

API for Solution

Overview

This specific API allows you to access a complete solution and all its configured products (line items) as resources. For configured products you can also access:

- [BoM](#) - List of all BoM items including parts and BoM properties.
 - [Parts](#) (only for product models)
 - [BoM Properties](#) (only for TCX models)
- [IPA](#) - All attribute values in the available Instantiated Product Architecture.
- [Parameters](#) - All questions and answers in configuration dialog. Also visible in [Configuration Summary](#) panel.
- [Integration Attributes](#)

Authentication is done by using an *API* user as for other inbound calls.

The `X-User-Organization` request header should be used to specify which organization the user is acting on behalf of. If the header is not present in the request, then the user is assigned the organization based on the first profile from the 'Profiles' setting on the user instance.

Note

Resource attributes without values are excluded from the response. In comparison, the [API for Direct Sales](#) does not exclude attributes without values.

API General Info

Response Content Type

The API only supports the `xml` response type.

Successful Responses

Response Codes

- **200** - The request was executed successfully and the server returned some data. The return content type is specified inside a response header called `content-type`. Example content types are `application/xml`, `application/json`, `application/zip` and `text/plain`.
- **204** - The request was executed successfully and the server returned no data. If the `Location` header was present then the server responded with a redirect.

Error Responses

If the API call resulted in an error then the error code will be returned along with the error object in the response body. The error object contains the attributes listed below:

- **type** - type of the error
- **cause** - the root cause of the error
- **message** - message containing details of the related error
- **uuid** - a unique identifier of the error which also may appear in the exception logs
- **timestamp** - the time of the error

Note: For chunked responses, the socket will be closed prematurely if an error occurs after the initial chunk containing the status code has been sent.

Response Codes

- **400** - The request contains invalid parameters or there are invalid settings. Consult the error message and/or check Administration for invalid settings.
- **401** - The user is not authenticated.
- **403** - The user is not authorized access to the specified endpoint.
- **404** - The specified endpoint does not exist or a request parameter is invalid. Consult the error message.
- **405** - The specified endpoint does not support the requested operation. Consult the error message.
- **409** - The specified endpoint is in a state incompatible with the requested operation. Consult the error message.
- **500** - Unknown error occurred while processing the request. Consult the CPQ logs for more information.
- **504** - The specified concurrent calls limit was exceeded and the server was not able to serve the response in a specified timeout limit. That error is always served with the xml body containing the description.

API Versions

This API is versioned using format `/solution-api-v1.3/` . If the version is omitted it will by default use the first version.

Version	Changes
/solution-api-v1.3/	Use HTTP chunking. This generally improves the performance of the system and is strongly recommended.
/solution-api-v1.2/	Attributes with null value are not returned (instead of returning default value).
/solution-api-v1.1/	BoM Money type attributes changed into Price type attributes.

Version	Changes
/solution-api/	Original version of the API.

Supported Authentication

Authentication	Description
Basic	Basic authentication headers are sent.
OAuth Token	Bearer authentication headers are sent.
User Session JWT	Bearer authentication headers are sent.

Read

Read Solution

```
GET /solution-api/[solution-id]
```

Sample

Retrieves the solution on the following format:

```
<result>
<assets>
<resource reference="<resource id">
<required-parameters reference="<resource id">
<product-configuration reference="<resource id">
<bom reference="<resource id">
</assets>
<line-items>
<line-items id="0001" position="1" reference="<resource id">
</line-items>
</result>
```

Optional Parameters

Name	Usage	Default
exclude= [asset]	The following assets can be excluded: solution, subscription-pricing, configured-products, resource- attributes, required-parameters, integration-attributes, bom, bom- properties, parts, product- configuration, product-configuration- assembly-attributes, product- configuration-calculated-attributes, product-configuration-variant- attributes	empty
no-currency- formatting= [true, false]	If set to "true", then currency formatting for monetary values will be skipped.	false
include- actual-value= [true, false]	Setting this parameter to "true" will include the parameter actualValue in the parameter elements inside required-parameters . That parameter contains the name of the value, which can be different from the description of the value, which is reported in the value parameter.	false
enable- chunked- response= [true, false]	If set to "true", enables API v1.3 behavior, if set to "false" disables it. Support for the parameter ends with API v1.2.	Environment specific

 Note

When the optional parameter **include-uploaded-product-configuration** is set to **true** and an uploaded TCX model is used, the product-configuration section will include additional information, if available.

 Sample 

```
GET /solution-api/[solution-id]?exclude=solution&no-currency
```

 **Note**

The subscription information is under "subscription-contract" in the response.

Read a specific configured product

```
GET /solution-api/configured-product/[confProd-id]
```

 **Sample**

Retrieves the configured product on the following format:

```
<result>
<assets>
<resource reference="<resource id">
<required-parameters reference="<resource id">
<product-configuration reference="<resource id">
<bom reference="<resource id">
</assets>
</result>
```

Optional Parameters

Name	Usage	Default
exclude= [asset]	The following assets can be excluded: configured-products (which means only the resource itself), resource- attributes, required-parameters, integration-attributes, bom, bom- properties, parts, product-	empty

Name	Usage	Default
	configuration, product-configuration-assembly-attributes, product-configuration-calculated-attributes, product-configuration-variant-attributes	
no-currency-formatting= [true, false]	If set to "true", then currency formatting for monetary values will be skipped.	false
include-actual-value= [true, false]	Setting this parameter to "true" will include the parameter <code>actualValue</code> in the <code>parameter</code> elements inside <code>required-parameters</code> . That parameter contains the name of the value, which can be different from the description of the value, which is reported in the <code>value</code> parameter.	false
enable-chunked-response= [true, false]	If set to "true", enables API v1.3 behavior, if set to "false" disables it. Support for the parameter ends with API v1.2.	Environment specific

Note

When the optional parameter `include-uploaded-product-configuration` is set to `true` and an uploaded TCX model is used, the product-configuration section will include additional information.

Sample

```
GET /solution-api/configured-product/[confProd-id]?exclude=
```

Troubleshooting

Attributes Are Missing

Resource attributes without values are excluded from the response. In comparison, the [API for Direct Sales](#) does not exclude attributes without values.