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External Call
(aka Send Data Externally)

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Overview

This document aims to explain how various integration calls can be triggered from the CPQ system to any 3rd party system. This type of integration calls do not assume to receive back any information from the 3rd party system/s. Instead, in the body request CPQ system can provide some Opportunity/Deal or Proposal related details that are available in the playbook during Proposal generation.

The solution is based on a HTTP request/response in JSON format.

Note that the data sent in the HTTP request is flexible and will be combined based on the definition of the DealHub account administrator.

Assumptions

1. Depending on the version configuration settings, the external call could be triggered by the CPQ user during the Proposal generation process.

2. The external data call is executed per system, in case the Proposal is in multi-system mode.

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Authentication

During external data call setup within the CPQ system, the administrator will be able to specify the authentication type that the external system requires.

The administrator will be able to specify one of the following authentication types:

- Token
  When the Token authentication type is selected, the administrator will need to provide the actual token (that is shared by the provider of the endpoint). This secret token will be persisted in the system and will be sent in the header of each request under the following field
  ```
  Authorization: Bearer <TOKEN_SHARED_BY_ENDPOINT_PROVIDER>
  ```

- Basic
  When the Basic authentication type is selected, the administrator will need to provide the username and the password (as shared by the provider of the endpoint). These credentials will be persisted in the system and will be sent in the header of each request under the following field
  ```
  Authorization: Basic <CREDENTIALS_SHARED_BY_ENDPOINT_PROVIDER>
  ```

- None
  This option will be used in the case when the endpoint provider does not have any authentication mechanism, or the endpoint provider uses a Shared Access Signature (SAS) where the token is embedded into the URI of the endpoint.

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External Call (Send Data flow)

The external 'Send Data' call triggers HTTP POST request to the endpoint configured in the CPQ calling to the 3rd party system. Below diagram describes the logic around this call execution:
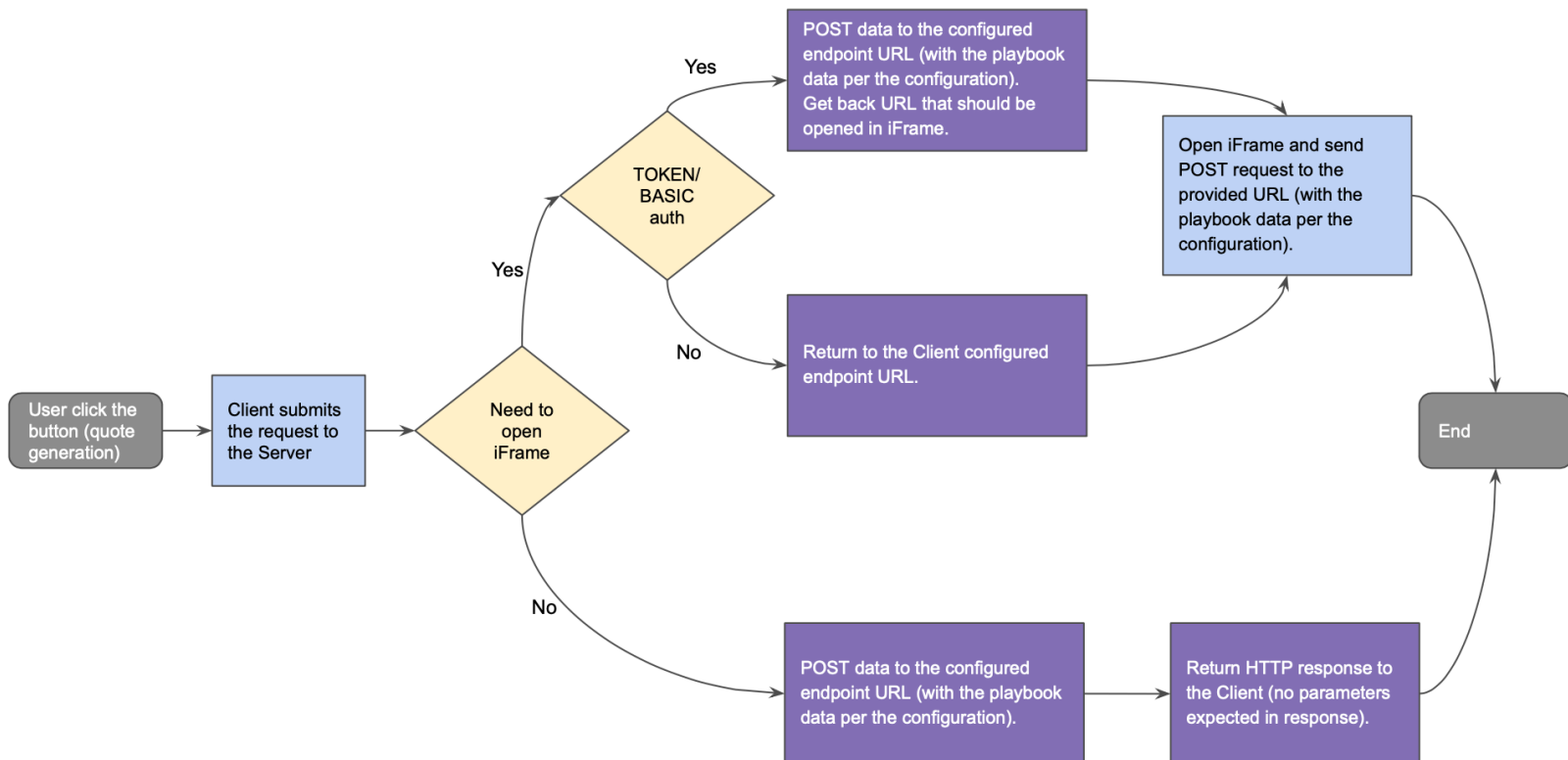
NOTE: CPQ will trigger an HTTP POST request to any external endpoint described in the diagram above. The requestbody of each HTTP POST will contain playbook information based on the administrator's configuration.

