ENVERUS Business Automation

OpenInvoice™

API Technical Guide for Suppliers

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OpenInvoice APIs

OpenInvoice's application programming interfaces (APIs) provide the ability to transfer data between your financial system and the OpenInvoice platform. All data transfers occur on demand when your system initiates a request. OpenInvoice never initiates a data transfer. This provides your company the control and flexibility to determine what is transferred between the systems and when the transmissions will occur.

All OpenInvoice APIs include a version number. Oildex will increment an API's version number if an enhancement to the API is not backwards compatible.

Swagger

OpenInvoice has adopted Swagger to document and try out many of its new APIs. The Swagger documentation can be accessed by credentialed users only after having logged into OpenInvoice. They may try out the APIs subject to their company's OpenInvoice licenses and their own permissions. The URLs for the Swagger documentation are as follows:

- Production: https://www.openinvoice.com/docp/swagger/index.html
- Onboard: https://onboard.openinvoice.com/docp/swagger/index.html
- UAT: https://uat.openinvoice.com/docp/swagger/index.html

Available APIs

GET	POST
Master Data: AFEs, Cost Centers, Reference Detail	Master Data: Reference Data
FieldTicketResponse: List of Field Ticket Responses, Individual Field Ticket Response	FieldTicket: Submit
Price Books: List of Price Books, Individual Price Book	Invoices: Submit a PIDX invoice
Purchase Category Configuration: Resolve Purchase Category Coding	Receipt: Submit, Cancel, Comment, Add, Delete
Product Services: List of product services, Individual product service	
Receipt: List of links, Individual JSON Documents, Attachments, PDF Snapshot, Count of Receipts	

Getting Started

The following activities must be completed in order to use the APIs to transfer data between your financial system and the OpenInvoice platform:

1. OpenInvoice Support enables the APIs for your company and imports your security certificate.
2. You configure your security profile to use Message Authentication Codes, Allowed IP Addresses, or both.
3. Based on your workflow and your needs, you decide which APIs to implement.
4. Your IT team develops the data transfer routines that call the OpenInvoice APIs.

The URI endpoints for the OpenInvoice APIs are:

- Production: api.openinvoice.com
- Onboard: onboard-api.openinvoice.com
- UAT: onboard-api.openinvoice.com

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Security Profile

In addition to your company's security certificate, you must configure your security profile within the OpenInvoice application. OpenInvoice requires that you use either Message Authentication Codes or you define a list of Allowed IP Addresses. For added security, you may use both options together.

Message Authentication Codes increase the assurance of message integrity and authenticity. If enabled, every request must include a valid HMAC (Hash based Message Authentication Code) token produced from the generated key. Any request that does not include a valid token will be rejected by OpenInvoice. For more information, refer to "HMAC Token Generation" on page 5.

Allowed IP Addresses increase the assurance that a message/request is sent from one of your authorized systems. You are able to configure up to 10 individual IP addresses. If enabled, any request that is from an IP address not included in the allowed list will be rejected by OpenInvoice.

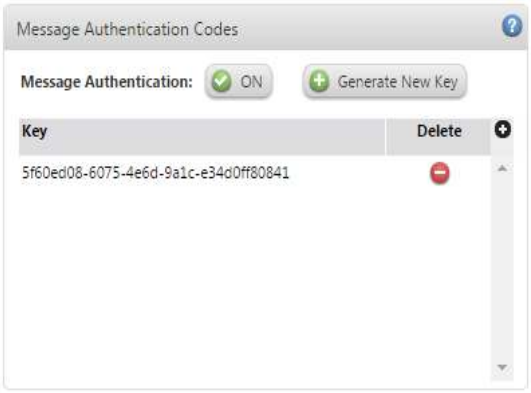
How to Configure Your Security Profile Using Message Authentication Codes

Permission: Corporate Integration

Prerequisite: OpenInvoice Support has granted access to the APIs.

Steps:

1. Go to **Corporate** > **Security Profile**.
2. In the **Message Authentication Codes** portlet, click **Message Authentication** to **ON**.
3. Click **Yes, Proceed Anyway**.
4. Click **Generate New Key**.



How to Configure Your Security Profile Using Allowable IP Addresses

Permission: Corporate Integration

Prerequisite: OpenInvoice Support has granted access to the APIs.

Steps:

1. Go to **Corporate** > **Security Profile**.
2. In the **Allowed IP Addresses** portlet, click **IP Address Verification** to **ON**.
3. Click **Add IP Address**.

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4. Enter an allowable IP address.
5. Click **Save**.

HMAC Token Generation

Using the key generated by OpenInvoice, you encrypt each request's message using HMAC_SHA256 encryption and the UTF-8 character set. The resulting HMAC token is then included in the request using the 'mac" header parameter. When the request is received, OpenInvoice recalculates the HMAC token and compares the result to the token included in the request. If the results match the request is accepted.

The encryption algorithm needs two parameters: the signing key and the input string. The signing key is the key generated by OpenInvoice, the input string is the request message itself. In the case of a POST request this is the request payload, in the case of a GET request the input is an empty string.

The following sample java code can be used to generate HMAC tokens.

```
import javax.crypto.Mac;
import javax.crypto.spec.SecretKeySpec;
import javax.xml.bind.DatatypeConverter;

public class HMAC_Calc {
   public static final String getHMAC(String signingKey, String input) {

      byte[] signedDigestHash;
      Mac hmac = Mac.getInstance("HMACSHA256");
      SecretKeySpec secretKey = new SecretKeySpec(signingKey.getBytes("UTF-8"), "HMACSHA256");
      hmac.init(secretKey);
      signedDigestHash = hmac.doFinal(input.getBytes("UTF-8"));
      return DatatypeConverter.printBase64Binary(signedDigestHash);
   }
}
```

Session Timeout

OpenInvoice will process each request up to a maximum of 10 minutes before timing out. In order to ensure that you correctly receive the OpenInvoice response for each API call it is recommended that you set your timeout to be greater than 10 minutes.

Parsing XML and JSON Documents

it is strongly recommended that API developers use an established library to handle the parsing of XML and JSON documents. Both formats allow for element ordering to change without notice and still be a valid, parsable document. The use of position-based parsing in these cases will likely lead to errors.

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For more information on JSON, including a list of libraries by language to read and write JSON, please refer to http://www.json.org.

