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SIBR Interface Specification for Bidding Services

(Business Rules v 4.0(CB))

Version: 6.1

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June 11, 2010

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Revision History

Date	Version	By	Description
<u>6/11/2010</u>	<u>6.1</u>	WT/	<u>Update to bidStatus and bidCreditStatus pg. 96.</u>
<u>3/25/2010</u>	<u>6</u>	<u>WT/</u>	<u>DRAFT version for the CB related web services.</u>
3/1/2010	5	WT/	DRAFT version for the MSG related web services.
2/19/2010	4	WT/	Updated to include all supported versions of the web services related to SIBR. (Go-live and SCP)
9/22/09	3.2	WT/	This is Final, changed from DRAFT state.
9/22/09	3.1	WT/	Modified Namespace for RawBidSet, BidResults, and CleanBidSet XSD and associated WSDLs (versioning in namespace)
9/14/09	3	WT/	New Namespace for RawBidSet, BidResults, and CleanBidSet XSD and associated WSDLs Added Capacity Limit, and Capacity Limit Ind
10/14/08	2.3	WT/	New Namespace for RawBidSet, BidResults, and CleanBidSet XSD and associated WSDLs Added Bid Status' "S" and "SO"
10/1/08	2.2	WT/ DC	New Namespace for RawBidSet, BidResults, and CleanBidSet XSD and associated WSDLs Enumeration added for 'RMT' ReferenceType Removed ETP/TOP SelfSchedule Types Updated Contingency Flag Element Description
9/11/08	2.1.1	WT/ DC	Updates to the Element tables associated with the RawBidSet. Bid Limit notation added for the SIBR application, not specific to any XSD limit. BidResults.xsd [Added escape character to pattern for BidPriceCurve/CurveSchedData/y1AxisData

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9/11/08	2.1.2	WT	Updated namespace for retrieveCurrentBidResults.wsdl and retrieveCleanBidSet.wsdl
8/19/08	2.1	WT	Update to: (these can only be used with SIBR BR set 3.9.14.3 or higher (SIBR CR4+ release) submitRawBidSet.wsdl RawBidSet.xsd retrieveCurrentBidResults.wsdl retrieveCurrentBidResults_DocAttach.wsdl RequestBidResults.xsd BidResults.xsd retrieveCleanBidSet.wsdl retrieveCleanBidSetDocAttach.wsdl RequestCleanBidSet.xsd CleanBidSet.xsd Element data and example xml files updated with new versions. All xml examples for bid submission and retrieves will be placed into a reference file separate from this specification. It will be enhanced to include more examples and specific products in relation to schedule types.
4/2/08	1.9.2	WT	Update to Submit Raw Bid Set Element table, Example RawBidSet.xml files, WSDL retrieveCleanBidSet.wsdl, RequestCleanBidSet.xsd, CleanBidSet.xsd, Example CleanBidSet.xml, Example BidResults.xml
2/29/08	1.9.1	WT	Added comment to "IFM" Self-Sched Type in the CleanBidSet.xsd for internal use SIBR -> RTM
1/25/08	1.9	WT	Added Section 1.3 for Release notes for xsd wsdl changes Updated BidResults.xsd, RawBidSet.xsd, CleanBidSet.xsd,
11/20/07	1.8	WT	Updated for IMS Update 2, WSDL and XSD changes.
10/18/07	1.7	WT	This version provided for IMS R3 Update 1 posting. SIBR BR (3.9.11.5)
9/28/07	1.6	WT	Updated date formats in examples for RTM and GMT offsets that were

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			not correct.
8/29/07	1.5	WT	Updated LOF, LFD/U information in examples
7/20/07	1.4	WT	Added some clarity to bidding ProdType – SSType, and RetrieveCleanBid, RetrieveCurrentBidResult Web service
2/23/07	1.3	WT	Updated for Release 5 WSDLs and XSDs (see Appendix – Changes to XSD Files – ver 1.3)
12/20/06	1.2	DC	Updated for Release 4 WSDLs and XSDs (see Appendix - Changes to XSD Files – ver 1.2)
6/30/06	1.1	PM VM	Updated for Release 3 WSDLs and XSDs (see Appendix – Changes to XSD Files – ver 1.1).
5/31/06	1.0	PM	1 st released version.

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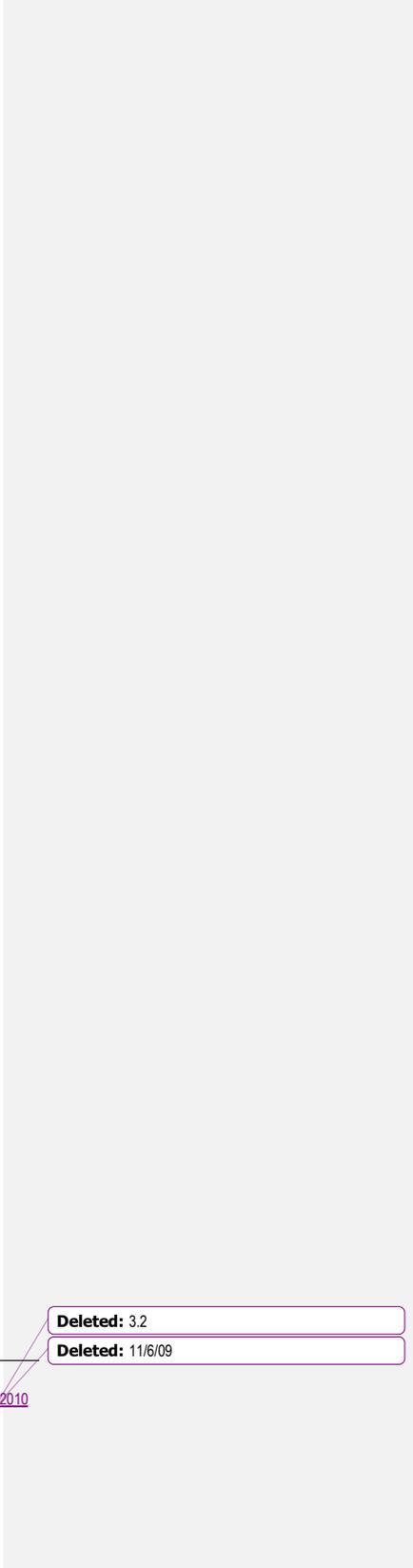
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1 Introduction

1.1 Purpose

This document describes the Market Participant interface to CAISO's Nodal Market Bidding Services. It provides the WSDL, XSD, and XML information required by application programmers to create and send messages and to process response messages.

1.2 Contact Information

For any questions regarding this document or technical questions related to integrating applications with CAISO's Nodal Market web services, please send email to wtamblyn@caiso.com

1.3 Release Notes for Bidding Services version 6

The changes for this release are to add Convergence Bid (CB) elements for the SIBR Bidding services.

Versioning of the WSDL and XSD is will also be maintained for the CB web services to allow support for two versions of the services when they are necessary. This is the first set of CB WSDL's and XSD's.

These changes are only for the addition of the new services for the Convergence Bidding (CB) that will be submitted into SIBR. These are separate services then the existing services used on the Physical Bids for DAM and RTM.

Note: This single document will be used for both the Physical Bids and the Convergence Bids.

Only two versions of the services will be supportable, when there is a need to change the services again, the supported versions will be those defined below and the newest version.

This would make the "current" service obsolete and require moving to one of the supported services.

1.4 Namespace Matrix for Physical Bids

To be used in conjunction with the MSG elements for Configuration specific data elements and Transition elements associated with MSG resources

TargetNamespace (wsdl)	Xmlns (xsd)
2009-11-01/submitRawBidSet_v20091101.wsdl	2009-11-01/RawBidSet_v20091101.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/SubmitStandardOutput.xsd
	2006-06-13/StandardOutput.xsd

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Deleted: The previous version can still be used to interface with SIBR but will not include the new elements introduced in the new services.

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2009-11-01/retrieveCurrentBidResults_v20091101.wsdl	2009-11-01/BidResult_v20091101.xsd	Deleted: 08
	2008-05-21/RequestBidResults.xsd	Deleted: 08
	2006-06-13/StandardAttachmentInfor.xsd	
	2006-06-13/StandardOutput.xsd	
2009-11-01/retrieveCleanBidSet_v20091101.wsdl	2009-11-01/CleanBidSet_v20091101.xsd	Deleted: 08
	2008-05-21/RequestCleanBidSet.xsd	Deleted: 08
	2006-06-13/StandardAttachmentInfor.xsd	
	2006-06-13/StandardOutput.xsd	

To be used in conjunction with the SCP elements for CAPACITY_LIMIT_IND and CAPACITY_LIMIT (introduced 1 January 2010).

TargetNamespace (wsdl)	Xmlns (xsd)
2009-08-01/submitRawBidSet_v20090801.wsdl	2009-08-01/RawBidSet_v20090801.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/SubmitStandardOutput.xsd
	2006-06-13/StandardOutput.xsd
2009-08-01/retrieveCurrentBidResults_v20090801.wsdl	2009-08-01/BidResult_v20090801.xsd
	2008-05-21/RequestBidResults.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/StandardOutput.xsd
2009-08-01/retrieveCleanBidSet_v20090801.wsdl	2009-08-01/CleanBidSet_v20090801.xsd
	2008-05-21/RequestCleanBidSet.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/StandardOutput.xsd

Existing services (does not support SCP elements).

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1.5 Namespace Matrix for Convergence Bids (CB)

To be used in conjunction with the CB elements for Convergence Bids.

TargetNamespace (wsdl)	Xmlns (xsd)	
2010-03-01/submitCBRawBidSet_v20100301.wsdl	2010-03-01/CB_RawBidSet_v20100301.xsd	
	2006-06-13/StandardAttachmentInfor.xsd	Formatted: Not Highlight
	2010-03-01/SubmitStandardOutput_v20100301.xsd	Formatted: Not Highlight
	2006-06-13/StandardOutput.xsd	Formatted: Not Highlight
2010-03-01/retrieveCBCurrentBidResults_v20100301	2010-03-01/CB_BidResult_v20100301.xsd	
	2010-03-01/RequestCBBidResults.xsd	
	2006-06-13/StandardAttachmentInfor.xsd	Formatted: Not Highlight
	2006-06-13/StandardOutput.xsd	Formatted: Not Highlight
2010-03-01/retrieveCBCleanBidSet_v20100301.wsdl	2010-03-01/CB_CleanBid_v20100301.xsd	
	2010-03-01/RequestCBCleanBidSet.xsd	
	2006-06-13/StandardAttachmentInfor.xsd	
	2006-06-13/StandardOutput.xsd	

1.6 SIBR End Points

MSG Version (note: SIBRv20091101 within URL) supports the 'MSG' elements for Configuration data.
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCleanBidSet_SIBRv20091101_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCleanBidSet_SIBRv20091101_DocAttach_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCurrentBidResults_SIBRv20091101_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCurrentBidResults_SIBRv20091101_DocAttach_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitRawBidSet_SIBRv20091101_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitRawBidSet_SIBRv20091101_DocAttach_AP

SCP Version (note: SIBRv20090801 within URL) supports the 'CAPACITY_LIMIT_IND' and 'CAPACITY_LIMIT'

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elements.

https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCleanBidSet_SIBRv20090801_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCleanBidSet_SIBRv20090801_DocAttach_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCurrentBidResults_SIBRv20090801_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCurrentBidResults_SIBRv20090801_DocAttach_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitRawBidSet_SIBRv20090801_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitRawBidSet_SIBRv20090801_DocAttach_AP

Original version will not support the SCP elements.

https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveFinalTradeSet_SIBR_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveFinalTradeSet_SIBR_DocAttach_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveTradeResults_SIBR_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveTradeResults_SIBR_DocAttach_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitBidAction_SIBR_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitRawTradeSet_SIBR_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitRawTradeSet_SIBR_DocAttach_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitTradeAction_SIBR_AP

Original version for CB. (DRAFT not confirmed at this time 3/26/2010)

https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCBCleanBidSet_SIBRv20100301_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCBCleanBidSet_SIBRv20100301_DocAttach_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCBCurrentBidResults_SIBRv20100301_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCBCurrentBidResults_SIBRv20100301_DocAttach_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitCBRawBidSet_SIBRv20100301_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitCBRawBidSet_SIBRv20100301_DocAttach_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitCBBidAction_SIBRv20100301_AP

1.7 Related Documents

CAISO's CAISO's Nodal Market has produced a set of documents describing its web services architecture and associated interfaces to the Bidding, Market Results, and Sandbox Services. Market Participants and their application programmers should read this document to gain an overall understanding of CASIO's web services architecture prior to reading any of the detailed documents shown below.

