CAISO will provide ability for allocation and auction API upload
 - No functionality will be available to test until the start of Market Sim
- 3 week structured scenario execution
- 2 week unstructured
- CAISO will request all interested CRR market participants sign up to participate in Market Sim
- All current user profiles will be migrated into Map-stage for Market Sim, new participants will need to request to be provisioned

RECAP: CRR Upgrade Project– Overview of changes cont.

- **Source and Sink list release**

- Remove the existing 30 days ahead of allocation version
- Will be released in v0, v1 and other updates within the active market period

- **Retired resource mapping**

- Re-map the retired PNode to the closest electrically connected PNode that is also a biddable location in the CRR processes and has the same source/sink designation as the retired location
- Baseloading CRR will be mapped based on the model used in the active market period to capture the most accurate topology
- Mapping will be released for the corresponding market period

- **Source and Sink islanded by outage**

- With baseloading CRR, sell offer allowed
- No baseloading CRR, will not be biddable for the effective market

CAISO B2B Improvements – Goals & Current Status

- **Goals**

- Enhance the developer experience working with CAISO Web API's
- Provide API's in REST/JSON using OpenAPI 3.0 specification
- Provide examples, mock services and tooling to generate client/server stubs and SDK
- Provide tests for the API's using Postman collections
- Collaboration using Git and forums on developer.caiso.com
- Simplify authentication using mutual TLS and X.509 certificates

- **Update**

- POC updates and notes and recording from meetings are posted on developer forum at <https://developer.caiso.com/forum/topics.aspx?ForumID=4>.
- Documents uploaded to the Developer Forum:
<https://developer.caiso.com/forum/messages.aspx?TopicID=6119>
 - PowerPoint presentation and webinar recording
 - Draft version of CRR Auction Service OpenAPI Specifications
 - Draft version of CRR business validate message bundle

CAISO B2B Improvements – SOAP vs REST

SOAP

```
POST /GetStock HTTP/1.1
Host: www.example.org
Content-Type: application/soap+xml
```

```
<?xml version="1.0"?>
<soap:Envelope
  xmlns:soap="http://www.w3.org/2001/12/soap-
  envelope"
  soap:encodingStyle="http://www.w3.org/
  2001/12/soap-encoding">

  <soap:Body xmlns:m="http://www.example.org/
  stock">
    <m:GetStockPrice>
      <m:StockName>IBM</m:StockName>
    </m:GetStockPrice>
  </soap:Body>
</soap:Envelope>
```

REST

```
GET http://example.org/stock/IBM
```

- SOAP (Simple Object Access Protocol) provides the following advantages when compared to REST:
 - Language, platform, and transport independent (REST requires use of HTTP)
 - Works well in distributed enterprise environments (REST assumes direct point-to-point communication)
 - Standardized
 - Provides significant pre-build extensibility in the form of the WS* standards
 - Built-in error handling
 - Automation when used with certain language products
- REST (Representational State Transfer) is easier to use for the most part and is more flexible. It has the following advantages when compared to SOAP:
 - Uses easy to understand standards like swagger and OpenAPI Specification 3.0
 - Smaller learning curve
 - Efficient (SOAP uses XML for all messages, REST mostly uses smaller message formats like JSON)
 - Fast (no extensive processing required)
 - Closer to other Web technologies in design philosophy
 - As one REST API tutorial put it: SOAP is like an envelope while REST is just a postcard