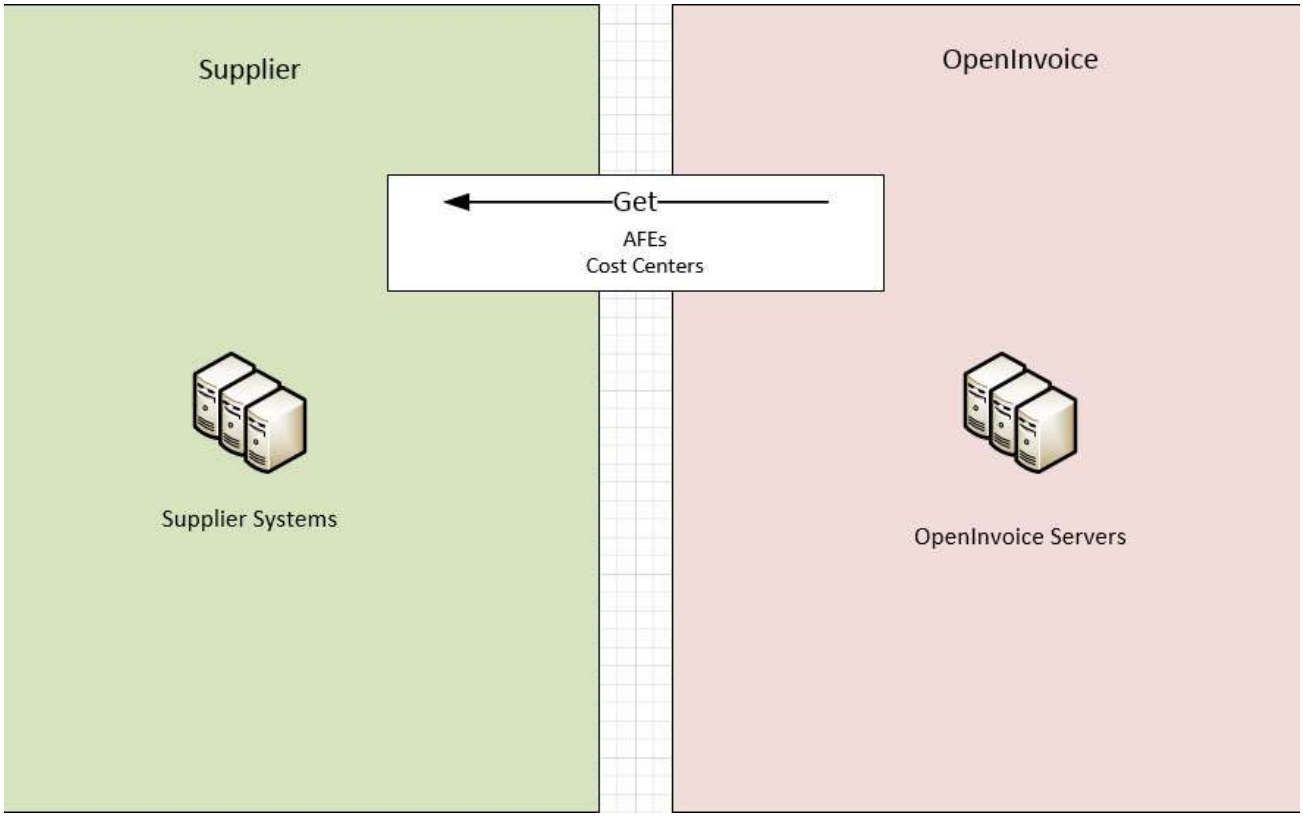
File Compression

When streaming document attachments, OpenInvoice will automatically compress (zip) text files that are larger than 2 kb using gzip (this includes CSV files). Text files smaller than 2 kb as well as all other attachment types will not be compressed (zipped) prior to being streamed from OpenInvoice. It is recommended that your processes check the Content-Encoding header to determine whether or not the file is compressed (zipped).

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Master Data

The master data APIs allow you to keep your AFEs, Cost Centers, and users in the OpenInvoice platform synchronized with your back office systems.



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Get AFEs

The Get AFEs API allows you to retrieve one or more buyer AFEs from the OpenInvoice platform. As a supplier you can retrieve AFEs for those buyers for whom you are enabled to transact. If you are a supplier's designated agent you can retrieve AFEs provided your client can transact with the buyer.

API Call	Description
GET api.openinvoice.com/docp/supply-chain/v2/afes	Retrieves a list of AFEs matching the specified filter criteria. Use the $filter criteria to define the search criteria. Use $select to return additional AFE attributes with the list of AFEs
GET api.openinvoice.com/docp/supply-chain/v2/afes/{*afeID*}	Retrieves the specified AFE. Use $select to return specified AFE attributes only.

The parameters and filters applicable to the Get AFE commands are described in the Technical API documentation located in the Resource Center of the OpenInvoice Platform.

Get AFEs: Response Format

The list of AFEs is returned in JSON format and is encoded using gzip. Depending on the options you specify, the response may include just the links to each qualifying receipt and/or a subset of AFE data elements.

Get list of AFEs and single AFE: Request Options

The parameters and filters applicable to the Get AFE commands are described in the Technical API Documentation located in the Resource Center of the OpenInvoice Platform.

Note: You must be logged into the OpenInvoice Platform in order to view the Technical API Documentation.

Get List of AFEs: Meta Data

When retrieving a list of AFEs, the results include a meta section that provides information on the set of AFEs returned.

Attribute	Description
completeIndicator	Boolean value (true/false); indicates if the returned list includes all qualifying AFEs.
number	Integer; the number of AFEs included in the returned list.
startSequence	Integer; indicates the starting position of the returned list relative to the total list of all qualifying AFEs. For example, if startSequence = 10 then the first AFE in the returned list is the 10th AFE in the total list of all qualifying AFEs.
totalNumber	Integer; the total number of qualifying AFEs. This attribute is only included in the meta data if the $count option is specified on the request.
links	Object containing two elements; Represents the original API call used to generate the results. Rel indicates that the link is for the full set of results and href is the original API call.

Examples

The following table illustrates common get AFE API calls.

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API Call	Description
GET api.openinvoice.com/docp/supply-chain/v2/afes?$filter=number eq 09* and buyerDUNS eq 111222333	Retrieves the links for the AFEs that all start with "09" for a supplier's buyer whose DUNS number is 111222333
GET api.openinvoice.com/docp/supply-chain/v2/afes?$filter=number eq 09*and buyerDUNS eq 111222333&$select=number	Retrieves the links and numbers for the AFEs that all start with "09" for a supplier's buyer whose DUNS number is 111222333
GET api.openinvoice.com/docp/supply-chain/v2/afes?$filter=number eq 09* and buyerDUNS eq 111222333 and supplierDUNS eq 999888777	Retrieves the links and numbers for the AFEs that all start with "09" for the supplier's buyer whose DUNS number is 111222333, and the agent's supplier whose DUNS number is 999888777
GET api.openinvoice.com/docp/supply-chain/v2/afes/437823	Retrieves the AFE whose itemID is 437823. Will succeed only if the supplier can transact with the buyer.
GET api.openinvoice.com/docp/supply-chain/v2/afes/437823?$select=number	Retrieves the AFE whose itemID is 437823, limiting the attributes returned to just the number and link. Will succeed only if the supplier can transact with the buyer.

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Get Cost Centers

The Get Cost Centers API allows you to retrieve one or more buyer Cost Centers from the OpenInvoice platform. As a supplier you can retrieve Cost Centers for those buyers for whom you are enabled to transact. If you are a supplier's designated agent you can retrieve Cost Centers provided your client can transact with the buyer.

API Call	Description
GET api.openinvoice.com/docp/supply-chain/v1/cost-centers	Retrieves a list of Cost Centers. Use the $filter criteria to define the search criteria. Use $select to return additional Cost Center attributes with the list of Cost Centers.
GET api.openinvoice.com/docp/supply-chain/v1/cost-centers/{ccID}	Retrieves the JSON for the specified Cost Center. Use $select to return specified Cost Center attributes only.

Get Cost Centers: Response Format

The list of Cost Centers is returned in JSON format and is encoded using gzip. Depending on the options you specify, the response may include just the links to each qualifying receipt and/or a subset of Cost Center data elements.

Get list of Cost Centers and single Cost Center: Request Options

The parameters and filters applicable to the Get Cost Centers commands are described in the Technical API Documentation located in the Resource Center of the OpenInvoice Platform.

Note: You must be logged into the OpenInvoice Platform in order to view the Technical API Documentation.

Get List of Cost Centers: Meta Data

When retrieving a list of Cost Centers, the results include a meta section that provides information on the set of Cost Centers returned.