Deleted: https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCleanBidSet_SIBR_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCleanBidSet_SIBR_DocAttach_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCurrentBidResults_SIBR_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/RetrieveCurrentBidResults_SIBR_DocAttach_AP

Deleted: https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitRawBidSet_SIBR_AP
https://wsstas.caiso.com:4445/sst/runtime.asvc/SubmitRawBidSet_SIBR_DocAttach_AP

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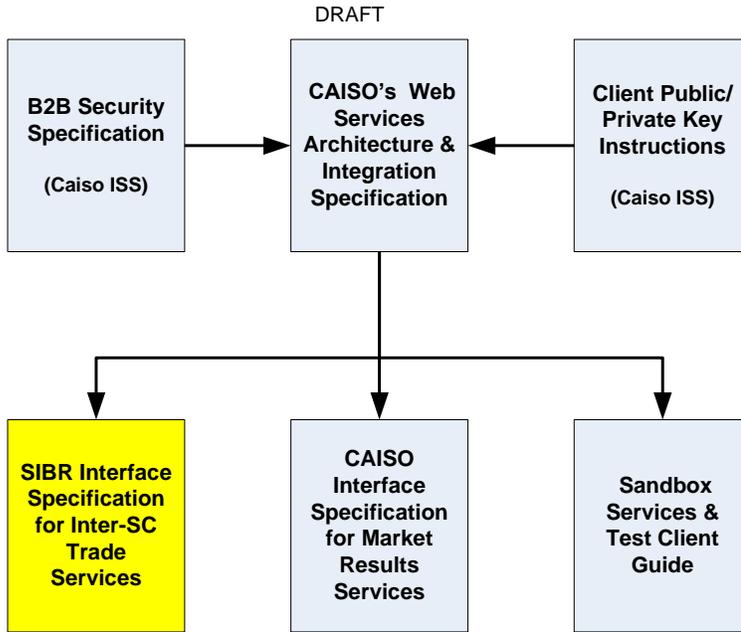


Figure 1 – CAISO Web Services Interface Specification Document Set

The CAISO Web Services Interface Specification Document Set is available online at the locations indicated below.

Doc. No.	Document Name	Location
1	B2B Security Specification	please contact Paul Abrams at pabrams@caiso.com
2	Client Public/Private Key Instructions	http://www.caiso.com/14cf/14cf687f315c0.pdf
3	SIBR Technical Specifications	http://www.caiso.com/2350/2350840c5ff70.html
4	CAISO Interface Specification for Market Results Services	http://www.caiso.com/2359/2359b9866b2c0.html

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2 Submit Raw Bid (includes CB)

2.1 Business Scenario

Scheduling Coordinators submit bid data, trading and scheduling activity data on behalf of market participants who wish to participate in the CAISO Day Ahead, Real Time, and Convergence Bidding markets. While some Scheduling Coordinators submit their bid data through the SIBR portal manually, most Scheduling Coordinators submit their bid data in batch mode through an automated process.

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To meet the needs for submission of raw bid data from Scheduling Coordinators, two processes can be followed for manual and batch mode, respectively:

1) Portal Process

In this process the submission is made via a CAISO Web Portal. Scheduling Coordinators submit bid data through the portal automatically using a proxy application implemented at the portal. The proxy will send the data to SIBR for submission. Using the SIBR portal, Scheduling Coordinators can upload XML files, submit bids, and submit bids via portfolios, which is a collection of bids created by the user and saved for submittal at a later time.

2) Direct Link Process

In this case, a Scheduling Coordinator directly invokes the submitRawBidSet service or the submitCBRawBidSet service that resides in CAISO domain using a security mechanism. This process involves submitting raw bid xml payloads via the CAISO web service interface, but does not preclude the use of a client application for automating the process of invoking the web service

The direct link can only be established if a Scheduling Coordinator application knows the concrete information to invoke the SIBR raw bid submit Web services. Since a Scheduling Coordinator application is usually outside of the CAISO firewall, a certain security mechanism shall be implemented for the process. The Scheduling Coordinator applications shall be also responsible for an XML validation prior to a data submission.

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2.2 Service Level Agreement

The following service level agreement defines the business and technical requirements for service availability and performance.

Service availability	Service level goal is 99.9%.
Expected size of payload (average and maximum)	(AVG # of bids) to (500+ maximum bids) times size of one bid.
Expected frequency (average and maximum)	At least once an hour per Schedule Coordinator utilizing the service for RTM, and several times prior to DAM closing 10:00 AM per SC.
Longest time the service can be unavailable before business is impacted	[to be determined]
Business impact if is unavailable	Schedule Coordinators utilizing the service may not complete submitting all their bids
Expected response time for the service	[to be determined]
Expected time to exchange	[to be determined]

2.3 Use Model

The sequence diagram below describes the service interactions between Scheduling Coordinators and SIBR system in a direct link submission process. The data exchange follows CAISO SOA Submit messaging pattern. In this pattern, the data source system is the Scheduling Coordinator who initiates a data transaction by invoking a submitRawBidSet service provided by SIBR. The consumer of the Web service is Scheduling Coordinator or a Web portal. The consumer makes request to SIBR with raw bid data by invoking the submit Web service. The SIBR system is the provider of the Web service.

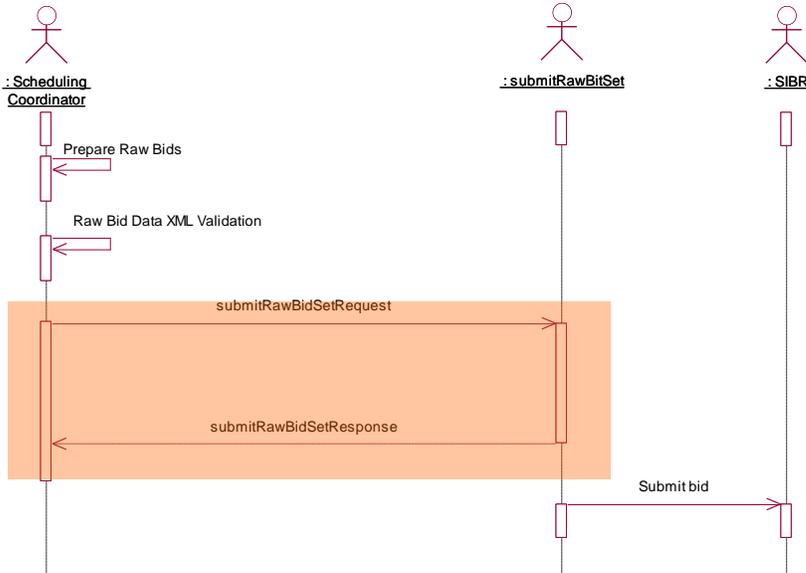
The following steps are involved in the submission process:

- 1) Scheduling Coordinator has the raw bid data set ready in XML format
- 2) Scheduling Coordinator validates the data set based on the XML schema
- 3) Scheduling Coordinator invokes the submitRawBidSet Web service or the submitCBRawBidSet Web service directly to send a request to SIBR with the raw bid data set
- 4) SIBR returns an acknowledge message back to Scheduling Coordinator.

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2.4 Operation Details

The **Physical bid** service has one operation with three message types. All input and output messages are in XML format.

Operation	Message Types	Message	WSDL	XSD
submitRawBidSet	Input	SubmitRawBidSet Request	submitRawBidSet_v20090801.wSDL submitRawBidSet_v20091101.wSDL	RawBidSet_v20090801.xsd RawBidSet_v20091101.xsd
	Output	SubmitRawBidSet Response		SubmitStandardOutput.xsd
	Fault	faultReturnTypes		StandardOutput.xsd

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The **Convergence Bid** service has one operation with three message types. All input and output messages are in XML format

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<u>Operation</u>	<u>Message Types</u>	<u>Message</u>	<u>WSDL</u>	<u>XSD</u>
<u>submitCBRawBidSet</u>	<u>Input</u>	<u>SubmitCBRawBidSetRequest</u>	<u>submitCBRawBidSet_v20100301.wsdl</u>	<u>CB_RawBidSet_v20100301.xsd</u>
	<u>Output</u>	<u>SubmitCBRawBidSetResponse</u>		<u>SubmitStandardOutput_v20100301.xsd</u>
	<u>Fault</u>	<u>faultReturnTypes</u>		<u>StandardOutput.xsd</u>

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2.5 WSDL (*submitRawBidSet_v20091101.wsdl*) (MSG)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD

references, <http://www.caiso.com/2350/2350840c5ff70.html>

2.6 WSDL (*submitRawBidSet_v20090801.wsdl*) (SCP)

<http://www.caiso.com/2350/2350840c5ff70.html>

2.7 WSDL (*submitCBRawBidSet.wsdl*) (CB)

<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

2.8 Standard Attachment Information

The attachment information schema, StandardAttachmentInfor.xsd, is used to provide general information for an SOAP attachment. The root element in the schema is *standardAttachmentInfor*, which can contain one or more attachment elements.

2.8.1 Element table

Element	Data Description	Type	Req'd
id	Globally unique identifier.	string	No
name	Attachment filename.	string	No
description	Description of attachment.	string	No
version	Version ID of attachment file	string	No
sequenceNumber	Sequence number if there are multiple attachments.	string	No
type	Attachment file type, such as zip or jpeg.	string	No
size	Size of attachment file.	string	No
source	Source of attachment file.	string	No
tool	Tool used to generate attachment.	string	No
creationTime	Time attachment file was created.	dateTime	No
compressFlag	Indicates whether or not attachment has been compressed (YES or NO).	string	No
compressMethod	Compress method used (if attachment file compressed).	string	No

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Element	Data Description	Type	Req'd
AttributeList.Sequence	Attribute list sequence number.	string	No
AttributeList.Name	Name of an attribute	string	No
AttributeList.Value	Value of an attribute	string	No

2.8.2 Schema (StandardAttachmentInfor.xsd)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)

<http://www.caiso.com/2350/2350840c5ff70.html>

<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

2.8.3 Example XML File (StandardAttachmentInfor.xml)

```
<?xml version="1.0" encoding="UTF-8" ?>
<!--
Sample XML file generated by XMLSpy v2006 U (http://www.altova.com)
-->
<standardAttachmentInfor xmlns="http://www.caiso.com/soa/2006-06-13/StandardAttachmentInfor.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.caiso.com/soa/2006-06-13/StandardAttachmentInfor.xsd">
  <Attachment>
    <id> 15798563 (assigned by SIBR) </id>
    <name>GWED_11</name>
    <description>BID_ATTACHEMENT</description>
    <version>1.1</version>
    <sequenceNumber>12</sequenceNumber>
    <type>ZIP</type>
    <size>180</size>
    <source>GWED</source>
    <tool>GZIP</tool>
    <creationTime>2006-06-17T09:30:47.0Z</creationTime>
    <compressFlag>yes</compressFlag>
    <compressMethod>ZIP</compressMethod>
    <AttributeList>
      <Sequence>2</Sequence>
      <Name>GWED</Name>
      <Value>1</Value>
    </AttributeList>
  </Attachment>
</standardAttachmentInfor>
```

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2.9 SubmitRawBidSet

2.9.1 Element Table (v20091101 and v20090801 elements are Noted in the Element and Data Description column)

Element	Data Description	Type	Req'd
Message Header			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Message Payload			
GeneratingBid			
description	Description of generating bid. (1-32 characters)	string	No
name	Unique name for generating bid. (1-32 characters)	string	No
startTime	Start time and date of the trading period for which bid applies.	dateTime	Yes
stopTime	Stop time and date of the trading period for which bid applies.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
energyMaxDay	Maximum amount of energy per day which can be produced during the trading period in MWh.	float	No
energyMinDay	Minimum amount of energy per day which has to be produced during the trading period in MWh.	float	No
contingencyAvailFlag	Contingent operating reserve availability. Valid value = YES or NO. Resource is available to participate with capacity only in contingency dispatch. This is an optional element, but required when submitting Day Ahead Ancillary Service bid.	YesNo	No X
noLoadCost	Resource fixed no load cost.	float	No
startUpRampTime <i>(only used with the v20091101 or later version of the web service)</i>	Start Up Ramp Time	Float	No Yes if used with MSG

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Element	Data Description	Type	Req'd
RegisteredGenerator.mrid	Name of the registered Generating Resource(1-32 characters)	string	Yes
RegisteredGenerator.Configuration <i>(only used with the v20091101 or later version of the web service)</i>	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
Configuration.mrid <i>(only used with the v20091101 or later version of the web service)</i>	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
SchedulingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	string	Yes
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct.marketProductType	Market product type. Valid values are: For Day Ahead Market EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following Down For Real Time Market EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve LFU – Load Following Up LFD – Load Following Down Please refer to section 2.7.3 for appropriate combination of Product Type and SelfSchedule Type	string	Yes

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Element	Data Description	Type	Req'd
ProductBid.MarketProduct.selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RA – Resource Adequacy RMT – Regulatory Must Take SP – Self Provision LOF – Lay Off Self Schedule WHL – Wheeling Transaction	string	No
ProductBid.BidSelfSched	Self Schedule Bid Component is optional.		No
ProductBid.BidSelfSched.description	Description of Bid Self Sched. (1-32 characters)	string	No
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched.selfSchedMw	MW value for the specified Self Schedule Product Types other than Pumping Self Schedule Type.	float	No
ProductBid.BidSelfSched.wheelingTransactionReference	A unique identifier of a Wheeling Transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources (Resources must be registered with an Energy Type of "WHL" in order to submit a Wheeling Transaction. All Wheeling Transactions must be accompanied by either an Energy Bid or Self-Schedule [PT, LPT, ETC, TOR])	String	No
ProductBid.BidSelfSched.pumpSelfSchedMw	Used in conjunction with either the PT, ETC, TOR pumping self schedule quantity (any or all). If this value is not null, then the unit is considered to be in pumping mode.	Float	No
ProductBid.BidSelfSched.ContractRight	Required for Self Schedule type ETC, TOR, RMT		No
ProductBid.BidSelfSched.ContractRight.description	Description of ContractRight. (1-32 characters)	string	No
ProductBid.BidSelfSched.ContractRight.mrid	Contract Reference Name (CRN) (1-32 characters)	string	Yes