<https://www.soapui.org/learn/api/soap-vs-rest-api/>

CAISO B2B Improvements – CRR Developer Forum

<https://developer.caiso.com/pages/application.aspx?app=CRR>

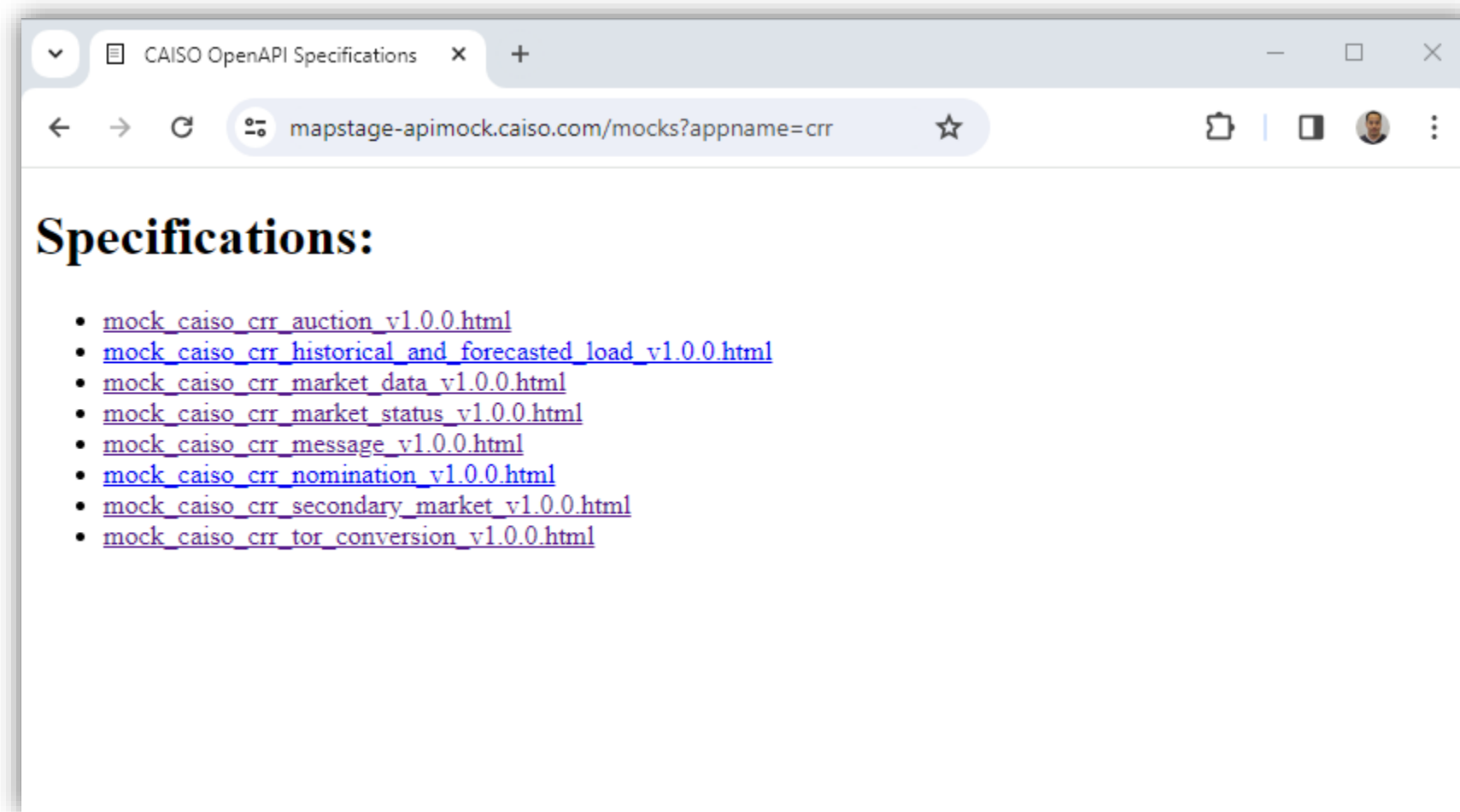
RESTful services

 About status

Search RESTful services Filter					
SERVICE	SPECIFICATION	DOCUMENTATION	STATUS	RELEASE	EFFECTIVE DATE
CRR Auction	crr_auction_1.0.0.yaml	crr_auction_1.0.0.html	NA	NA	NA
CRR Historical and Forecasted Load	crr_historical_and_forecasted_load_1.0.0.yaml	crr_historical_and_forecasted_load_1.0.0.html	NA	NA	NA
CRR Market Data	crr_market_data_1.0.0.yaml	crr_market_data_1.0.0.html	NA	NA	NA
CRR Market Status	crr_market_status_v1.0.0.yaml	crr_market_status_v1.0.0.html	NA	NA	NA
CRR Message	crr_message_1.0.0.yaml	crr_message_1.0.0.html	NA	NA	NA
CRR Nomination	crr_nomination_1.0.0.yaml	crr_nomination_1.0.0.html	NA	NA	NA
CRR Secondary Market	crr_secondary_market_1.0.0.yaml	crr_secondary_market_1.0.0.html	● PROD_LATEST	Spring 2020	NA
	crr_secondary_market_0.0.0.yaml	crr_secondary_market_0.0.0.html	● MAP_STAGE	DRAFT	NA
CRR Tor Conversion	crr_tor_conversion_1.0.0.yaml	crr_tor_conversion_1.0.0.html	NA	NA	NA

CAISO CRR API Mock Services

<https://mapstage-apimock.caiso.com/mocks?appname=crr>



CAISO B2B Improvements – Example: CRR Auction API

```
+ 1 openapi: 3.0.0
+ 2 servers:
+ 3   - url: https://virtserver.swaggerhub.com/RI-GM/caiso_crr_auction_v1.0.0_openapi/1.0.0
+ 4
+ 5 info:
+ 6   description: This includes all openapi services for CRR bids and offers
+ 7   version: "1.0.0"
+ 8   title: CRR Auction API
+ 9   contact:
+ 10    email: ihedge-support@resource-innovations.com
+ 11
+ 12 tags:
+ 13   - name: write
+ 14     description: require read/write access
+ 15   - name: read
+ 16     description: requires read only
+ 17
+ 18 paths:
+ 19   /auction/v1.0/portfolio:
+ 20     get:
+ 21       tags:
+ 22         - read
+ 23       summary: gets bids and offers for given market name
+ 24       operationId: getPortfolio
+ 25       description: |
+ 26         By passing in the appropriate market name, portfolio name, and participant name, the auction portfolio will be returned.
+ 27       parameters:
+ 28         - $ref: '#/components/parameters/MarketName'
+ 29         - $ref: '#/components/parameters/PortfolioName'
+ 30         - $ref: '#/components/parameters/ParticipantName'
+ 31
+ 32       responses:
+ 33         '200':
+ 34           description: search results matching criteria
+ 35           content:
+ 36             application/json:
+ 37               schema:
+ 38                 $ref: '#/components/schemas/Portfolio'
```