Attribute	Description
completeIndicator	Boolean value (true/false); indicates if the returned list includes all qualifying Cost Centers.
number	Integer; the number of Cost Centers included in the returned list.
startSequence	Integer; indicates the starting position of the returned list relative to the total list of all qualifying Cost Centers. For example, if startSequence = 10 then the first Cost Center in the returned list is the 10th Cost Center in the total list of all qualifying Cost Centers.
totalNumber	Integer; the total number of qualifying Cost Centers. This attribute is only included in the meta data if the $count option is specified on the request.
links	Object containing two elements; Represents the original API call used to generate the results. Rel indicates that the link is for the full set of results and href is the original API call.

Examples

The following table illustrates common GET Cost Center API calls.

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API Call	Description
GET api.openinvoice.com/docp/supply-chain/v1/cost-centers?$filter=number eq 09* and buyerDUNS eq 111222333	Retrieves the links for the Cost Centers that all start with "09" for a supplier's buyer whose DUNS number is 111222333
GET api.openinvoice.com/docp/supply-chain/v1/cost-centers?$filter=number eq 09*and buyerDUNS eq 111222333&$select=number	Retrieves the links and numbers for the Cost Centers that all start with "09" for a supplier's buyer whose DUNS number is 111222333
GET api.openinvoice.com/docp/supply-chain/v1/cost-centers?$filter=number eq 09* and buyerDUNS eq 111222333 and supplierDUNS eq 999888777	Retrieves the links and numbers for the Cost Centers that all start with "09" for the supplier's buyer whose DUNS number is 111222333, and the agent's supplier whose DUNS number is 999888777
GET api.openinvoice.com/docp/supply-chain/v1/cost-centers /437823	Retrieves the Cost Center whose itemID is 437823. Will succeed only if the supplier can transact with the buyer.
GET api.openinvoice.com/docp/supply-chain/v1/cost-centers /437823?$select=number	Retrieves the Cost Center whose itemID is 437823, limiting the attributes returned to just the number and link. Will succeed only if the supplier can transact with the buyer.

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Reference Detail

These APIs allow you to manipulate details of an existing Custom Reference Data Type.

API Call	Description
POST api.openinvoice.com/docp/supply-chain/v1/reference-type/{referenceTypeName}/reference-detail	Adds a detail to a Custom Reference Data type. referenceTypeName specifies the Custom Reference Data Type.
PUT api.openinvoice.com/docp/supply-chain/v1/reference-type/{referenceTypeName}/reference-detail/{referenceDetailName}	Modifies a Custom Reference Data detail. referenceTypeName specifies the Custom Reference Data Type; referenceDetailName references the detail to be modified.
DELETE api.openinvoice.com/docp/supply-chain/v1/reference-type/{referenceTypeName}/reference-detail/{referenceDetailName}	Deletes a detail from a Custom Reference Data Type. referenceTypeName specifies the Custom Reference Data Type; referenceDetailName references the detail to be deleted.
GET api.openinvoice.com/docp/supply-chain/v1/reference-type/{referenceTypeName}/reference-detail/{referenceDetailName}	Returns a Custom Reference Data detail. referenceTypeName specifies the Custom Reference Data Type; referenceDetailName references the detail to be returned.
GET api.openinvoice.com/docp/supply-chain/v1/reference-type/{referenceTypeName}/reference-details/	Returns a list of existing reference details ofr a given reference type name.

Request Details

The event payload for the POST and PUT APIs are in JSON. The request header must specify the content type as application/json.

```
}
   "name": "Name1",
   "description": "Description1",
   "code": "Code1",
   "active": true
}
```

For a POST only the name attribute is mandatory.

For a PUT specify one or all attributes (description, code or active) to change the values. To clear a code or description specify an empty string.

Response Details

The response sent by OpenInvoice uses the HTTP/1.1 status codes to indicate if the request was received and processed. In case of an error, refer to the resource messages returned in the response for an indication of the error source.

The parameters and filters applicable to the Get Cost Centers commands are described in the Technical API Documentation located in the Resource Center of the OpenInvoice Platform.

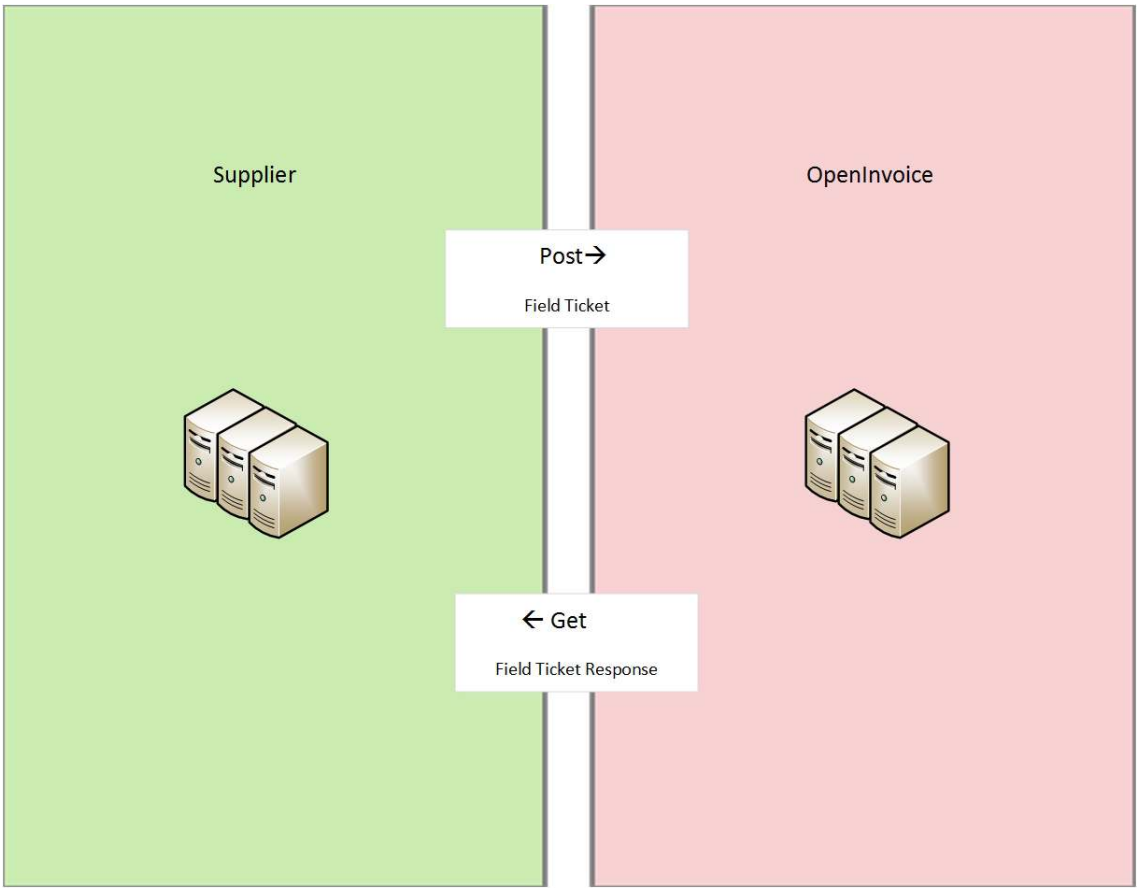
Note: You must be logged into the OpenInvoice Platform in order to view the Technical API Documentation.

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Field Tickets

The field ticket APIs allow you to submit PIDX Field Tickets to your buyers and retrieve PIDX Field Ticket Responses.

Refer to the PIDX Field Ticket Schema for more information.



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Attachments

Field tickets with attachments are transmitted in Multipart MIME (Multipurpose Internet Mail Extensions) format. When posting a field ticket with attachments, the ticket and all attachments are processed as a single transaction. If any piece of the message cannot be processed, the entire message will be rejected with neither the ticket nor the attachments being saved.