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Element	Data Description	Type	Req'd
ProductBid.UnitSchedule	Needed when submitting Pumping Level, Pumping Cost, Pumping Shutdown Cost		No
ProductBid.UnitSchedule.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.UnitSchedule.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.UnitSchedule.parameterID	Parameter ID. Valid values are: PUMPING_LEVEL PUMPING_COST PUMPING_SHUTDOWN_COST CAPACITY_LIMIT_IND (only used with the v20090801 or later version of the web service)	string	Yes
ProductBid.UnitSchedule.parameterType	Indication of the type of parameter being defined (STRING or FLOAT) which should be used in conjunction with the parameterID chosen. PUMPING_LEVEL (FLOAT) PUMPING_COST (FLOAT) PUMPING_SHUTDOWN_COST (FLOAT) CAPACITY_LIMIT_IND (only used with the v20090801 or later version of the web service)	string	Yes
ProductBid.UnitSchedule.parameterValue	Parameter value to be used with associated parameterType which replaces corresponding default values from input bid data. This should be used if the parameter type is FLOAT	float	No
ProductBid.UnitSchedule.parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO. This should be used if the parameter type is STRING	string	No
ProductBid.BidSchedule	Energy Bid Component is optional.	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval for the operating hour for the which the bid is being submitted.	dateTime	Yes

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Element	Data Description	Type	Req'd
ProductBid.BidSchedule. BidPriceCurve	Used when submitting an Economic Bid for a resource.		No
ProductBid.BidSchedule. BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule. BidPriceCurve.CurveSchedData. xAxisData	The MW value specified on the price curve.	float	Yes
ProductBid.BidSchedule.BidPrice Curve.CurveSchedData. y1AxisData	The dollar (\$) value specified on the price curve.. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[d]+\.\.?d?d?	float	Yes
ProductBid.BidDistributionFactor	This element is only applicable to Aggregate resource submitting a GDF.	string	No
ProductBid.BidDistributionFactor. description	Description of Bid Distribution Factor. (1-32 characters)	string	No
ProductBid.BidDistributionFactor. timeIntervalStart	Start of the time interval of the operating hour for which the GDF applies. The start and end time must be aligned with the start and end time specified for the Energy Bid.	dateTime	Yes
ProductBid.BidDistributionFactor. timeIntervalEnd	End of the time interval of the operating hour for which the GDF applies. The start and end time must be aligned with the start and end time specified for the Energy Bid.	dateTime	Yes
ProductBid.BidDistributionFactor. PnodeDistributionFactor	Required element if Distribution Factor is included in the bid.		Yes
ProductBid.BidDistributionFactor. PnodeDistributionFactor.factor	Used to calculate "participation" of Pnode in an AggregatePnode. For example, for regulation region this factor is 1 and total sum of all factors for a specific regulation region does not have to be 1. For pricing zone the total sum of all factors has to value must be => 0 and <= 1	float	Yes
ProductBid.BidDistributionFactor. PnodeDistributionFactor. IndividualPnode.mrid	Individual Pnode name (1-32 characters) (these are CNODE names associated with the aggregate resource to determine which set will be used for the aggregate to determine the distribution factor.	String	Yes
RampRateCurve	This element should only used in conjunction with RampRateCurve.CurveSchedData		No
RampRateCurve.description	Description of Ramp Rate Curve. (1-32 characters)	string	No

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Element	Data Description	Type	Req'd
RampRateCurve.rampRateType	Indication of the type of parameter being defined Valid Types are: OP – (Operational) Use both xAxis and y1Axis REG – (Regulation) Use both xAsix and y1Axis OP_RES - (Operating Reserve) only y1Axis	string	No
RampRateCurve.CurveSched Data.xAxisData	The data value of the X-axis variable is the Operating Level if ramp rate type OP is used, otherwise the MW value is used.	float	No
RampRateCurve.CurveSched Data.y1AxisData	The data value of the Y-axis variable is the Ramp Rate value if the ramp rate type OP is used, otherwise the MW value is used.	Float	Yes
StartUpCostCurve			No
StartUpCostCurve.description	Description of Start Up Cost Curve. (1-32 characters)	string	No
StartUpCostCurve.CurveSched Data.xAxisData	The data value of the X-axis variable is represented as Cooling time in minutes.	float	Yes
StartUpCostCurve.CurveSched Data.y1AxisData	The data value of the Y-axis variable, is represented as the Cost (\$) value.	float	Yes
StartUpTimeCurve			No
StartUpTimeCurve.description	Description of Start Up Time Curve. (1-32 characters)	string	No
StartUpTimeCurve.CurveSched Data.xAxisData	The data value of the X-axis variable is represented as Cooling time in minutes.	float	Yes
StartUpTimeCurve.CurveSched Data.y1AxisData	The data value of the Y-axis variable is represented as Startup time in minutes	float	Yes
Transition	(only used with the v20091101 or later version of the web service)		
Transition.notificationTime	Time in minutes the 'To-Configuration ID' requires before deployment. Notification time includes transition ramp time	float	No Yes if used with MSG
Transition.transitionCost	Cost of moving from 'From-Configuration ID' to 'To- Configuration ID'	float	No Yes if used with MSG

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Element	Data Description	Type	Req'd
Transition.transitionRampTime	Time in minutes it takes to ramp from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.FromConfiguration	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (currently in)	string	No Yes if used with MSG
Transition.ToConfiguration	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (going to)	string	No Yes if used with MSG
InterTieBid			
description	Description of intertie bid. (1-32 characters)	string	No
name	Unique name of intertie bid. (1-32 characters)	string	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
MinHourlyBlock	The Registered upper bound of MHB for an Inter-Tie Resource (if not specified a value of 1 is set)	integer	No
RegisteredInterTie.mrid	Registered name of the Intertie Resource. (1-32 characters)	string	Yes
SchedulingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	string	Yes
ProductBid.description	Description of product bid. (1-32 characters)	string	No
ProductBid.MarketProduct.description	Description of market product. (1-32 characters)	string	No

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Element	Data Description	Type	Req'd
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: For Day Ahead Market EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR - Non-spinning reserve RC – Residual Unit Commitment For Real Time Market EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve Please refer to section 2.7.3 for appropriate combination of Product Type and SelfSchedule Type	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RA – Resource Adequacy SP – Self Provision WHL – Wheeling Transaction	string	No
ProductBid.BidSelfSched	Self Schedule Bid Component is optional		No
ProductBid.BidSelfSched. description	Description of bid self schedule (1-32 characters)	string	No
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW for the referenced commodity.	float	No

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Element	Data Description	Type	Req'd
ProductBid.BidSelfSched.wheelingTransactionReference	A unique identifier of a Wheeling Transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources (Resources must be registered with an Energy Type of "WHL" in order to submit a Wheeling Transaction.) All Wheeling Transactions must be accompanied by either an Energy Bid or Self-Schedule [PT, LPT, ETC, TOR])	String	No
ProductBid/BidSelfSched/selfScheduledSptResource	Valid Generating Resource specified in the PT Export Self Sched as the Support Resource	String	No
ProductBid.BidSelfSched.ContractRight	Required for Self Schedule type ETC, TOR, RMT		No
ProductBid.BidSelfSched.ContractRight.description	Description of contract right. (1-32 characters)	string	No
ProductBid.BidSelfSched.ContractRight.mrid	Contract Reference Name (CRN) (1-32 characters)	string	Yes
contingencyAvailFlag	Contingent operating reserve availability. Valid value = YES or NO. Resource is available to participate with capacity only in contingency dispatch. This is an optional element, but required when submitting Day Ahead Ancillary Service bid.	string	No
ProductBid.BidSchedule	Energy Bid Component is optional		No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted..	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve	Used when submitting an Economic Bid for a resource.		No
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.xAxisData	The MW value specified on the price curve.	float	Yes

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Element	Data Description	Type	Req'd
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.y1AxisData	The dollar (\$) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[d]+\.\d?\d?	float	Yes
LoadBid			
description	Description of Load Bid. (1-32 characters)	string	No
name	Unique name of Load Bid. (1-32 characters)	string	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
RegisteredLoad.mrid	Name of the Registered Load Resource. (1-32 characters)	string	Yes
SchedulingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	string	Yes
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct.marketProductType	Market product type. Valid values are: EN – Energy type	string	Yes
ProductBid.MarketProduct.selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Take ETC – Existing transmission contract TOR – Transmission ownership right	string	No
ProductBid.BidSelfSched	Self Schedule Bid Component is optional		No
ProductBid.BidSelfSched.description	Description of Bid Self Schedule. (1-32 characters)	string	No
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched.selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No

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Element	Data Description	Type	Req'd
ProductBid.BidSelfSched.ContractRight	Required for Self Schedule type ETC, TOR		No
ProductBid.BidSelfSched.ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched.ContractRight.mrid	Contract Reference Name (CRN). (1-32 characters)	string	Yes
ProductBid.BidSchedule	Energy Bid Component is optional		No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve	Used when submitting an Economic Bid for a resource.		No
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve.	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.xAxisData	The Mw value specified on the price curve.	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.y1AxisData	The dollar (\$) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [+]?[d]+\.\.?d?d?	float	Yes

2.10 Submit CB RawBidSet

2.10.1 Element Table

Element	Data Description	Type	Req'd
Message Header			
<u>TimeDate</u>	<u>The dateTime, in GMT, when the payload is published.</u>	<u>dateTime</u>	<u>Yes</u>

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<u>Element</u>	<u>Data Description</u>	<u>Type</u>	<u>Req'd</u>
<u>Source</u>	<u>The source of published data.</u>	<u>string</u>	<u>Yes</u>
Message Payload			
VirtualBid			
<u>description</u>	<u>Description of virtual bid. (1-32 characters)</u>	<u>string</u>	<u>No</u>
<u>startTime</u>	<u>Start time and date of the trading period for which bid applies.</u>	<u>dateTime</u>	<u>Yes</u>
<u>stopTime</u>	<u>Stop time and date of the trading period for which bid applies.</u>	<u>dateTime</u>	<u>Yes</u>
<u>virtualBidType</u>	<u>This will be either VIRTUAL SUPPLY or VIRTUAL DEMAND</u>	<u>String</u>	<u>Yes</u>
<u>AggregatedPnodeNmReq</u>			
<u>AggregatedPnodeNmReq.mrid</u>	<u>Location name for virtual bid at an Aggregated Node..</u>	<u>String</u>	<u>No</u> <u>Yes when using ANode</u>
<u>IndividualPnodeNmReq</u>			
<u>IndividualPnodeNmReq.mrid</u>	<u>Location name for virtual bid at a Price Node.</u>	<u>String</u>	<u>No</u> <u>Yes when using Pnode</u>
<u>SchedulingCoordinator.mrid</u>	<u>Scheduling Coordinator Identifier. (1-32 characters)</u>	<u>String</u>	<u>Yes</u>
EnergyProductBid			
<u>IndividualPnodeNmReq.description</u>	<u>Description of object</u>	<u>string</u>	<u>No</u>
<u>EnergyProductBid.BidSchedule</u>	<u>1-25 BidSchedules may be submitted to allow specified bid price curves for different time intervals.</u>		<u>Yes</u>
<u>EnergyProductBid.BidSchedule.timeIntervalStart</u>	<u>Start of the time interval in which bid is valid</u>	<u>dateTime</u>	<u>Yes</u>
<u>EnergyProductBid.BidSchedule.timeIntervalEnd</u>	<u>End of the time interval in which bid is valid</u>	<u>dateTime</u>	<u>Yes</u>

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<u>Element</u>	<u>Data Description</u>	<u>Type</u>	<u>Req'd</u>
EnergyProductBid.BidSchedule.BidPriceCurve	Relationship between unit operating price in \$/hour (Y-axis) and unit output in MW (X-axis).		Yes
EnergyProductBid.BidSchedule.BidPriceCurve.CurveSchedData.xAxisData	The Mw value specified on the price curve.	float	Yes
EnergyProductBid.BidSchedule.BidPriceCurve.CurveSchedData.y1AxisData	The dollar (\$) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[d]+\.\.?d?d?	float	Yes

2.10.2 DateTime Data Type Format

The dateTime data type is used to specify a date and a time.

The dateTime is specified in the following form "YYYY-MM-DDThh:mm:ss" where:

- YYYY indicates the year
- MM indicates the month
- DD indicates the day
- T indicates the start of the required time section
- hh indicates the hour
- mm indicates the minute
- ss indicates the second

Note: All components are required.

To specify a time zone, you can either enter a dateTime in Universal Time Coordinate (UTC) time by adding a "Z" behind the time, for example:

```
<startdate>2002-05-30T09:00:00Z</startdate>
```

or you can specify an offset from the UTC time by adding a positive or negative time behind the time, for example:

```
<startdate>2002-05-30T09:00:00-08:00</startdate>
```

or

```
<startdate>2002-05-30T09:00:00+08:00</startdate>
```

Offset of the UTC time is useful when coordinating Daylight Saving Time (DST) changes.