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External Call Request

Request type: POST

URL: `<EXTERNAL_SYSTEM_ENDPOINT_URL_CONFIGURED_BY_ADMIN>`

Query body format: JSON

Query body example:

```
{
  "playbook_data": {
    "general.currency": "USD",
    "general.geo": "North America",
    "group1.customer_type": "Enterprise",
    "group2.number_of_something": 4323.11,
    "group3.proposal_date": "2021-03-25T15:39:25Z"
  }
}
```

Query body explanation:

Name	Description	Mandatory

playbook_data	The list of playbook questions as configured by the CPQ account administrator.
	
	The syntax of each element in the list will look as:
	<playbook_group_id.question_id>:<answer>
	
	NOTE: If the CPQ administrator didn't map any data when configuring the API External Query object for specific *Version*, there will be no playbook data sent in the request:
	`{`
	`"playbook_data":{}`
	`}`
		no

External Call Response

Success Response

If External Call is configured to be executed through the main Proposal screen (without opening another window), upon successful External Call execution CPQ will expect HTTP-200. No JSON body is expected in the response.

If External Call is configured to be executed through the newly opened window, upon successful External Call execution CPQ will expect HTTP-200 with the redirect URL. E.g.:

```
{
  "url": "https://3rdparty.system.url.io/..../"
}
```

> NOTE: CPQ will trigger an HTTP **POST** request sending the playbook information in the request body based on the administrator's configuration.

Error Response

In the scenario where an external system needs to return an error, it should follow the following response payload format (HTTP-400):

```
{
  "message": "This is an example of a formatted error from an external system."
}
```

An error message received from the external system will be presented to the user, but the Proposal generation won't stop.

The submission of the Proposal will depend on the playbook definition. I.e. if the CPQ admin configured the playbook with a fallback (e.g. questions have default values or are defined as optional), the Proposal submission will continue.