The maximum file size of each attachment is 9 MB and the maximum total of all attachments for each receipt is 70 MB.

When sending or receiving receipt attachments the attachment file type is specified in the content-type of the attachment's mime boundary.

File Type	Content-Type
tiff	image/tiff
gif	image/gif
jpeg	image/jpeg
png	image/png
dwg	image/vnd.dwg
pdf	application/pdf
doc	application/msword
docx	application/vnd.openxmlformats-officedocument.wordprocessingml.document
xls	application/ms-excel
xlsx	application/vnd.openxmlformats-officedocument.spreadsheetml.sheet
csv	application/ms-excel
txt	text/plain
tsv	text/plain

Information about an attachment and its location within the multipart MIME message is defined using the Attachment element of the receipt schema.

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Get Field Ticket Responses

The *get Field Ticket Responses* API allows you to retrieve one or more field ticket responses from the OpenInvoice platform.

API Call	Description
GET api.openinvoice.com/docp/supply-chain/v1/field-ticket-responses	Retrieves a list of Field Ticket Responses. Use the $filter option to define the search criteria.
GET api.openinvoice.com/docp/supply-chain/v1/field-ticket-responses/{*fieldTicketID}*	Retrieves the specific Field Ticket Response by the specified Field Ticket (Receipt) identifier.

Get List of Field Ticket Responses: Response Format

The list of field ticket responses is returned in XML format and is encoded using gzip. The list is compliant to OpenInvoice's Collection.xsd and contains all of the field ticket responses that match the filter criteria.

Get List of Field Ticket Responses: Request Options

The parameters and filters applicable to the Get Field Ticket Responses commands are described in the Technical API Documentation located in the Resource Center of the OpenInvoice Platform.

Note: You must be logged into the OpenInvoice Platform in order to view the Technical API Documentation.

Examples

The following table illustrates common *get field ticket* API calls.

API Call	Description
GET api.openinvoice.com/docp/supply-chain/v1/field-ticket-responses?$filter=status eq approved and lastActionDate ge 2015-01-01 and lastActionDate le 2015-01-31	Retrieves the FieldTicketResponses for all approved field tickets that were modified in the month of January 2015.
GET api.openinvoice.com/docp/supply-chain/v1/field-ticket-responses/4536293	Retrieves the FieldTicketResponse for the field ticket having the identifier of 4536293.

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Post PIDX Field Ticket Events

The *post field ticket event* APIs allow you to submit a field ticket to OpenInvoice.

API Call	Description
POST api.openinvoice.com/docp/events/supply-chain/v1/field-ticket.submit	Submits a PIDX field ticket to your buyer.

Request Details

The submitted document must be compliant with the PIDX Field Ticket 1.2 schema. This schema can be found by going to: http://www.pidx.org/schema-standards/.

Attachments Required/Optional/Not Supported	Optional
Maximum number of receipts per event	1

	With Attachments	Without Attachments
Request Header Content-Type	Multipart/mixed;boundary="MIME-Boundary"	application/xml
Maximum number of attachments	unlimited	N/A
Attachment encoding	Base 64	
Maximum file size for each attachment	9 MB	
Maximum total size of all attachments	70 MB	

The parameters and filters applicable to the Post Field Ticket event command are described in the Technical API Documentation located in the Resource Center of the OpenInvoice Platform.

Note: You must be logged into the OpenInvoice Platform in order to view the Technical API Documentation.

Response Details

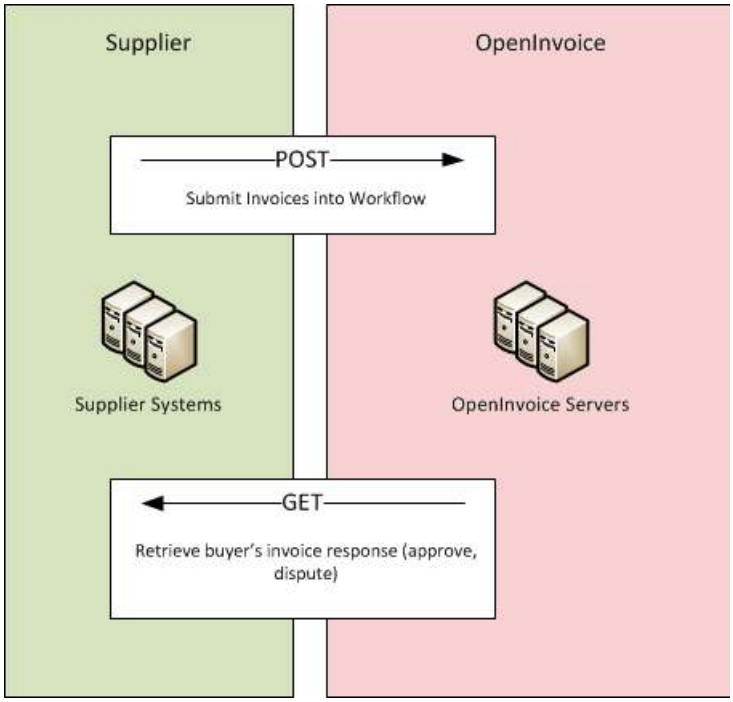
The response sent by OpenInvoice uses the HTTP/1.1 status codes to indicate if the request was received and processed. Refer to the request status code, DOResponse status (Success or Failure) and DOResponse Warnings and Errors for information on any issues that may have occurred while processing the request.

Protocol Codes	HTTP/1.1
Content-Type	application/xml
Content-Encoding	gzip

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Invoices

The invoice APIs allow you to submit new invoices into workflow and retrieve the buyer's invoice response.



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Post Invoices

The *post invoices* APIs allow you to submit a PIDX invoice.

An agent can also submit a client's invoice if the client's DUNS number is provided using request headers:

- x-p2p-client-id-scheme
- x-p2p-client-id parameters

Example:

- x-p2p-client-id-scheme: 'DUNS'
- x-p2p-client-id: '123456789'

Note: You must be configured as an agent in the client's environment in order to submit invoices on behalf of the client.

API Call	Description
POST api.openinvoice.com/docp/supply-chain/v1/invoices/invoice.submit	Submits a PIDX invoice and returns a DOResponse on the success or failure of the POST request. An agent can submit a client's invoice if the client's DUNS number is provided using request header x-p2p-client-id-scheme and x-p2p-client-id parameters.

There are two ways of posting invoices:

PIDX Invoice Post (without Attachments): Create an XML file that conforms to the PIDX Invoice standard schema using

Content-Type: application/pidx.v10+xml

PIDX Post (with Attachments): Create an XML file that conforms to the PIDX Invoice standard schema for the payload and package it together using a MIME construct. Content-Type:

multipart/mixed;type="text/xml";boundary="MIME-Boundary"
multipart/related;type="application/xml";boundary="MIME-Boundary"