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2.10.3 Bidding Product Type with Self Schedule Type

For each Product Type there will be an associated Self Schedule Type with it when submitting bids. Use the following table for matching Product Type to Self Schedule Type:

Product Type	Self Schedule Type
EN	BAS ETC LOF PT LPT RMT TOR WHL
RU RD LFU LFD SR NR	SP
RC	RA
RC	

2.10.4 Schema (RawBidSet_v20090801.xsd) (SCP)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](http://www.caiso.com/2350/2350840c5ff70.html)

<http://www.caiso.com/2350/2350840c5ff70.html>

For the new element of the CAPACITY_LIMIT_IND under the UnitSchedule, this would be seen under the ProductBid/MarketProduct/marketProductType/ of RC in the XML:

Example of a portion of the bid

```
<ProductBid>
  <MarketProduct>
    <marketProductType>RC</marketProductType>
  </MarketProduct>
  <UnitSchedule>
```

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```

<timeIntervalStart>2009-10-27T07:00:00.000-00:00</timeIntervalStart>
<timeIntervalEnd>2009-10-28T07:00:00.000-00:00</timeIntervalEnd>
<parameterID>CAPACITY_LIMIT_IND</parameterID>
<parameterType>STRING</parameterType>
<parameterStringValue>YES</parameterStringValue>
</UnitSchedule>
<BidSchedule>
  <timeIntervalStart>2009-10-27T07:00:00.000-00:00</timeIntervalStart>
  <timeIntervalEnd>2009-10-28T07:00:00.000-00:00</timeIntervalEnd>
  <BidPriceCurve>
    <CurveSchedData>
      <xAxisData>48</xAxisData>
      <y1AxisData>74.85</y1AxisData>
    </CurveSchedData>
  </BidPriceCurve>
</BidSchedule>
</ProductBid>

```

2.10.5 Schema (CB_RawBidSet_v20100301.xsd) (CB)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references](#). <http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

Sample xml structured bids will be made available in the "SIBR Sample xml data" document. Posted separately with the Technical Interface documents.

2.11 Raw Bid Set Response

2.11.1 Element Table

Element	Data Description	Type	Req'd
Event.result	Event result.	Yes	string
Event.id	Event identifier.	Yes	string
Event.description	Event description.	No	string
Event.creationTime	Event creation time.	No	dateTime

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Element	Data Description	Type	Req'd
Service.id	Service identifier.	Yes	string
Service.name	Name of a service.	Yes	string
BID.BID_ID	Bid identification.	No	string
BID.START_TIME	Start time and date for which bid applies.	Yes	dateTime
BID.END_TIME	Stop time and date for which bid is applies.	Yes	dateTime
BID.RESOURCE_ID	Master resource identifier.	Yes	string
BID.MARKET_TYPE	The market type, DAM or RTM.	Yes	string
BID.RESULTS	Bid results.	No	string

2.12 CB Raw Bid Set Response

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2.12.1 Element Table

Element	Data Description	Type	Req'd
<u>Event.result</u>	<u>Event result.</u>	<u>Yes</u>	<u>string</u>
<u>Event.id</u>	<u>Event identifier.</u>	<u>Yes</u>	<u>string</u>
<u>Event.description</u>	<u>Event description.</u>	<u>No</u>	<u>string</u>
<u>Event.creationTime</u>	<u>Event creation time.</u>	<u>No</u>	<u>dateTime</u>
<u>Service.id</u>	<u>Service identifier.</u>	<u>Yes</u>	<u>string</u>
<u>Service.name</u>	<u>Name of a service.</u>	<u>Yes</u>	<u>string</u>
<u>CB_BID.BID_ID</u>	<u>Bid identification.</u>	<u>No</u>	<u>string</u>
<u>CB_BID.START_TIME</u>	<u>Start time and date for which bid applies.</u>	<u>Yes</u>	<u>dateTime</u>
<u>CB_BID.END_TIME</u>	<u>Stop time and date for which bid is applies.</u>	<u>Yes</u>	<u>dateTime</u>
<u>CB_BID.PNODE_ID</u>	<u>Node identifier (APNode or PNode Location).</u>	<u>Yes</u>	<u>string</u>
<u>CB_BID.VIRTUAL_BID_TYPE</u>	<u>The Bid Type (VIRTUAL SUPPLY or VIRTUAL DEMAND)</u>	<u>Yes</u>	<u>string</u>
<u>CB_BID.SCHEDULING_COORDINATOR</u>	<u>The Scheduling Coordinator Name.</u>	<u>Yes</u>	<u>string</u>
<u>CB_BID.RESULTS</u>	<u>Bid results.</u>	<u>No</u>	<u>string</u>

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2.12.2 Schema (SubmitStandardOutput.xsd)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)

<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure Business Rules)

<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

2.12.3 Schema (SubmitStandardOutput_v20100301.xsd)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)
<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

2.13 Fault Return *(also the same for CB)*

2.13.1 Element Table

Element	Data Description	Type	Req'd
id	Event log identifier.	string	No
name	Event log name.	string	No
description	Event log description.	string	No
type	Event log type.	string	No
creationTime	Event log creation time.	date	No
collectionType	Event log collection type.	string	No
collectionQuantity	Event log collection quantity.	string	No
Event.result	Event result.	string	No
Event.id	Event identifier.	string	No
Event.name	Event name.	string	No
Event.description	Event description.	string	No
Event.creationTime	Event creation time.	dateTime	No

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Element	Data Description	Type	Req'd
Event.severity	Event severity.	string	No
Event.priority	Event priority.	string	No
Event.sequence Number	Event sequence number.	string	No
Event.eventType	Event type.	string	No
Service.id	Service identifier.	string	No
Service.name	Service name.	string	No
Service.description	Service description.	string	No
Service.comments	Service comments.	string	No

2.13.2 Schema (StandardOutput.xsd) (also the same for CB)

Please review the [Technical Interface Specifications for SIBR Bidding](#) under the appropriate header for related WSDL and XSD references.

<http://www.caiso.com/2350/2350840c5ff70.html>

<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

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3 Submit Bid Action (includes CB Bid Action)

3.1 Business Scenario

Scheduling Coordinators submit bid action data on behalf of market participants who wish to participate in the CAISO Day Ahead, Real Time and Convergence Bid markets. While most Scheduling Coordinators submit their bid action data through the SIBR portal manually, some Scheduling Coordinators submit their bid action data in batch mode through an automated process.

To meet the needs for submission of bid action request data from Scheduling Coordinators, two processes can be followed for manual and batch mode, respectively:

1) Portal Process

In this process the submission is made via a CAISO Web Portal. Scheduling Coordinators submit bid action data through the portal automatically using a proxy application implemented at the portal. The proxy will send the data to SIBR for submission.

2) Direct Link Process

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In this case, a Scheduling Coordinator directly invokes the submitBidAction service that resides in CAISO domain using a security mechanism. This process involves submitting bid action xml payloads via the CAISO web service interface, but does not preclude the use of a client application for automating the process of invoking the web service

The direct link can only be established if a Scheduling Coordinator application knows the concrete information to invoke the SIBR bid action submit Web service. Since a Scheduling Coordinator application is usually outside of the CAISO firewall, a certain security mechanism shall be implemented for the process. The Scheduling Coordinator applications shall be also responsible for an XML validation prior to a data submission.

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3.2 Service Level Agreement

The following service level agreement defines the business and technical requirements for service availability and performance.

Service availability	Service level goal is 99.9%.
Expected size of payload (average and maximum)	Less than 1 KB.
Expected frequency (average and maximum)	The only action is to cancel bids. Expect this to be infrequent.
Longest time the service can be unavailable before business is impacted	[to be determined]
Business impact if is unavailable	Schedule Coordinators utilizing the service may not cancel a bid.
Expected response time for the service	[to be determined]
Expected time to exchange	[to be determined]

3.3 Use Model

The sequence diagram below describes the service interactions between Scheduling Coordinators and SIBR system in a direct link submission process. The data exchange follows CAISO SOA Submit messaging pattern. In this pattern, the data source system is the Scheduling Coordinator who initiates a data transaction by invoking a [submitBidAction service](#) or [submitCBBidAction service](#) provided by SIBR. The consumer of the Web service is Scheduling Coordinator or a Web portal. The consumer makes request to SIBR with raw bid data by invoking the submit Web service. The SIBR system is the provider of the Web service.

The following steps are involved in the submission process:

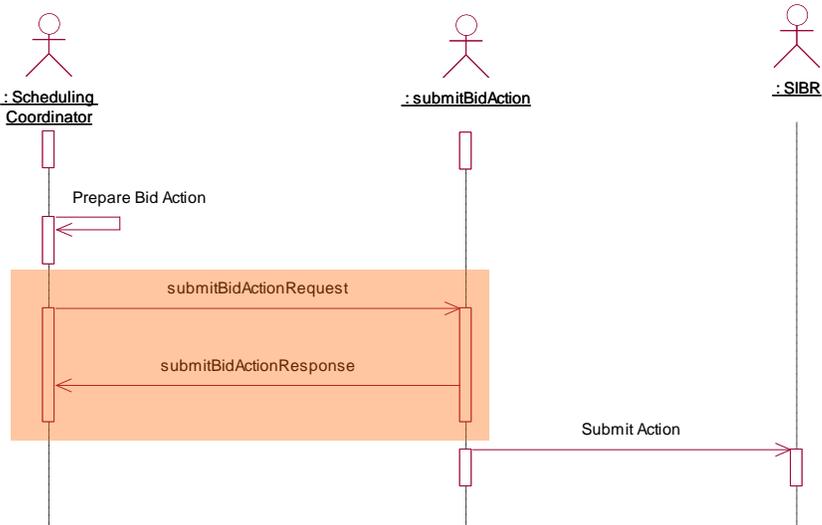
- 1) Scheduling Coordinator has the bid action data set ready in XML format
- 2) Scheduling Coordinator validates the data set based on the XML schema
- 3) Scheduling Coordinator invokes the submitBidAction Web service directly to send a request to SIBR with the bid action data set
- 4) SIBR returns an acknowledge message back to Scheduling Coordinator.

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3.4 Operation Details

The service has one operation with three message types. All input and output messages are in XML format.

Operation	Message Types	Message	WSDL	XSD
SubmitBidAction	Input	SubmitBidAction Request	submitBidAction.wsdl	submitBidAction.xsd
	Output	SubmitBidAction Response		SubmitStandardOutput.xsd
	Fault	faultReturnTypes		StandardOutput.xsd

Operation	Message Types	Message	WSDL	XSD
SubmitCBBidAction	Input	SubmitCBBidAction Request	submitCBBidAction_v20100301.wsdl	CB_BidAction_v20100301.xsd
	Output	SubmitCBBidAction Response		SubmitStandardOutput_v20100301.xsd

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	Fault	faultReturnType		StandardOutput.xsd
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3.5 WSDL (submitBidAction.wsdl)

Please review the [Technical Interface Specifications for SIBR Bidding](#) under the appropriate header for related WSDL and XSD references.

<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure and Business Rules)

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3.6 WSDL (submitCBBidAction.wsdl)

Please review the [Technical Interface Specifications for SIBR Bidding](#) under the appropriate header for related WSDL and XSD references.

<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

3.7 Submit Bid Action

3.7.1 Element Table

Element	Data Description	Type	Req'd
Message Header			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Message Payload			
GeneratingBid			
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
Action Request	Type of bid action request. Valid values are: CANCEL	string	Yes
LoadBid			
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
Action Request	Type of bid action request. Valid values are: CANCEL	string	Yes
InterTieBid			

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Element	Data Description	Type	Req'd
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
Action Request	Type of bid action request. Valid values are: CANCEL	string	Yes

3.8 Submit CB Bid Action

3.8.1 Element Table

Element	Data Description	Type	Req'd
Message Header			
<u>TimeDate</u>	<u>The dateTime, in GMT, when the payload is published.</u>	<u>dateTime</u>	<u>Yes</u>
<u>Source</u>	<u>The source of published data.</u>	<u>string</u>	<u>Yes</u>
Message Payload			
<u>VirtualBid</u>	<u>Convergence Bids are only submitted in the Day-Ahead market, pertain only to the 'energy' market product type, and are associated with PNodes rather than resources.</u>		<u>No</u>
<u>mrid</u>	<u>MRID stands for master resource identifier which should be globally unique. (1-32 characters)</u>	<u>string</u>	<u>Yes</u>
<u>Action Request</u>	<u>Type of bid action request. Valid values are: CANCEL</u>	<u>string</u>	<u>Yes</u>

3.8.2 Schema (BidAction.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure and Business Rules)

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3.8.3 Schema (CBBidAction.xsd)

Please review the [Technical Interface Specifications for SIBR Bidding](#) under the appropriate header for related WSDL and XSD references.

<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

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3.9 BidAction Response

Same as 2.11 (Raw Bid Set Response)

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3.10 CBBidAction Response

Same as 2.12 (CB Raw Bid Set Response)

3.11 Fault Return

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3.12 CBFault Return

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Retrieve Clean Bid Set (includes CB)

3.13 Business Scenario

The SIBR system provides fully validated bids (clean bids) to market participants. Clean bid set data can be retrieved by invoking the retrieveCleanBidSet web service.

1. The service will be use to retrieve the bids submitted/generated through the following:
 - a. Bids submitted through SIBR GUI
 - b. Bids submitted through SIBR UI Manual Upload
 - c. Bids submitted through API
 - d. Bids auto-generated by SIBR applicable to Ruleset SIBR BR 4.0
2. These services will be use to retrieve bids for all product applicable to either DA or RT markets for Physical Bids and the Convergence Bids (DA only)
3. This service will be use to retrieve bids for a single market trading period that has been closed.
4. The service will return only bids with "CL" (Clean) status. Bids with status of either V (Valid) or M (Modified) will be tagged by SIBR as "Clean" bid.
5. The service will return only bids for all resource that belongs to the user, depending on the filtering criteria used.
6. The result will be filtered using any of the following criteria:
 - a. By Bid MRID
 - i. Using Bid MRID filtering criteria, the user will be able to retrieve the clean bid for resource associated with the bid MRID.
 - ii. The bid MRID generated is unique for each resource, trading period and bid activity, but associated with only 1 resource ID
 - iii. The result will include 1 "Clean" bid for a particular resource (if the resource belong to the user) associated with the bid reference ID specified.
 - b. By Resource ID (Location ID for CB)
 - i. Using By Resource ID filtering criteria, the user will be able to retrieve clean bid for the resource ID and trading period specified.

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- ii. The Resource ID refers to the actual resource name known to Market Participants;
- iii. The result will include at most 1 "Clean" bid for the specified trading period, and resource that belong to the user.

c. By Date