API SUMMARY

API METHODS - READ

getPortfolio
getPortfolioList
getPortfolioRequiredCredit
getPortfolioStatus

API METHODS - STATUS

getStatus

API METHODS - WRITE

deletePortfolio
portfolioCreation
portfolioSubmission
postPortfolioRetraction

CRR Auction API

API and SDK Documentation

Version: 1.0.0

This includes all openapi services for CRR bids and offers

Read

getPortfolio

gets bids and offers for given market name, portfolio name, and logged-in user

By passing in the appropriate market name, portfolio name, and participant name, the auction portfolio will be returned.

GET

/auction/v1.0/portfolio

Usage and SDK Samples

Curl Java Android Obj-C JavaScript C# PHP Perl Python

```
curl -X GET \
-H "Accept: application/json" \
"https://virtserver.swaggerhub.com/RI-GM/caiso_crr_auction_v1.0.0_openapi/1.0.0/auction/v1.0/portfolio?marketName=&portfolioName=&participantName="
```

CAISO B2B Improvements – Free Swagger Editor Tool

<https://editor.swagger.io/>

The screenshot displays the Swagger Editor interface in a web browser. The left pane shows the OpenAPI definition for the CRR Auction API, version 1.0.0. The right pane provides a visual overview of the API, including its title, version, and a list of endpoints.

Swagger Editor

CRR Auction API 1.0.0 OAS3

This includes all openapi services for CRR bids and offers

[Contact the developer](#)

Servers

https://virtserver.swaggerhub.com/RI-GM/caiso_crr_auction_v1.0.0_openapi/

write require read/write access

- POST** /auction/v1.0 /portfolioCreation creates a new auction portfolio
- POST** /auction/v1.0 /portfolioSubmission submits portfolio to the specified auction
- POST** /auction/v1.0 /portfolioRetraction retracts portfolio from being submitted to the specified auction

```
1 openapi: 3.0.0
2 servers:
3   - url: https://virtserver.swaggerhub.com/RI-GM/
      /caiso_crr_auction_v1.0.0_openapi/1.0.0
4
5 info:
6   description: This includes all openapi services for CRR bids and
      offers
7   version: "1.0.0"
8   title: CRR Auction API
9   contact:
10    email: ihedge-support@resource-innovations.com
11
12 tags:
13   - name: write
14     description: require read/write access
15   - name: read
16     description: requires read only
17
18 paths:
19   /auction/v1.0/portfolio:
20     get:
21       tags:
22         - read
23       summary: gets bids and offers for given market name, portfolio
24         name, and logged-in user
25       operationId: getPortfolio
26       description: |
27         By passing in the appropriate market name, portfolio name,
28         and participant name, the auction portfolio will be
29         returned.
30       parameters:
31         - $ref: '#/components/parameters/MarketName'
32         - $ref: '#/components/parameters/PortfolioName'
33         - $ref: '#/components/parameters/ParticipantName'
```

CAISO B2B Improvements – New Web Services for CRR

Service	Operation
Allocation Nomination Portfolio	POST/GET
Auction Bid Portfolio	POST/GET
Historical and Forecasted Load	POST/GET
Existing CRRs (CRR Market Data)	GET
Market Data (CRR Market Data)	GET
Market Results (CRR Market Data)	GET
Private Allocation Results (CRR Market Data)	GET
Private Auction Results (CRR Market Data)	GET
Load Migration Data	POST/GET
Market Status (Market Info)	GET
CRR Messages	GET
Secondary Market	POST/GET
TOR Conversion	POST/GET

CAISO B2B Improvements – File Naming Convention

A2A/B2B OpenAPI File Naming Conventions for versioning:

File name example: **caiso_crr_market_info_v1.0.0_openapi.yaml**

Version Numbering Format: **MAJOR.MINOR.MINI**

MAJOR version of the file name will be incremented if there are any new services added or any major version update to any of the existing services

MINOR version of the file name will be incremented if there any minor version update to any of the existing services

MINI version of the file name will be incremented if there are only documentation changes/corrections, with no service changes.

CAISO B2B Improvements

Each version update of the file name will reset the version numbers on the right

Version numbers will be tracked into the YAML file as part of the Release Notes

Example:

- v1.0.0 File is published to market participants
- v1.0.1 Edits were made to documentations, no functional changes
- v1.0.2 Edits were made to documentations, no functional changes
- v1.0.3 Edits were made to documentations, no functional changes
- v1.1.0 Added a Minor version for a service
- v1.1.1 Edits were made to documentations, no functional changes
- v1.2.0 Added a Minor version for a service
- v1.3.0 Added a Minor version for a service
- v2.0.0 Added a Major version for a service
- v2.0.1 Edits were made to documentations, no functional changes
- v3.0.0 Added a new service