Request Details

Schemas: Invoice_1-0.xsd, PIDXLib_1-0.xsd

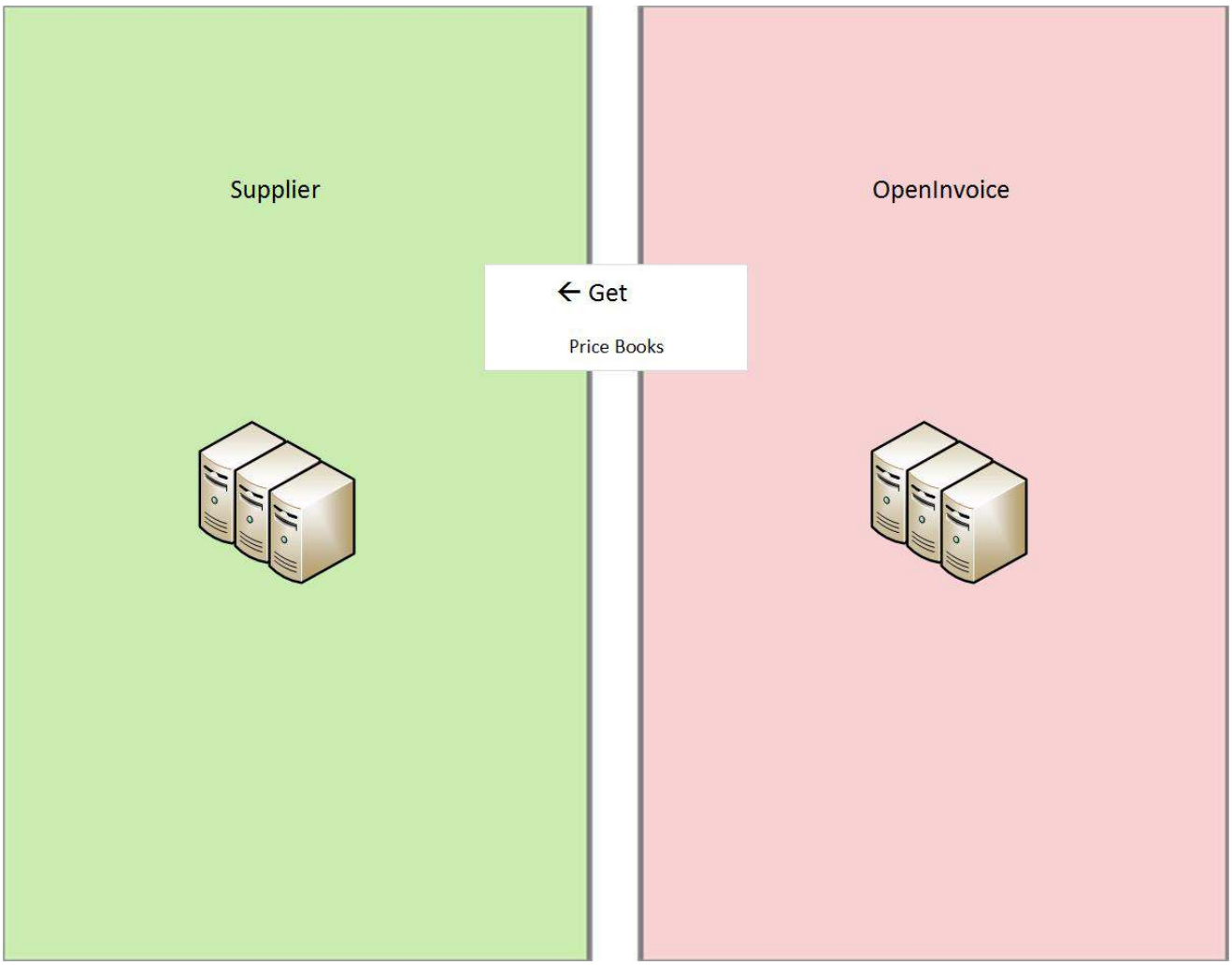
Please refer to Swagger for example files and additional information.

Note: Currently there is no support for JSON format for submitting invoices.

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Price Books

The price books APIs allow you to view a list of price books.



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Get Price Books

The *GET price books* API allows you to retrieve one or more price books from the OpenInvoice platform.

API Call	Description
GET api.openinvoice.com/docp/supply-chain/v1/price-books	Retrieves a list of Price Books. Use the $filter option to define the search criteria.
GET api.openinvoice.com/docp/supply-chain/v1/price-books/{itemID}	Retrieves the specific Price Book by the specified Price Book identifier.
GET api.openinvoice.com/docp/supply-chain/v1/price-books/{itemId}.attachments/{attachmentId}	Retrieves a specific price book attachment by the attachment identifier.

Get List of Price Books: Response Format

The list of price books is returned in json format and is encoded using gzip. The list is compliant to OpenInvoice's Collection.xsd and contains all of the price books that match the filter criteria.

Get List of Price Books: Request Options

The parameters and filters applicable to the Get Price Books commands are described in the Technical API Documentation located in the Resource Center of the OpenInvoice Platform.

Note: You must be logged into the OpenInvoice Platform in order to view the Technical API Documentation.

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Products/Services

The GET Product/Services APIs allows you to search your organization's product/services and retrieve a specific product/service.

API Call	Description
GET api.openinvoice.com/docp/supply-chain/v1/product-services	Searches your product/services catalog. Use $filter parameter to narrow the search.
GET api.openinvoice.com/docp/supply-chain/v1/product-services.xlsx	Returns the supplier product services using a number of parameters in Excel format.
GET api.openinvoice.com/docp/supply-chain/v1/product-services/{*itemID*}	Returns a supplier product service by item ID.

Get Product/Services: Response Format

The list of products and services is returned in JSON format and is encoded using gzip. Depending on the request parameters specified, the response may include just the links to each matching receipt and/or a subset of Product/Service properties.

Get list of Product/Services and single Product/Service: Request Options

When retrieving products and services, the following options define how the matching list of products and services are returned.

Option	Default	Description
$filter		Supported parameters: code, default, usedBy, isUsed, supplierId, searchText. searchText value is matched against category, description and code; asterisk wilcard (*) may be used.
$select	links	Use to limit the number of product/service attributes returned. Supported values: *, itemID, code, category, description, unitOfMeasure, rate, publicService, links, usedBy.
$count	FALSE	If set to true the total number of records found is returned in the meta.
$top	10000	Limits the result set to the specified.
$skip	N/A	An offset from the start of the matched result set for the first item of the retuned result set.
$orderby	N/A	Returns the result set in the specified order. Multiple criteria must be listed separated by a comma. Specify sort order by ASC or DESC after the criteria. Supported values: code, description, category, unitOfMeasure, rate, publicService, buyerCount, supplier, invoiceLastUsedDate, purchaseOrderLastUsedDate, pricebookLastUsedDate, fieldTicketLastUsedDate.

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Get List of Product/Services: Meta Data

When retrieving a list of Product/Services, the results include a meta section that provides information on the set of Product/Services returned.

Attribute	Description
completeIndicator	Boolean value (true/false); indicates if the returned list includes all qualifying Product/Services.
number	Integer; the number of Product/Services included in the returned list.
startSequence	Integer; indicates the starting position of the returned list relative to the total list of all qualifying Product/Services. For example, if startSequence = 10 then the first Product/Services in the returned list is the 10th Product/Service in the total list of all qualifying Product/Services.
totalNumber	Integer; the total number of qualifying Product/Services. This attribute is only included in the meta data if the $count option is specified on the request.
links	Object containing two elements; Represents the original API call used to generate the results. Rel indicates that the link is for the full set of results and href is the original API call.