- i. Using By Date filtering criteria, the user will be able to retrieve clean bid for all the resource that belongs to the user and trading period specified.
- ii. The result will include at most 1 "Clean" bid for the specified trading period, and for all resource that belong to the user.

d. By SC ID

- i. Using By SC ID filtering criteria, the user will be able to retrieve clean bid for all the resource that belongs to the SC ID and trading period specified that are authorized for the certificate being used.
- ii. The result will include at most 1 "Clean" bid for the specified trading period, and for all resource that belong to the SC ID for the user.

3.14 Service Level Agreement

The following service level agreement defines the business and technical requirements for service availability and performance.

Service availability	Service level goal is 99.9%.
Expected size of payload (average and maximum)	(AVG # of bids) to (500+ maximum bids) times size of one bid
Expected frequency (average and maximum)	One an hour after RTM closes, and minimum of once per day after DAM closes, per Schedule Coordinator utilizing the service.
Longest time the service can be unavailable before business is impacted	[to be determined]
Business impact if is unavailable	Schedule Coordinators utilizing the service may have difficulty submitting all their bids for the next RTM.
Expected response time for the service	[to be determined]
Expected time to exchange	[to be determined]

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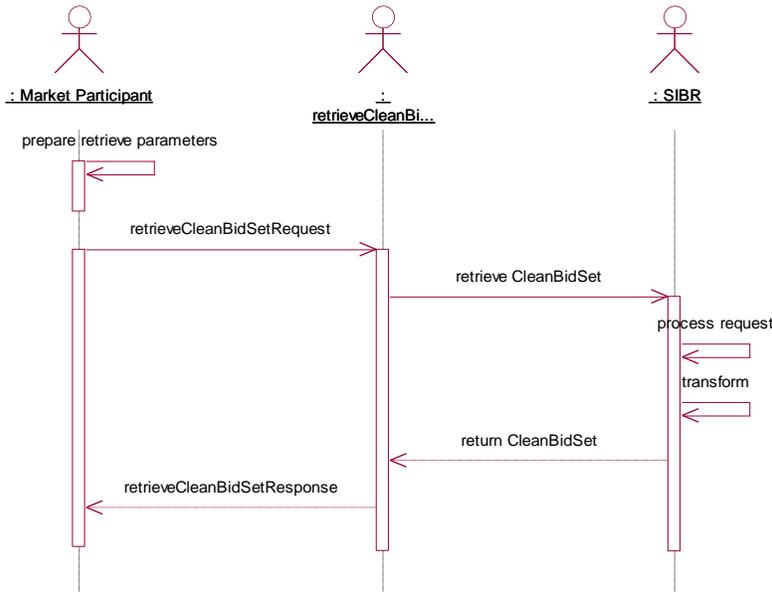
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3.15 Use Model

The sequence diagram below describes the market participants retrieving the clean bid data. There are two web service involved: retrieveCleanBidSet for Physical Bids and retrieveCBCleanBidSet for Convergence Bids.

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3.16 Operation Details

The service has one operation with three message types. All input and output messages are in XML format.

Operation	Message Types	Message	WSDL	XSD
retrieveCleanBidSet	Input	RetrieveCleanBidSetRequest	retrieveCleanBidSet_v20090801.wSDL	
	Output	RetrieveCleanBidSetResponse	retrieveCleanBidSet_v20091101.wSDL	CleanBidSet_v20090801.xsd CleanBidSet_v20091101.xsd

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	Fault	faultReturntype		StandardOutput.xsd
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Operation	Message Types	Message	WSDL	XSD
retrieveCBCleanBidSet	Input	RetrieveCBCleanBidSetRequest	retrieveCleanBidSet_v20100301.wsdl	RequestCBCleanBidSet_v20100301.xsd
	Output	RetrieveCBCleanBidSetResponse		CB_CleanBidSet_v20100301.xsd
	Fault	faultReturntype		StandardOutput.xsd

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3.17 WSDL (*retrieveCleanBidSet_v20091101.wsdl*)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)

<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure and Business Rules)

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3.18 WSDL (*retrieveCleanBidSet_v20090801.wsdl*)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)

<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure and Business Rules)

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3.19 WSDL (*retrieveCBCleanBidSet_v20100301.wsdl*)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)

<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

3.20 Clean Bid Set Request

3.20.1 Element Table

Element	Data Description	Type	Req'd
Bid_MarketTimeInterval	Request using Market Type		No
Bid_MarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
Bid_MarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
Bid_MarketTimeInterval. marketType	Market Type to be used: DAM RTM	string	Yes
Bid_SchedulingCoordinatorMarketTimeInterval	Request using SC ID		No
Bid_SchedulingCoordinatorMarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes

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Element	Data Description	Type	Req'd
Bid_SchedulingCoordinatorMarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
Bid_SchedulingCoordinatorMarketTimeInterval. marketType	Market Type to be used: DAM RTM	string	Yes
Bid_SchedulingCoordinatorMarketTimeInterval. schedulingCoordinator	SC ID to be used with Market Type	string	Yes
Bid_BidIDMarketTimeInterval	Request using Bid ID(MRID)		No
Bid_BidIDMarketTimeInterval. BidID	BidID = MRID which stands for master object identifier which should be globally unique.	string	Yes
Bid_ResourceIDMarketTimeInterval	Request using Resource ID		No
Bid_ResourceIDMarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
Bid_ResourceIDMarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
Bid_MarketTimeInterval. marketType	Market Type to be used: DAM RTM	string	Yes
Bid_ResourceIDMarketTimeInterval. ResourceID	ResourceID = MRID which stands for master object identifier which should be globally unique.	string	Yes

3.21 CBClean Bid Set Request

3.21.1 Element Table

Element	Data Description	Type	Req'd
<u>CB_Bid_MarketTimeInterval</u>	<u>Request using Market Type</u>		<u>No</u>
<u>CB_Bid_MarketTimeInterval. MarketStartTime</u>	<u>Time of day when Market Definition starts.</u>	<u>dateTime</u>	<u>Yes</u>
<u>CB_Bid_MarketTimeInterval. MarketEndTime</u>	<u>Time of day when Market Definition ends.</u>	<u>dateTime</u>	<u>Yes</u>
<u>CB_Bid_SchedulingCoordinatorMarketTimeInterval</u>	<u>Request using SC ID</u>		<u>No</u>

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<u>Element</u>	<u>Data Description</u>	<u>Type</u>	<u>Req'd</u>
<u>CB_Bid_SchedulingCoordinatorMarketTimeInterval</u> <u>.MarketStartTime</u>	<u>Time of day when Market Definition starts.</u>	<u>dateTime</u>	<u>Yes</u>
<u>CB_Bid_SchedulingCoordinatorMarketTimeInterval</u> <u>.MarketEndTime</u>	<u>Time of day when Market Definition ends.</u>	<u>dateTime</u>	<u>Yes</u>
<u>CB_Bid_SchedulingCoordinatorMarketTimeInterval</u> <u>.schedulingCoordinator</u>	<u>SC ID to be used with Market Type</u>	<u>string</u>	<u>Yes</u>
<u>CB_Bid_BidIDMarketTimeInterval</u>	<u>Request using Bid ID(MRID)</u>		<u>No</u>
<u>CB_Bid_BidIDMarketTimeInterval</u> <u>.BidID</u>	<u>BidID = MRID which stands for master object identifier which should be globally unique.</u>	<u>string</u>	<u>Yes</u>
<u>CB_Bid_PnodeIDMarketTimeInterval</u>	<u>Request using Pnode ID</u>		<u>No</u>
<u>CB_Bid_PnodeIDMarketTimeInterval</u> <u>.MarketStartTime</u>	<u>Time of day when Market Definition starts.</u>	<u>dateTime</u>	<u>Yes</u>
<u>CB_Bid_PnodeIDMarketTimeInterval</u> <u>.MarketEndTime</u>	<u>Time of day when Market Definition ends.</u>	<u>dateTime</u>	<u>Yes</u>
<u>CB_Bid_PnodeIDMarketTimeInterval</u> <u>.ResourceID</u>	<u>ResourceID = MRID which stands for master object identifier which should be globally unique.</u>	<u>string</u>	<u>Yes</u>

3.21.2 Schema (RequestCleanBidSet.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure and Business Rules)

3.21.3 Schema (RequestCBCleanBidSet.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

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3.22 Clean Bid Set Response

3.22.1 Element Table

Element	Data Description	Type	Req'd
Message Header			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Message Payload			
GeneratingBid			
name	Unique name of generating bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
lastModified	Time and date the document was last modified. Documents may potentially be modified many times during their lifetime.	dateTime	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
energyMaxDay	Maximum amount of energy per day which can be produced during the trading period in MWh.	float	No
energyMinDay	Minimum amount of energy per day which has to be produced during the trading period in MWh.	float	No
startUpsMaxDay	Maximum number of startups per day.	integer	No
contingencyAvailFlag	Contingent operating reserve availability. Valid value = YES or NO. Resource is available to participate with capacity only in contingency dispatch.	string	No
bidStatus	Bid status: CL – Clean (CL is the only Status that will be returned with this request. The XSD is modeled from the BidResults.)	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no

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Element	Data Description	Type	Req'd
maximumEconomicMW	Maximum high economic MW limit, that should not exceed the maximum operating MW limit.	float	No
minimumEconomicMW	Low economic MW limit that must be greater than or equal to the minimum operating MW limit.	float	No
noLoadCost	Resource fixed no load cost.	float	No
startUpRampTime <i>(only used with the v20091101 or later version of the web service)</i>	Start Up Ramp Time	Float	No Yes if used with MSG
RegisteredGenerator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredGenerator.Configuration <i>(only used with the v20091101 or later version of the web service)</i>	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
RegisteredGenerator.AggregatedPhode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredGenerator.IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
Configuration.mrid <i>(only used with the v20091101 or later version of the web service)</i>	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.MarketProduct.description	Description of MarketProduct. (1-32 characters)	string	No

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Element	Data Description	Type	Req'd
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulation up RD – Regulation down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following Down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory must take RA – Resource Adequacy SP – Self Provision BAS – Base Load LOF – Load following WHL - Wheeling	string	No
ProductBid.BidSelfSched. description	Description of Bid Self Sched. (1-32 characters)	string	No
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched. selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched. balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched.wheelingTransactionReference	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No

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Element	Data Description	Type	Req'd
ProductBid.BidSelfSched.referenceType	Indication of which class is referenced by the self schedule. <ul style="list-style-type: none"> • ETC • TOR • WHL • RMT *Functionality not fully supported.	String	No
ProductBid.BidSelfSched.pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched.AdjacentCAsSet/mrid	Groups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched.HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.BidSelfSched.ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched.ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.UnitSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST CAPACITY_LIMIT_IND (only used with the v20090801 or later version of the web service) CAPACITY_LIMIT (only used with the v20090801 or later version of the web service)	string	Yes
ProductBid.UnitSchedule.parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule.parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No

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Element	Data Description	Type	Req'd
ProductBid.UnitSchedule.parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.xAxisData	The data value of the X-axis variable..	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	Yes
ProductBid.BidDistributionFactor.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidDistributionFactor.timeIntervalEnd	End of the time interval n which bid is valid.	dateTime	Yes
ProductBid.BidDistributionFactor.PnodeDistributionFactor.factor.value	Used to calculate "participation" of Pnode in an AggregatePnode. For example, for regulation region this factor is 1 and total sum of all factors for a specific regulation region does not have to be 1. For pricing zone the total sum of all factors has to value must be => 0 and <= 1	float	Yes
ProductBid.BidDistributionFactor.PnodeDistributionFactor.IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RampRateCurve.description	Description of Ramp Rate Curve. (1-32 characters)	string	No
RampRateCurve.rampRateType	[Not supported in Release 1.]	string	No
RampRateCurve.constraintRampType	Trading Hour of Trading Interval.	string	No
RampRateCurve.CurveSchedData.xAxisData	The data value of the X-axis variable.,	float	No

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Element	Data Description	Type	Req'd
RampRateCurve.CurveSchedData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	Yes
StartUpCostCurve.description	Description of Start Up CostCurve. (1-32 characters)	string	No
StartUpCostCurve.CurveSchedData.xAxisData	The data value of the X-axis variable, depending on the X-axis units.	float	Yes
StartUpCostCurve.CurveSchedData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	Yes
StartUpTimeCurve.description	Description of Start Up Time Curve. (1-32 characters)	string	No
StartUpTimeCurve.CurveSchedData.xAxisData	The data value of the X-axis variable, depending on the X-axis units.	float	Yes
StartUpTimeCurve.CurveSchedData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	Yes
Transition	(only used with the v20091101 or later version of the web service)		
Transition.notificationTime	Time in minutes the 'To-Configuration ID' requires before deployment. Notification time includes transition ramp time	float	No Yes if used with MSG
Transition.transitionCost	Cost of moving from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.transitionRampTime	Time in minutes it takes to ramp from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.FromConfiguration	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (currently in)	string	No Yes if used with MSG
InterTieBid			

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Element	Data Description	Type	Req'd
name	Unique name of intertie bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
lastModified	Time and date the document was last modified.	dateTime	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
contingencyAvailFlag	Contingent operating reserve availability. Valid value = YES or NO. Resource is available to participate with capacity only in contingency dispatch.	string	No
bidStatus	Bid Status: CL – Clean -	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
MinHourlyBlock	The Registered upper bound of MHB for an Inter-Tie Resource	integer	No
RegisteredInterTie.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredInterTie.AggregatedPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredInterTie.IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No

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Element	Data Description	Type	Req'd
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following Down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take SP – Self Provision RA – Resource Adequacy BAS – Base Load LOF – Load Following WHL - Wheeling	string	No