Examples

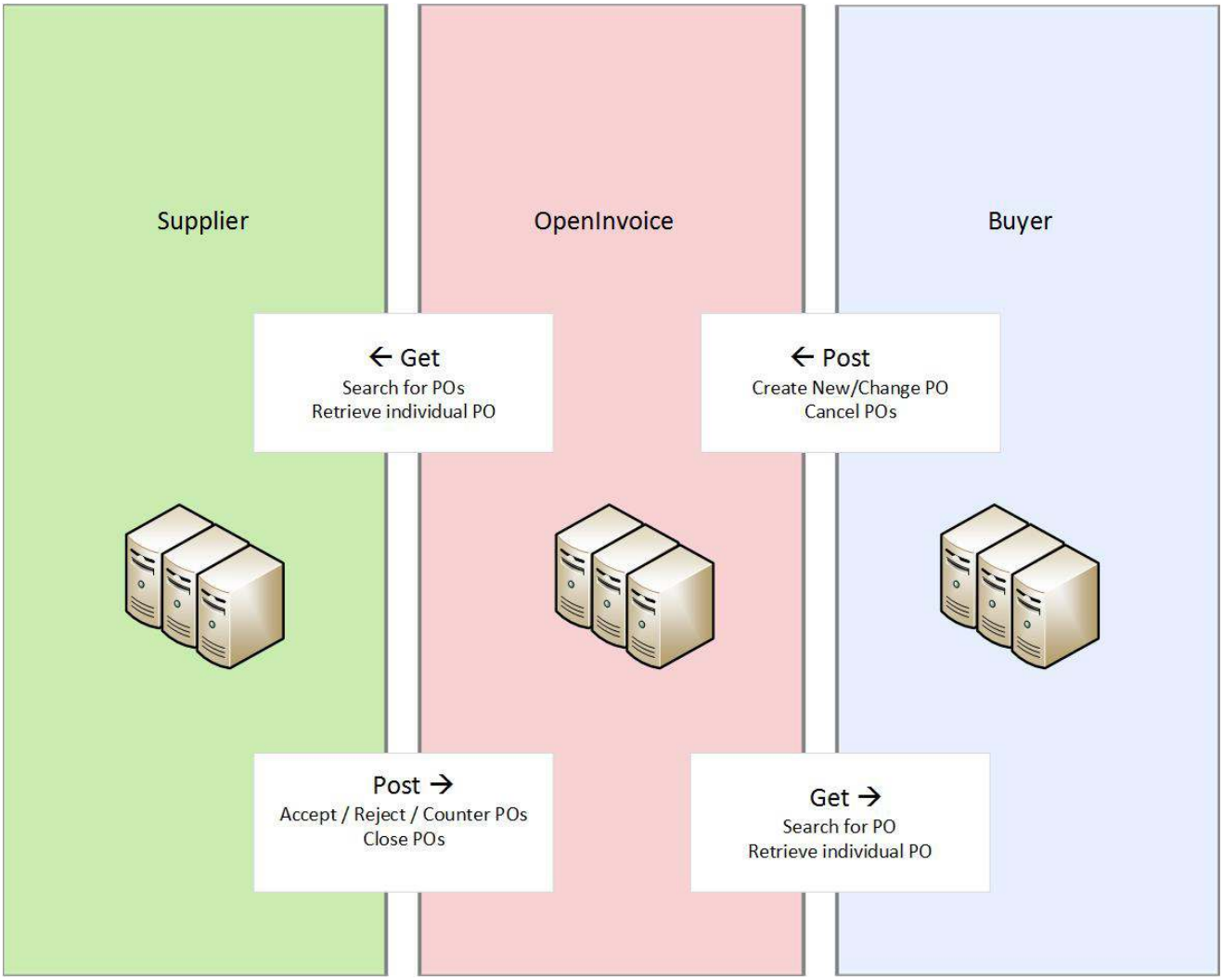
The following table illustrates common GET Product/Service API calls.

API Call	Description
GET api.openinvoice.com/docp/api/supply-chain/v1/product-services?$filter=searchText eq SS	Returns a list of product / services whose description, code or category matches "SS"
GET api.openinvoice.com/docp/api/supply-chain/v1/product-services?$filter=searchText eq SS&$select=*	Returns a list of product / services whose description, code or category matches "SS", returning all attributes of the matched product / services.
GET api.openinvoice.com/docp/api/supply-chain/v1/product-services?$select=*&$orderby=code DESC	Returns all product / services for the calling supplier in descending order by code.
GET api.openinvoice.com/docp/api/supply-chain/v1/product-services/xxxxxxxx	Returns the product services whose itemID is xxxxxxxx

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Purchase Orders

The purchase order APIs allow suppliers to search purchase orders and accept, reject, and counter offer POs from buyers.



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Get Purchase Orders

The *GET purchase orders* API allows you to retrieve one or more purchase orders from the OpenInvoice platform.

API Call	Description
GET api.openinvoice.com/docp/supply-chain/v1/purchase-orders	Retrieves a list of Purchase Orders. Use the $filter option to define the search criteria.
GET api.openinvoice.com/docp/supply-chain/v1/purchase-orders/{itemID}	Retrieves the specific Purchase Order by the specified Purchase Order identifier.
GET api.openinvoice.com/docp/supply-chain/v1/purchase-orders/{itemId}/snapshot	Retrieves a purchase order PDF by item identifier.
GET api.openvoice.com/docp/supply-chain/v1/purchase-orders/{itemId}/attachments/{attachmentId}	Retrieve a Purchase Order Attachment by Attachment ID.

Get List of Purchase Orders: Request Options

The parameters and filters applicable to the Get Purchase Orders commands are described in the Technical API Documentation located in the Resource Center of the OpenInvoice Platform.

Note: You must be logged into the OpenInvoice Platform in order to view the Technical API Documentation.

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Post Purchase Order

The *post purchase order* API allows you to accept, reject, and counter offer purchase orders from your buyer.

API Call	Description
POST api.openinvoice.com/docp/supply-chain/v1/purchase-orders	Create New or Change PO for Buyers
POST api.openinvoice.com/docp/supply-chain/v1/purchase-order.accept	Accept a purchase order from your buyer.
POST api.openinvoice.com/docp/supply-chain/v1/purchase-order.reject	Reject a purchase order from your buyer.
POST api.openinvoice.com/docp/supply-chain/v1/purchase-order.counter-offer	Counter-offer a purchase order from your buyer.

Response Details

The parameters and filters applicable to the POST Purchase Orders commands are described in the Technical API Documentation located in the Resource Center of the OpenInvoice Platform.

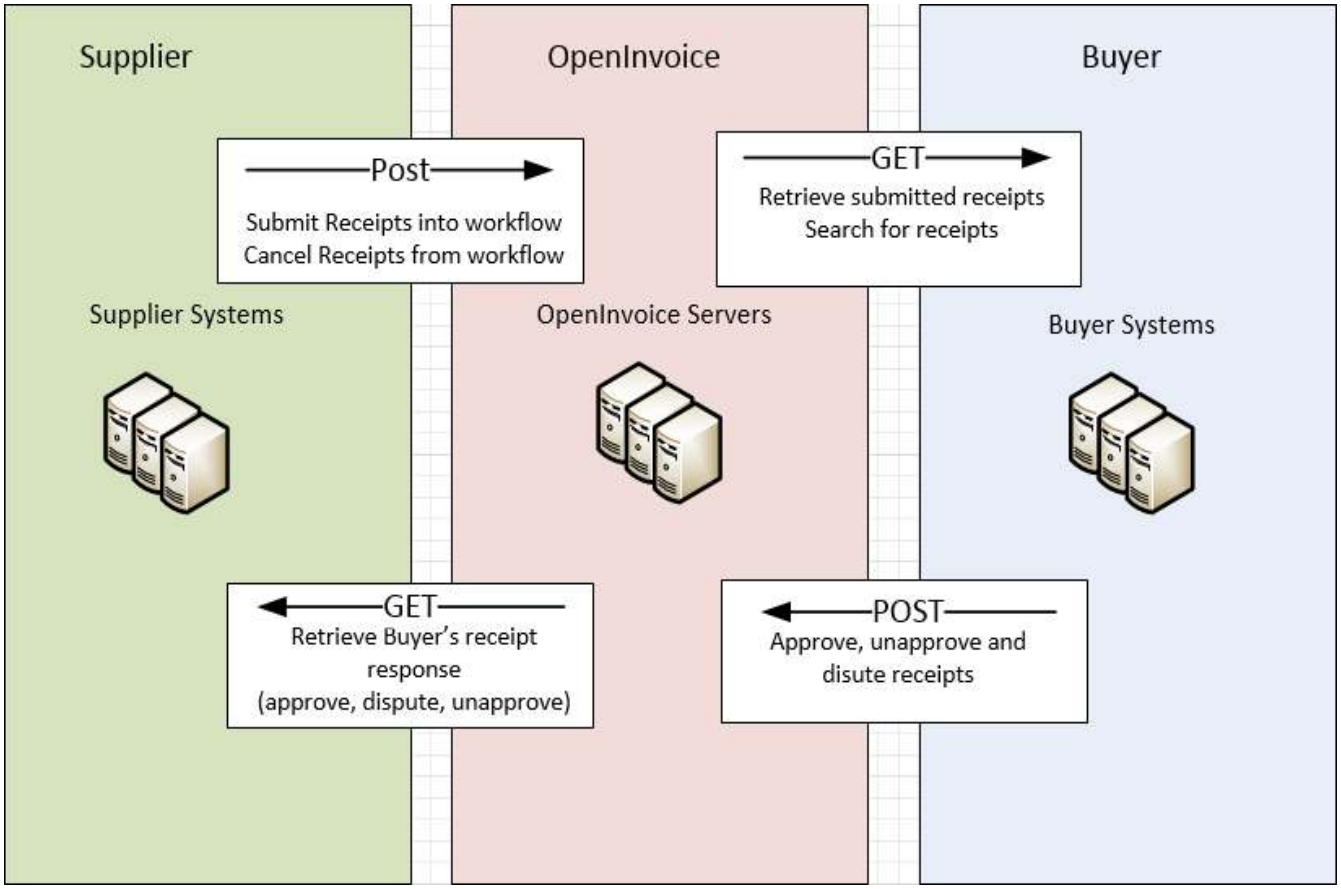
Note: You must be logged into the OpenInvoice Platform in order to view the Technical API Documentation.

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Receipts

The receipt APIs allow you to submit receipts to your buyers; retrieve your buyer's response (approve, dispute) for receipts; cancel receipts; and retrieve receipts.

Refer to the Receipt section of the OpenInvoice *Schemas Technical Guide for Suppliers* for more information on the receipt JSON schema.



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Attachments

Receipts with attachments are transmitted in Multipart MIME (Multipurpose Internet Mail Extensions) format. When posting a receipt with attachments, the receipt and all attachments are processed as a single transaction. If any piece of the message cannot be processed, the entire message will be rejected with neither the receipt nor the attachments being saved. When getting receipts with attachments, the receipt and each attachment are retrieved in individual requests and are processed independently of each other.

The maximum file size of each attachment is 9 MB and the maximum total of all attachments for each receipt is 70 MB.

When sending or receiving receipt attachments the attachment file type is specified in the content-type of the attachment's mime boundary.

File Type	Content-Type
tiff	image/tiff
gif	image/gif
jpeg	image/jpeg
png	image/png
dwg	image/vnd.dwg
pdf	application/pdf
doc	application/msword
docx	application/vnd.openxmlformats-officedocument.wordprocessingml.document
xls	application/ms-excel
xlsx	application/vnd.openxmlformats-officedocument.spreadsheetml.sheet
csv	application/ms-excel
txt	text/plain
tsv	text/plain

Information about an attachment and its location within the multipart MIME message is defined using the Attachment element of the receipt schema.

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Get Receipts

The *get receipts* API allows you to retrieve one or more receipts from the OpenInvoice platform. You have the ability to retrieve just the portions of the receipt you need whether it be the receipt JSON, attachments, or some combination. Additional options allow you to retrieve a list of receipts that you then loop through to process.

API Call	Description
GET api.openinvoice.com/docp/supply-chain/v1/receipt.ordered-by-names	Returns a list of receipt ordered-by-names that have ticket modify permission.
GET api.openinvoice.com/docp/supply-chain/v1/receipts	Retrieves a list of receipts. Use the $filter option to define the search criteria.
GET api.openinvoice.com/docp/supply-chain/v1/receipts/$count	Retrieves the number of receipts found.
GET api.openinvoice.com/docp/supply-chain/v1/receipts/*{itemID}*	Retrieves the JSON for the specified receipt identifier.
GET api.openinvoice.com/docp/supply-chain/v1/receipts/*{itemID}*/attachments	Retrieves a list of attachments in JSON for the specified receipt identifier.
GET api.openinvoice.com/docp/supply-chain/v1/receipts/*{itemID}*/attachments/*{attachmentID}*	Retrieves the specified attachment for the specified receipt identifier.
GET api.openinvoice.com/docp/supply-chain/v1/receipts/*{itemID}*/snapshot	Retrieves the PDF snapshot for the specified receipt identifier.
GET api.openinvoice.com/docp/supply-chain/v1/receipts/buyers/{buyerDUNS}/type/{ticketType}	Retrieves the content model for a specifc ticket type (UPDATED Version 2018.06.15)

Get List of Receipts: Response Format

The list of receipts is returned in JSON format and is encoded using gzip. Depending on the options you specify, the response may include just the links to each qualifying receipt and/or a subset of receipt data elements.In order to get all details for the receipts you need to get each receipt one at a time using the receipt's unique identifier.

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Get List of Receipts: Request Options

When retrieving a list of recepts, the following options define how the qualifying list of receipts are returned.

Option	Default	Description
$count	False	Boolean (true/false); indicates if the attribute totalNumber should be included in the meta section of the results.
$select	links	Allows you to specify the specific data elements to include in the result set for each qualifying receipt. $select=links returns just the receipt links. $select=* returns additional data elements but not all. All elements of a receipt can only be retrieved by requesting the specific receipt individually. Multiple data elements can be combined by specifying the elements in a comma separated list (do not include any spaces). For example: $select=receiptNumber,status,links.
$expand	N/A	Allows you to request additional elements be returned with the receipt. Available options are actionRules (only available when requesting a specific receipt), customLabelIndicator and fieldRules. If $select is used along with $expand, any elements listed in $expand must also be listed in the $select parameter.
$orderby	N/A	Allows you to request search results be returned according to the lastActionDate. Default order is ascending (ASC). For example: $orderby=lastActionDate DESC.

Get List of Receipts: Filters

The $filter option allows you to define the criteria that determines which receipts are included in the list. The criteria is defined using OData expressions. For information on creating OData expressions, refer to http://www.odata.org/documentation/odata-version-2-0/uri-conventions.

Filters can be defined based on configured export services and/or invoice attributes.

Filter	Supported Values
status	approved, disputed, submitted
lastActionDate	accepts either a date or a date-time; dates are specified as yyyy-mm-dd; date-times use the 24 hour clock and must include a timezone offset yyyy-mm-ddT24:mm:ss-hh:00
receiptNumber	value must be enclosed in single quotes; supports the use of an asterisk (*) as a wild card.
partyDUNS	for use by a supplier's agent; an agent may indicate through this filter on behalf of whom a search is being done by specifying its client's DUNS number. The search will only succeed if the supplier has designated the invoking party as its agent.

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Get List of Receipts: Meta Data

When retrieving a list of receipts, the results include a meta section that provides information on the set of receipts returned.