ProductBid.BidSelfSched. description	Description of Bid Self Sched. (1-32 characters)	string	No
ProductBid.BidSelfSched.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched. selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched. balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No

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Element	Data Description	Type	Req'd
ProductBid.BidSelfSched.wheelingTransactionReference	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No
ProductBid.BidSelfSched.referenceType	Indication of which class is referenced by the self schedule. <ul style="list-style-type: none"> • ETC • TOR • WHL RMT 	String	No
ProductBid.BidSelfSched.pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched.AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched.HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.BidSelfSched.ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched.ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.UnitSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH PUMPING_LEVEL PUMPING_COST PUMPING_SHUTDOWN_COST CAPACITY_LIMIT_IND (only used with the v20090801 or later version of the web service) CAPACITY_LIMIT (only used with the v20090801 or later version of the web service)	string	Yes
ProductBid.UnitSchedule.parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes

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Element	Data Description	Type	Req'd
ProductBid.UnitSchedule.parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule.parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.xAxisData	The data value of the X-axis variable.	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [d]+\.\?d?d?	float	Yes
RampRateCurve.description	Description of Ramp Rate Curve. (1-32 characters)	string	No
RampRateCurve.rampRateType	[Not supported in Release 1.]	string	No
RampRateCurve.constraintRampType	Trading Hour of Trading Interval.	string	No
RampRateCurve.CurveSchedData.xAxisData	The data value of the X-axis variable..	float	No
RampRateCurve.CurveSchedData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	Yes
LoadBid			
name	Unique name for Load Bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes

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Element	Data Description	Type	Req'd
startUpsMaxDay	Maximum number of startups per day.	integer	No
contingencyAvailFlag	Contingent operating reserve availability. Valid value = YES or NO. Resource is available to participate with capacity only in contingency dispatch.	string	No
bidStatus	Bid status: CL - Clean	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
pickUpRampRate.value	Maximum rate load may be restored (MW/minute).	float	No
pickUpRampRate.units	The rate at which a Participating Load Resource can increase its electric power consumption in (MW/Min)	string	No
RegisteredLoad.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredLoad.AggregatedPnode.mrid	An aggregated pricing node is a specialized type of pricing node used to model items such as System Zone, Default Price Zone, Custom Price Zone, Control Area, Aggregated Generation, Aggregated Participating Load, Aggregated Non-Participating Load, Trading. MRID stands for master resource identifier which should be globally unique. (1-32 characters).	string	Yes
RegisteredLoad.IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters).	string	Yes
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No

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Element	Data Description	Type	Req'd
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following Down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take SP – Self Provision RA – Resource Adequacy BAS – Base Load LOF – Load Following WHL – Wheeling	string	No
ProductBid.BidSelfSched. description	Description of Bid Self Schedule. (1-32 characters)	string	No
ProductBid.BidSelfSched.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity	float	No
ProductBid.BidSelfSched. selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched. balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No

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Element	Data Description	Type	Req'd
ProductBid.BidSelfSched.wheelingTransactionReference	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No
ProductBid.BidSelfSched.referenceType	Indication of which class is referenced by the self schedule. <ul style="list-style-type: none"> • ETC • TOR • WHL • RMT 	String	No
ProductBid.BidSelfSched.pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched.AdjacentCAs/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched.HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.BidSelfSched.ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched.ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.UnitSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST CAPACITY_LIMIT_IND (only used with the v20090801 or later version of the web service) CAPACITY_LIMIT (only used with the v20090801 or later version of the web service)	string	Yes
ProductBid.UnitSchedule.parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes

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Element	Data Description	Type	Req'd
ProductBid.UnitSchedule.parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule.parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.xAxisData	The data value of the X-axis variable..	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	Yes
MarketRun			
marketRunID	A unique market identifier. The market ID of the instance of a planned market.	string	Yes
marketID	Market ID of the planned market referring to the ID of the instance of the PlannedMarket.	string	No

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3.23 CB Clean Bid Set Response

3.23.1 Element Table

<u>Element</u>	<u>Data Description</u>	<u>Type</u>	<u>Req'd</u>
<u>Message Header</u>			

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<u>Element</u>	<u>Data Description</u>	<u>Type</u>	<u>Req'd</u>
<u>TimeDate</u>	The <u>dateTime</u> , in GMT, when the payload is published.	<u>dateTime</u>	<u>Yes</u>
<u>Source</u>	The source of published data.	<u>string</u>	<u>Yes</u>
Message Payload			
VirtualBid			
<u>name</u>	Unique name of generating bid. (1-32 characters)	<u>string</u>	<u>No</u>
<u>mrid</u>	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	<u>string</u>	<u>No</u>
<u>startTime</u>	Start time and date for which bid applies.	<u>dateTime</u>	<u>Yes</u>
<u>stopTime</u>	Stop time and date for which bid is applies.	<u>dateTime</u>	<u>Yes</u>
<u>bidStatus</u>	Bid Status: CL – Clean Bid	<u>string</u>	<u>No</u>
<u>virtualBidTypy</u>	Identifies virtual demand or supply bid.	<u>string</u>	<u>Yes</u>
AggregatedPnodeNmReq			
<u>AggregatedPnodeNmReq.mrid</u>	Location name for virtual bid at an Aggregated Node..	<u>String</u>	<u>No</u> <u>Yes when using APnode</u>
IndividualPnodeNmReq			
<u>IndividualPnodeNmReq.mrid</u>	Location name for virtual bid at a Price Node.	<u>String</u>	<u>No</u> <u>Yes when using Pnode</u>
<u>SchedulingCoordinator.mrid</u>	Scheduling Coordinator Identifier. (1-32 characters)	<u>String</u>	<u>Yes</u>
EnergyProductBid			
<u>IndividualPnodeNmReq.description</u>	Description of object	<u>string</u>	<u>No</u>

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<u>Element</u>	<u>Data Description</u>	<u>Type</u>	<u>Req'd</u>
<u>EnergyProductBid.BidSchedule</u>	1-25 BidSchedules may be submitted to allow specified bid price curves for different time intervals.		<u>Yes</u>
<u>EnergyProductBid.BidSchedule.timeIntervalStart</u>	Start of the time interval in which bid is valid	<u>dateTime</u>	<u>Yes</u>
<u>EnergyProductBid.BidSchedule.timeIntervalEnd</u>	End of the time interval in which bid is valid	<u>dateTime</u>	<u>Yes</u>
<u>EnergyProductBid.BidSchedule.BidPriceCurve</u>	Relationship between unit operating price in \$/hour (Y-axis) and unit output in MW (X-axis).		<u>Yes</u>
<u>EnergyProductBid.BidSchedule.BidPriceCurve.CurveScheduledData.xAxisData</u>	The Mw value specified on the price curve.	<u>float</u>	<u>Yes</u>
<u>EnergyProductBid.BidSchedule.BidPriceCurve.CurveScheduledData.y1AxisData</u>	The dollar (\$) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[d]+\.\.?[d]?[d]?	<u>float</u>	<u>Yes</u>

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3.23.2 Schema (CleanBidSet_v20091101.xsd)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)
<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure and Business Rules)

3.23.3 Schema (CleanBidSet_v20090801.xsd)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)
<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure and Business Rules)

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3.23.4 Schema (CB CleanBidSet v20100301.xsd)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)
<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

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3.24 Fault Return

The fault return message is the same for all services; see Section 2.13 for details.

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4 Retrieve Current Bid Results (includes CB)

4.1 Business Scenario

The following bid results need to be exchanged between Scheduling Coordinators and the SIBR system.

1. This service will be use to retrieve result for bids submitted/generated through the following:
 - a. Bids submitted through SIBR GUI
 - b. Bids submitted through SIBR UI Manual Upload
 - c. Bids submitted through API
2. The services will be use to retrieve results for bids submitted either in the DA or RT markets for Physical Bids or the Convergence Bids.
3. The service will be use to retrieve bid results for market trading periods that are open.
4. The bid result will include the following major data elements:
 - a. Bid Status
 - b. Bid Data
 - c. Bid Error Messages
5. The bid status can be any of the following, depending on the filtering criteria used:
 - a. I - Invalid
 - b. RJ - Rejected
 - c. CM - Conditionally Modified
 - d. M - Modified
 - e. CV - Conditionally Valid
 - f. V - Valid
 - g. CX - Cancelled
 - h. O - Obsolete
 - i. S - Submit in Queue
 - j. SO - Service Obsolete
6. The result will include the same bid data that can be retrieved and displayed in SIBR GUI. The text "NOT API submitted" will be inserted in the bid name if the bid were submitted through SIBR GUI.
7. The service will return bid results for all resources that belong to the user, depending on the filtering criteria used.

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8. The bid result will be filtered using any of the following criteria:

a. By Bid MRID

- i. Using Bid MRID filtering criteria, the user will be able to retrieve the result of a bid submitted for a specific resource associated with the Bid MRID.
- ii. The following filtering option must be included:
 - 1. Bid MRID only
- iii. The result will include bids submitted either through SIBR UI manual upload or through API.
- iv. The result will not include bids submitted through SIBR GUI since no bid reference ID is associated with the bid
- v. The result will include the most recent bid result associated with the bid MRID.
- vi. The result will include single bid and the bid status can be any of the following:
 - 1. Invalid (I)
 - 2. Rejected (RJ)
 - 3. Conditionally Modified (CM)
 - 4. Modified (M)
 - 5. Conditionally Valid (CV)
 - 6. Valid (V)
 - 7. Cancelled (CX)
 - 8. Obsolete (O)
 - 9. Submit in Queue (S)
 - 10. Service Obsolete (SO)

- vii. The result will include error messages associated with the bid MRID.
- viii. The result will not include bids with Hidden Rejected (HR), Hidden Invalid (HI), status since these bids are non-displayable in SIBR GUI.

b. By Resource ID (Location ID for CB)

- i. Using Resource ID filtering criteria, the user will be able to retrieve only the most recent result of the bid submitted, for the specified resource ID which belongs to the user and for trading period that corresponds to the specified start and end date/time interval. The bids returned would include only bids that can be displayed in SIBR GUI.
- ii. The following filtering options must be included:

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1. Start and End Date/Time – Start and End / Time must correspond to beginning or ending of trading period; maximum of 1 trading period per request.
 2. Market Type – either DAM or RTM (no Market Type for CB)
 3. Bid Type – either VIRTUAL SUPPLY or VIRTUAL DEMAND (CB ONLY)
 4. Resource ID – resource name known to Market Participants, and no wildcards allowed
- iii. The service will return result of the DA bids submitted through SIBR GUI manual upload, through API, or through SIBR GUI
 - iv. The service will return bids submitted for the specified Market Type.
 - v. The result will include bid for a specified resource that belongs to the user.
 - vi. The result will include bid for specified trading period.
 - vii. The result will include error messages generated for each bid returned by the service.
 - viii. The result will include at most 2 bid results and each resource can have up to one Market Accepted and up to Non-Market Accepted, and the bid status can have any of the following:

1. Market Accepted (M, V, CM, CV,)
2. Non-Market Accepted (CX, I, RJ, ~~V~~, O, SO)

- ix. The result will not include bids with ~~),~~ Hidden Rejected (HR), Hidden Invalid (HI), ~~or status~~ since these bids are non-displayable in SIBR GUI.

c. By Date

- i. Using By Date filtering criteria, the user will be able to retrieve only the most recent result of the bid submitted, for all the resources which belongs to the user and for trading period that corresponds to the specified start and end date/time interval. The bids returned would include only bids that can be displayed in SIBR GUI.
- ii. The following filtering options must be included:
 1. Start and End Date/Time – Start and End / Time must correspond to beginning or ending of trading period; maximum of 1 trading period per request.
 2. Market Type – either DAM or RTM
- iii. The service will return result of the DA bids submitted through SIBR GUI manual upload, through API, or through SIBR GUI
- iv. The service will return bids submitted for the specified Market Type.
- v. The result will include bid for all resources that belongs to the user.

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- vi. The result will include bid for specified trading period.
- vii. The result will include error messages generated for each bid returned by the service.
- viii. The result will include at most 2 bid results and each resource can have up to one Market Accepted and up to one Non-Market Accepted, and the bid status can have any of the following:

- 1. Market Accepted (M, V, CM, CV,)