Attribute	Description
completeIndicator	Boolean value (true/false); indicates if the returned list includes all qualifying receipts.
number	Integer; the number of receipts included in the returned list.
startSequence	Integer; indicates the starting position of the returned list relative to the total list of all qualifying receipts. For example, if startSequence = 10 then the first receipt in the returned list is the 10th receipt in the total list of all qualifying receipts.
totalNumber	Integer; the total number of qualifying receipts. This attribute is only included in the meta data if the $count option is specified on the request.
truncatedIndicator	Boolean value (true/false); indicates if the total number of qualifying receipts is greater than the defined server maximum. This attribute is only included in the meta data when the value is true.
links	Object containing two elements; Represents the original API call used to generate the results. Rel indicates that the link is for the full set of results and href is the original API call.

Examples

The following table illustrates common *get receipt* API calls.

API Call	Description
GET api.openinvoice.com/docp/supply-chain/v1/receipts?$filter=status eq approved and lastActionDate ge 2015-01-01 and lastActionDate le 2015-01-31&$count=true	Retrieves the links for all approved receipts that were modified in the month of January.
GET api.openinvoice.com/docp/supply-chain/v1/receipts?$filter=status eq approved and lastActionDate ge 2015-01-01 and lastActionDate le 2015-01-31&$count=true&$select=receiptNumber,links	Retrieves the supplier defined receipt number and the link for all approved receipts that were modified in the month of January.
GET api.openinvoice.com/docp/supply-chain/v1/receipts?$filter=status eq approved and lastActionDate ge 2015-01-01 and lastActionDate le 2015-01-31&$count=true&$select=*	Retrieves all available data elements for all approved receipts that were modified in the month of January.

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Post Receipt Events

The *post receipt event* APIs allow you to submit or re-submit an receipt to OpenInvoice. Receipts may be re-submitted as long as the receipt has not been approved yet; unlike invoices, a receipt does not need to be disputed in order to accept a re-submission from a supplier.

Receipts can be submitted in PIDX xml or JSON format.

For documentation in Swagger for PIDX xml use the “Field Ticket” post command. PIDX is restricted and cannot accommodate all the fields for the various ticket types defined in OpenTicket. Additional data elements/custom fields also cannot be submitted through the PIDX xml file.

For documentation in Swagger for JSON format use the “Receipt Workflow” post command. JSON format allows the supplier to use the complete set of features within OpenTicket. JSON supports all the fields for the various Receipt types: General, Labor, Equipment, Material (LEM), Hauling.

Note: Receipt is an OpenInvoice legacy term used to represent field tickets. Swagger shows the API URL as https://onboard.openinvoice.com/docp/*api*/events/supply-chain/v1/receipt.submit. The “/api” part of the URL is not needed when the API is called through the code.

Customers can create some custom fields/additional data elements in the OpenInvoice system. The data for this type of field can be sent through the below tags in the JSON file:

```
“additionalDataFields”: [
{
 “itemID”: 232343,
 “name”: “Truck Types”,
 “code”: “Truck Types”,
 “value”: “semi truck”,
 “referenceDetaild”: 3843843
}
```

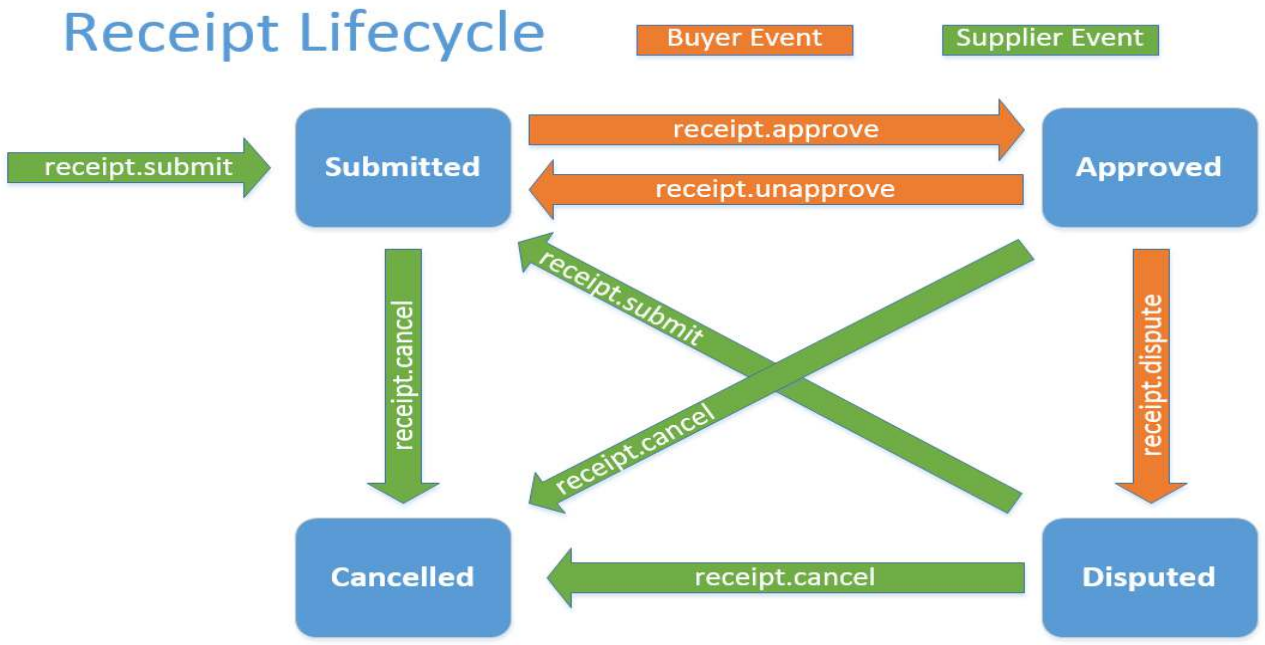
Note: The “name” and “value” fields are required, all other fields are optional.

API Call	Description
POST api.openinvoice.com/docp/events/supply-chain/v1/receipt.submit	Submits or re-submits a receipt to your buyer.
POST api.openinvoice.com/docp/events/supply-chain/v1/receipt.cancel	Cancels a receipt. A cancelled receipt cannot be revived (re-submitted) or invoiced.
POST api.openinvoice.com/docp/events/supply-chain/v2/receipt.comment	A comment can be added to a receipt prior to invoicing or cancelling of the receipt. Comment visibility can be assigned as public or private. If not specified, the submitted comment will be assigned public visibility. A public comment can be seen by all users. A private comment can be seen only by users in the initiating company.
POST api.openinvoice.com/docp/events/supplychain/v2/receipt/*{receiptID}*/attachment.add	Adds an attachment to a receipt.
POST api.openinvoice.com/docp/supply-chain/v2/receipt/{*receiptID*}/attachment.delete	Deletes an attachment from a receipt.

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Receipt Lifecycle

The following diagram shows the lifecycle of a receipt and the events (actions) each party can undertake to progress the receipt through the lifecycle.



Request Details

The event payload is in JSON and consists of one part: the transform which specifies the details of the receipt to be submitted.

Attachments Required/Optional/Not Supported	Optional
Maximum number of receipts per event	1

	With Attachments	Without Attachments
Request Header Content-Type	Multipart/mixed;boundary= “MIME-Boundary”	application/json
Maximum number of attachments	unlimited	N/A
Attachment encoding	Base 64	
Maximum file size for each attachment	9 MB	
Maximum total size of all attachments	70 MB	

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Response Details

The response sent by OpenInvoice uses the HTTP/1.1 status codes to indicate if the request was received and processed. Refer to the request status code, message type code (error or warning), and developer messages in the JSON response for information on any issues that may have occurred while processing the request.

Protocol Codes	HTTP/1.1
Content-Type	Application/json
Content-Encoding	gzip

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