- 2. Non-Market Accepted (I, R, RJ,)

- ix. The result will not include bids with Cancelled (CX), Hidden Rejected (HR), Hidden Invalid (HI) Obsolete (O) or Service Obsolete (SO) status since these bids are non-displayable in SIBR GUI.

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d. By SC ID

- i. Using By SC ID filtering criteria, the user will be able to retrieve clean bid for all the resource that belongs to the SC ID and trading period specified that are authorized for the certificate being used.
- ii. The result will include at least a bid for the specified trading period, and for all resource that belong to the SC ID for the user.

The result will not include bids with Cancelled (CX), Hidden Rejected (HR), Hidden Invalid (HI) Obsolete (O) or Service Obsolete (SO) status since these bids are non-displayable in SIBR GUI

Day Ahead Bid Validation Results

After a bid is submitted, Content Validation will be performed to ensure that the bid adheres to the structural rules requirements . If not, the bid will be given a rejected status.

After Content Validation succeeds, Bid Validation verifies that the various components of the bid adhere to the applicable market rules. If this validation passes, the bid becomes eligible to be used in a market. If not, the bid will be given an Invalid status.

Day Ahead Bid Processing Results

If the bid passes Content and Bid validation rules with no modifications, it will be given a Conditionally Valid status.

If the bid is acceptable only after the system has automatically modified it, it is called a Conditionally Modified. At this point, the Scheduling Coordinator has the option to view the bid and

- Cancel the bid, in which case the bid is retained in the system database as a Cancelled Bid
- Modify and re-submit the bid, in which case the original bid is retained in the system database as an Obsolete Bid

Bid Validation Results (After Master File Updates)

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After the Master File has been updated, all "conditional" bids are re-validated via a process very similar to what happened in the Day Ahead Bid Validation. This validation process may result in changes to the current bid statuses.

Bid Processing Results (After Master File Updates)

After the Master File is updated, the Bid Processing steps are repeated. This may result in changes to the current bid statuses,

To summarize, the following bid status results may be assigned to a bid. These are available to the Scheduling Coordinator through the retrieveCurrentBidResults web service:

- Rejected Bid
- Invalid Bid
- Conditionally Valid Bid
- Conditionally Modified Bid
- Valid Bid
- Modified Bid
- Canceled Bid
- Obsolete Bid

Along with the bid results, the bid status and the necessary error information will be provided to the Scheduling Coordinators.

4.2 Service Level Agreement

The following service level agreement defines the business and technical requirements for service availability and performance.

Service availability requirements	Service level goal is 99.9%.
Expected size of payload (average and maximum)	(AVG # of bids) to (500+ maximum bids) times size of one bid
Expected frequency (average and maximum)	At least once an hour per Schedule Coordinator utilizing the service for RTM, and several times prior to DAM closing 10:00 AM per SC.
Longest time the service can be unavailable before business is impacted	[to be determined]
Business impact if is unavailable	Schedule Coordinators utilizing the service may not complete submitting all their bids.
Expected response time for the service	[to be determined]
Expected time to exchange	[to be determined]

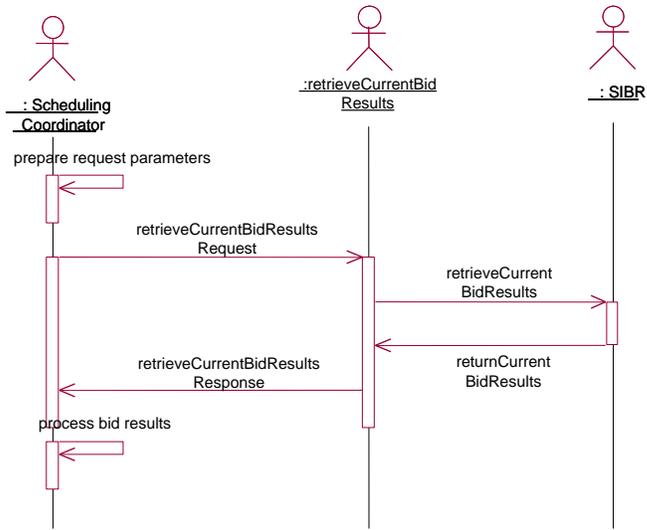
4.3 Use Model

The sequence diagram below describes the service interactions between SCs and CAISO for retrieving the current bid results. The Web service involved is retrieveCurrentBidResults.

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4.4 Operation Details

The [PHY bids](#) service has one operation with three message types. All input and output messages are in XML format.

Operation	Message Types	Message	WSDL	XSD
RetrieveCurrent BidResults	Input	retrieveCurrentBid Results	RetrieveCurrentBid Results_v20090801.wsdl	RequestBidResults.xsd
	Output	retrieveCurrentBid Results	RetrieveCurrentBid Results_v20091101.wsdl	BidResults_v20090801.xsd BidResults_v20091101.xsd
	Fault	faultReturnTypes		StandardOutput.xsd

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The [CB](#) service has one operation with three message types. All input and output messages are in XML format.

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<u>Operation</u>	<u>Message Types</u>	<u>Message</u>	<u>WSDL</u>	<u>XSD</u>
<u>RetrieveCurrentBidResults</u>	<u>Input</u>	<u>retrieveCurrentBidResults</u>	<u>RetrieveCBCurrentBidResults_v20100301.wsdl</u>	<u>RequestCBBidResults_v20100301.xsd</u>
	<u>Output</u>	<u>retrieveCurrentBidResults</u>		<u>CB_BidResult_v20100301.xsd</u>
	<u>Fault</u>	<u>faultReturnTypes</u>		<u>StandardOutput.xsd</u>

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4.5 WSDL (*retrieveCurrentBidResults_v20091101.wsdl*)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)

<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure and Business Rules)

4.6 WSDL (*retrieveCurrentBidResults_v20090801.wsdl*)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)

<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure and Business Rules)

4.7 WSDL (*retrieveCBCurrentBidResults_v20100301.wsdl*)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)

<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

4.8 Current Bid Results Request

4.8.1 Element Table

Element	Data Description	Type	Req'd
Bid_MarketTimeInterval	Request using Market Type		No
Bid_MarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
Bid_MarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
Bid_MarketTimeInterval. marketType	Market Type to be used: DAM RTM	string	Yes
Bid_SchedulingCoordinatorMarketTimeInterval	Request using SC ID		No
Bid_SchedulingCoordinatorMarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes

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Element	Data Description	Type	Req'd
Bid_SchedulingCoordinatorMarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
Bid_SchedulingCoordinatorMarketTimeInterval. marketType	Market Type to be used: DAM RTM	string	Yes
Bid_SchedulingCoordinatorMarketTimeInterval. schedulingCoordinator	SC ID to be used with Market Type	string	Yes
Bid_BidIDMarketTimeInterval	Request using Bid ID(MRID)		No
Bid_BidIDMarketTimeInterval. BidID	BidID = MRID which stands for master object identifier which should be globally unique.	string	Yes
Bid_ResourceIDMarketTimeInterval	Request using Resource ID		No
Bid_ResourceIDMarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
Bid_ResourceIDMarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
Bid_MarketTimeInterval. marketType	Market Type to be used: DAM RTM	string	Yes
Bid_ResourceIDMarketTimeInterval. ResourceID	ResourceID = MRID which stands for master object identifier which should be globally unique.	string	Yes

4.9 CB Current Bid Results Request

4.9.1 Element Table

Element	Data Description	Type	Req'd
<u>CB_Bid_MarketTimeInterval</u>	<u>Request using Market Time</u>		<u>No</u>
<u>CB_Bid_MarketTimeInterval. MarketStartTime</u>	<u>Time of day when Market Definition starts.</u>	<u>dateTime</u>	<u>Yes</u>

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<u>Element</u>	<u>Data Description</u>	<u>Type</u>	<u>Req'd</u>
<u>CB_Bid_MarketTimeInterval.MarketEndTime</u>	<u>Time of day when Market Definition ends.</u>	<u>dateTime</u>	<u>Yes</u>
<u>CB_Bid_SchedulingCoordinatorMarketTimeInterval</u>	<u>Request using SC ID</u>		<u>No</u>
<u>CB_Bid_SchedulingCoordinatorMarketTimeInterval.MarketStartTime</u>	<u>Time of day when Market Definition starts.</u>	<u>dateTime</u>	<u>Yes</u>
<u>CB_Bid_SchedulingCoordinatorMarketTimeInterval.MarketEndTime</u>	<u>Time of day when Market Definition ends.</u>	<u>dateTime</u>	<u>Yes</u>
<u>CB_Bid_SchedulingCoordinatorMarketTimeInterval.schedulingCoordinator</u>	<u>SC ID to be used with Market Time</u>	<u>string</u>	<u>Yes</u>
<u>CB_Bid_BidIDMarketTimeInterval</u>	<u>Request using Bid ID(MRID)</u>		<u>No</u>
<u>CB_Bid_BidIDMarketTimeInterval.CBBidID</u>	<u>CBBidID = MRID assigned to the API submitted bid.</u>	<u>string</u>	<u>Yes</u>
<u>CB_Bid_PnodeIDMarketTimeInterval</u>	<u>Request using Pnode ID</u>		<u>No</u>
<u>CB_Bid_PnodeIDMarketTimeInterval.MarketStartTime</u>	<u>Time of day when Market Definition starts.</u>	<u>dateTime</u>	<u>Yes</u>
<u>CB_Bid_PnodeIDMarketTimeInterval.MarketEndTime</u>	<u>Time of day when Market Definition ends.</u>	<u>dateTime</u>	<u>Yes</u>
<u>CB_Bid_PnodeIDMarketTimeInterval.PnodeID</u>	<u>PnodeID = This is the location of the CB Bid.</u>	<u>string</u>	<u>Yes</u>

4.9.2 Schema (RequestBidResults.xsd)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)
<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure and Business Rules)

4.9.3 Schema (RequestCBBidResults.xsd)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)
<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

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4.10 Current Bid Results Response

4.10.1 Element Table

Element	Data Description	Type	Req'd
Message Header			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Message Payload			
InterTieBid			
description	Description of intertie bid. (1-32 characters)	string	No
name	Unique name for intertie bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
bidStatus	Bid status: RJ - Rejected Bid I - Invalid Bid CV - Conditionally valid bid CM - Conditionally modified bid V - Valid bid M - Modified bid CX - Canceled bid O - Obsolete bid S – Submit in Queue	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
MinHourlyBlock	The Registered upper bound of MHB for an Inter-Tie Resource	integer	No
RegisteredInterTie.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes

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Element	Data Description	Type	Req'd
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique.	mrid	No
ProductBid.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct.marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following down	string	Yes
ProductBid.MarketProduct.selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy SP – Self Provision BAS – Base Load LOF – Load Following WHL - Wheeling	string	No
ProductBid.BidSelfSched.description	Description of Bid Self Schedule. (1-32 characters)	string	No
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched.selfSchedSptResource	PT Export Self Sched Support Resource	String	No

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Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched. wheelingTransactionReference	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No
ProductBid.BidSelfSched. referenceType	Indication of which class is referenced by the self schedule; resulting in the following choices: <ul style="list-style-type: none"> • ETC • TOR • WHL • RMT *Functionality not fully supported.	String	No
ProductBid.BidSelfSched. pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched. AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.UnitSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
contingencyAvailFlag	Contingent operating reserve availability. Valid value = YES or NO. Resource is available to participate with capacity only in contingency dispatch.	string	No
ProductBid.UnitSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes

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Element	Data Description	Type	Req'd
ProductBid.UnitSchedule.parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST CAPACITY_LIMIT_IND (only used with the v20090801 or later version of the web service) CAPACITY_LIMIT (only used with the v20090801 or later version of the web service)	string	Yes
ProductBid.UnitSchedule.parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule.parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule.parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.xAxisData	The data value of the X-axis variable.	float	No
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [-+]?[d]+\.\?d?d?	float	No
ProductBid.BidDistributionFactor.description	Description of Bid Distribution Factor. (1-32 characters)	string	No
RampRateCurve.description	Description of Ramp Rate Curve. (1-32 characters)	string	No
RampRateCurve.rampRateType	[Not supported in Release 1.]	string	No

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Element	Data Description	Type	Req'd
RampRateCurve.constraintRampType	The condition that identifies whether a Generating Resource should be constrained from Ancillary Service provision if its Schedule or Dispatch change across Trading Hours or Trading Intervals requires more than a specified fraction of the duration of the Trading Hour or Trading Interval. Valid values are Fast/Slow	string	No
RampRateCurve.CurveScheduledData.xAxisData	The data value of the X-axis variable..	float	No
RampRateCurve.CurveScheduledData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [d]+\.\.?d?d?	float	No
RampRateCurve.CurveScheduledData.prohibitedZone	[Does not apply to intertie resource bids.]	string	No
BidError.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
BidError.errPriority	Message level: 0 = highest priority 1-4 = different level of error 5 = warning message 6 = Information status	integer	Yes
BidError.errMessage	Text of an error or warning message.	string	Yes
BidError.ruleID	SIBR Market Rule Identifier.	integer	Yes
BidError.startTime	Start date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.endTime	End date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.logTimeStamp	Timestamp of logged message.	dateTime	Yes
BidError.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
BidError.MarketProduct.marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment	string	Yes

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Element	Data Description	Type	Req'd
BidError.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy SP – Self Provision	string	No
GeneratingBid			
description	Description of Generating Bid. (1-32 characters)	string	No
name	Unique name for Generating Bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
lastModified	Time and date the document was last modified.	dateTime	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
energyMaxDay	Maximum amount of energy per day which can be produced during the trading period in MWh.	float	No
energyMinDay	Minimum amount of energy per day which has to be produced during the trading period in MWh.	float	No
contingencyAvailFlag	Contingent operating reserve availability. Valid value = YES or NO. Resource is available to participate with capacity only in contingency dispatch.	YesNo	No
bidStatus	Bid status: RJ - Rejected Bid I - Invalid Bid CV - Conditionally valid bid CM - Conditionally modified bid V - Valid bid M - Modified bid CX - Canceled bid O - Obsolete bid S – Submit in Queue	string	No

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Element	Data Description	Type	Req'd
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
noLoadCost	Resource fixed no load cost. Pattern value = [d]+\.\.?d?d?	float	No
startUpRampTime <small>(only used with the v20091101 or later version of the web service)</small>	Start Up Ramp Time	Float	No Yes if used with MSG
pumpingCost	Pumping cost of a hydro pump unit. Pattern value = [d]+\.\.?d?d?	float	No
pumpShutDownCost	The Cost to shut down a pumped-storage Hydro Unit (in pumping mode or a Pump).	float	No
RegisteredGenerator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredGenerator.Configuration <small>(only used with the v20091101 or later version of the web service)</small>	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
Configuration.mrid <small>(only used with the v20091101 or later version of the web service)</small>	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique.	string	No
ProductBid.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No

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Element	Data Description	Type	Req'd
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load following Down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy SP – Self Provision BAS – Base Load LOF – Load WHL - Wheeling	string	No
ProductBid.BidSelfSched. description	Description of Bid Self Schedule. (1-32 characters)	string	No
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched.selfSch edSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched. balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched.wheeli ngTransactionReference	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No

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Element	Data Description	Type	Req'd
ProductBid.BidSelfSched.referenceType	Indication of which class is referenced by the self schedule; resulting in the following choices: <ul style="list-style-type: none"> • ETC • TOR • WHL • RMT 	String	No
ProductBid.BidSelfSched.pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched.AdjacentCAsSet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched.HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.BidSelfSched.ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched.ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.UnitSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST CAPACITY_LIMIT_IND (only used with the v20090801 or later version of the web service) CAPACITY_LIMIT (only used with the v20090801 or later version of the web service)	string	Yes
ProductBid.UnitSchedule.parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule.parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule.parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No

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Element	Data Description	Type	Req'd
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.xAxisData	The data value of the X-axis variable..	float	No
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [d]+\.\.?d?\d?	float	No
ProductBid.BidDistributionFactor.description	Description of Bid Distribution Factor. (1-32 characters)	string	No
ProductBid.BidDistributionFactor.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidDistributionFactor.timeIntervalEnd	End of the time interval n which bid is valid.	dateTime	Yes
ProductBid.BidDistributionFactor.PnodeDistributionFactor.factor	Used to calculate "participation" of Pnode in an AggregatePnode. For example, for regulation region this factor is 1 and total sum of all factors for a specific regulation region does not have to be 1. For pricing zone the total sum of all factors has to value must be => 0 and <= 1	float	No
ProductBid.BidDistributionFactor.PnodeDistributionFactor.IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
RampRateCurve.description	Description of Ramp Rate Curve. (1-32 characters)	string	No
RampRateCurve.rampRateType	[Not supported in Release 1.]	string	No

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Element	Data Description	Type	Req'd
RampRateCurve.constraintRampType	The condition that identifies whether a Generating Resource should be constrained from Ancillary Service provision if its Schedule or Dispatch change across Trading Hours or Trading Intervals requires more than a specified fraction of the duration of the Trading Hour or Trading Interval. Valid values are Fast/Slow.	string	No
RampRateCurve.CurveScheduledData.xAxisData	The data value of the X-axis variable.,	float	No
RampRateCurve.CurveScheduledData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	No
RampRateCurve.CurveScheduledData.prohibitedZone	This attribute is set to YES if the corresponding segment of the price_curve overlaps with unit prohibited zone.	string	No
StartUpCostCurve.description	Description of Start Up Cost Curve. (1-32 characters)	string	No
StartUpCostCurve.CurveScheduledData.xAxisData	The data value of the X-axis variable, depending on the X-axis units.	float	No
StartUpCostCurve.CurveScheduledData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [d]+\.\.?d?d?	float	No
StartUpTimeCurve.description	Description of Start Up Time Curve. (1-32 characters)	string	No
StartUpTimeCurve.CurveScheduledData.xAxisData	The data value of the X-axis variable, depending on the X-axis units.	float	No
StartUpTimeCurve.CurveScheduledData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [d]+\.\.?d?d?	float	No
Transition	(only used with the v20091101 or later version of the web service)		
Transition.notificationTime	Time in minutes the 'To-Configuration ID' requires before deployment. Notification time includes transition ramp time	float	No Yes if used with MSG

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Element	Data Description	Type	Req'd
Transition.transitionCost	Cost of moving from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.transitionRampTime	Time in minutes it takes to ramp from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.FromConfiguration	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (currently in)	string	No Yes if used with MSG
Transition.ToConfiguration	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (going to)	string	No Yes if used with MSG
BidError.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
BidError.errMessage	Text of an error or warning message.	string	Yes
BidError.errPriority	Priority of an error or warning	Integer	Yes
BidError.ruleID	SIBR Market Rule Identifier.	integer	Yes
BidError.startTime	Start date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.endTime	End date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.logTimeStamp	Timestamp of logged message.	dateTime	Yes
BidError.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
BidError.MarketProduct.marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment	string	Yes

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Element	Data Description	Type	Req'd
BidError.MarketProduct.selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy	string	No
LoadBid			
description	Description of Load Bid. (1-32 characters)	string	No
name	Unique name for Load Bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
lastModified	Time and date the document was last modified.	dateTime	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
contingencyAvailFlag	Contingent operating reserve availability. Valid value = YES or NO. Resource is available to participate with capacity only in contingency dispatch.	string	No
bidStatus	Bid status: RJ - Rejected Bid I - Invalid Bid CV - Conditionally valid bid CM - Conditionally modified bid V - Valid bid M - Modified bid CX - Canceled bid O - Obsolete bid S – Submit in Queue	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
RegisteredLoad.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes

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Element	Data Description	Type	Req'd
ProductBid.description	Description Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique.	string	No
ProductBid.MarketProduct.description	Description Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct.marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following Down	string	Yes
ProductBid.MarketProduct.selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy SP – Self Provision BAS – Base Load LOF – Load Following WHL - Wheeling	string	No
ProductBid.BidSelfSched.description	Description of Bid Self Sched. (1-32 characters)	string	No
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.selfSchedMw	Self Schedule MW value for the referenced commodity	float	No
ProductBid.BidSelfSched.selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched.balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No

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Element	Data Description	Type	Req'd
ProductBid.BidSelfSched.priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched.wheelingTransactionReference	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No
ProductBid.BidSelfSched.referenceType	Indication of which class is referenced by the self schedule; resulting in the following choices: <ul style="list-style-type: none"> • ETC • TOR • WHL • RMT 	String	No
ProductBid.BidSelfSched.pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched.AdjacentCAsSet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched.HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.BidSelfSched.ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched.ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.UnitSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes
ProductBid.UnitSchedule.parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes

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Element	Data Description	Type	Req'd
ProductBid.UnitSchedule.parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule.parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.xAxisData	The data value of the X-axis variable.	float	No
ProductBid.BidSchedule.BidPriceCurve.CurveSchedData.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [d]+\.\.?d?d?	float	No
BidError.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
BidError.errPriority	Message level: 0 = highest priority 1-4 = different level of error 5 = warning message 6 = Information status	integer	Yes
BidError.errMessage	Text of an error or warning message.	string	Yes
BidError.ruleID	SIBR Market Rule Identifier.	integer	Yes
BidError.startTime	Start date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.endTime	End date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.logTimeStamp	Timestamp of logged message.	dateTime	Yes
BidError.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No

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Element	Data Description	Type	Req'd
BidError.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment	string	Yes
BidError.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy	string	No

4.11 Current CB Bid Results Response

4.11.1 Element Table

Element	Data Description	Type	Req'd
Message Header			
<u>TimeDate</u>	<u>The dateTime, in GMT, when the payload is published.</u>	<u>dateTime</u>	<u>Yes</u>
<u>Source</u>	<u>The source of published data.</u>	<u>string</u>	<u>Yes</u>
Message Payload			
VirtualBid			
<u>mrid</u>	<u>MRID stands for master resource identifier which should be globally unique. (1-32 characters)</u>	<u>string</u>	<u>No</u>
<u>startTime</u>	<u>Start time and date for which bid applies.</u>	<u>dateTime</u>	<u>Yes</u>
<u>stopTime</u>	<u>Stop time and date for which bid is applies.</u>	<u>dateTime</u>	<u>Yes</u>

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<u>Element</u>	<u>Data Description</u>	<u>Type</u>	<u>Req'd</u>
<u>bidStatus</u>	<u>Bid status:</u> <u>RJ - Rejected Bid</u> <u>I - Invalid Bid</u> <u>CV - Conditionally valid bid</u> <u>CM - Conditionally modified bid</u> <u>V - Valid bid</u> <u>M - Modified bid</u> <u>CX - Canceled bid</u> <u>O - Obsolete bid</u> <u>S - Submit in Queue</u>	<u>String</u>	<u>No</u>
<u>bidCreditStatus</u>	<u>Credit Status returned from Credit System:</u> <u>Approved</u> <u>Dissapproved</u> <u>Error</u>	<u>String</u>	<u>No</u>
<u>BidError</u>			
<u>virtualBidType</u>	<u>Identifies virtual demand or virtual supply bid.</u>	<u>string</u>	<u>Yes</u>
<u>AggregatedPnodeNmReq</u>			
<u>AggregatedPnodeNmReq.mrid</u>	<u>Location name for virtual bid at an Aggregated Node..</u>	<u>String</u>	<u>No</u> <u>Yes</u> <u>when</u> <u>using</u> <u>APnode</u>
<u>IndividualPnodeNmReq</u>			
<u>IndividualPnodeNmReq.mrid</u>	<u>Location name for virtual bid at a Price Node.</u>	<u>String</u>	<u>No</u> <u>Yes</u> <u>when</u> <u>using</u> <u>Pnode</u>
<u>SchedulingCoordinator.mrid</u>	<u>Scheduling Coordinator Identifier. (1-32 characters)</u>	<u>String</u>	<u>Yes</u>
<u>EnergyProductBid</u>			
<u>IndividualPnodeNmReq.description</u>	<u>Description of object</u>	<u>string</u>	<u>No</u>

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Element	Data Description	Type	Req'd
EnergyProductBid.BidSchedule	1-25 BidSchedules may be submitted to allow specified bid price curves for different time intervals.		Yes
EnergyProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid	dateTime	Yes
EnergyProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid	dateTime	Yes
EnergyProductBid.BidSchedule.BidPriceCurve	Relationship between unit operating price in \$/hour (Y-axis) and unit output in MW (X-axis).		Yes
EnergyProductBid.BidSchedule.BidPriceCurve.CurveSchedData.xAxisData	The Mw value specified on the price curve.	float	Yes
EnergyProductBid.BidSchedule.BidPriceCurve.CurveSchedData.y1AxisData	The dollar (\$) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[d]+\.?\d?d?	float	Yes

4.11.2 Schema (BidResult_v20091101.xsd)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)

<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure and Business Rules)

4.11.3 Schema (BidResult_v20090801.xsd)

Please review the [Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.](#)

<http://www.caiso.com/2350/2350840c5ff70.html> (Scheduling Infrastructure and Business Rules)

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4.11.4 Schema (CB BidResult v20100301.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

<http://www.caiso.com/1807/1807996f7020.html> (Convergence Bidding under Current Initiatives)

4.12 Fault Return

The fault return message is the same for all services; see Section 2.13 for details.

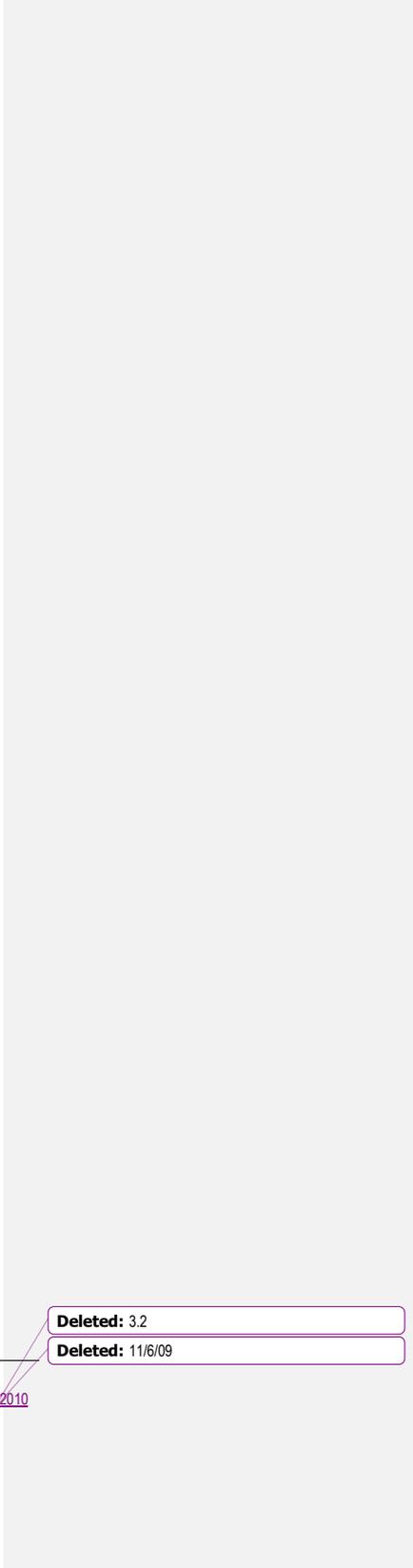
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