

Cloud Marketplace API

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Procedure Guides

Service providers and resellers may have their own management systems (accounting, billing, and so on) that must use the platform services and other cloud services integrated with the platform. This is possible by means of the REST based API exposed by the platform. This document set helps providers, resellers, and system integrators monitor and manage the platform services and applications integrated with the platform. It explains scenarios with step-by-step instructions on achieving typical management goals.

Organizational Structure

The business processes in the platform are based on the following organizational structure:



The owner of the platform is a service provider that arranges a multi-layer business model containing resellers, sub-resellers, and customers at various levels. Resellers are the provider partners. They get their profit by reselling those products that the service provider delegates to them. The reseller who creates a customer is the “sales vendor” or “product vendor” for that customer.

Procedures

Each procedure in this document set contains the steps to reach a certain goal, for example, identify products in the product catalog or create a customer. The first document Getting Started contains advices on using the REST API. Get familiar with this technique before you follow the procedures explained in other documents.

The procedures are ordered in a typical sequence of operations as represented by the following workflow:



You can combine those operations into your own business scenarios. In the above diagram, select the procedure you want to get more details about.

To understand how to sell common services in more detail, follow the [Sales Scenarios](#).

Getting Started

When preparing your external system to use the platform REST API, the following are important to know:

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- The platform must have a special user for your system to use in authenticating REST requests from this system.
- The external system must send a REST request using the Basic authentication method to generate a bearer access token that it will use later in other REST requests based on the Bearer authentication method.

Getting API Credentials

Get access to SimpleAPI and necessary parameters by completing these steps:

1. In your panel, go to Marketplace and search for Marketplace API.
2. Subscribe to the found plan and wait for the order to complete.
3. In your home UX1 dashboard, click on the newly added menu item SimpleAPI, where you will get access to:
 - **Base URL** of the exposed endpoints is a URL prefix in all your requests and is not shown in the examples here.
 - **Subscription key** defines a subscription to API services that contains certain limits on the API usage, for example, it defines the upper limit on the number of requests your system can send per a period of time. Your system must send this key as the **X-Subscription-Key** custom header in every HTTP request.
 - **Username** is the login name to authenticate your system.

Token Generation

A bearer token must be used in all REST requests except for the token generation REST request. For the moment of the writing, a generated token is valid during a certain expiration period, which is 1500 s, that is, 25 min.

NOTE

If the system interacts with the platform permanently, it must periodically request the generation of the new token.

The POST request for a token must have the following HTTP headers:

- **Content-type:** application/json
- **Authorization:** Basic <credentials>
- **X-Subscription-Key:** <Your own subscription key>

NOTE

For integrations with other applications, you need to obtain the identifier from support and pass it using the header **X-Client-Id:** <Your application identifier>.

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The **Authorization** header in this request uses the Basic access authentication. Substitute the <credentials> placeholder with the [base64](#) encoded login name and password pair. There are two ways to send this header:

- Prepare the base64 encoded “username:password” string and add the result to the **Authorization** header.
- Use a utility that accepts the username and password pair, prepares the **Authorization** header with the encoded credentials, and sends the request.

The POST request for a token must also include a JSON Body containing the **marketplace** parameter with the value of the reseller’s marketplace. You can get the code from the Reseller control panel URL, for example, <https://cp.us.na.cloud.im>. In this example, the code is **us** and this is the code which a US reseller must specify, while a reseller from the United Kingdom would specify **uk**.

When using [cuRL](#), the above two methods look as follows:

```
$ curl -X POST <base URL>/token \  
-H 'Authorization: Basic YWJh...JM3M5' \  
-H 'X-Subscription-Key: 066a6b...fd33b16' \  
-H 'Content-Type: application/json' \  
--data-raw '{"marketplace": "us"}'  
$ curl -X POST <base URL>/token \  
-u cmp-api-username:cmp-api-password \  
-H 'X-Subscription-Key: 066a6b...fd33b16' \  
-H 'Content-Type: application/json' \  
--data-raw '{"marketplace": "us"}'
```

In the last method, you enter the user name and password pair instead of the **Authorization** header, which is generated by **cuRL**.

NOTE

Here and in the later examples, the encoded and encrypted strings are cut for brevity.

Throughout this documentation, the REST requests will be represented in the typical short format as in the following example:

POST **/token** **HTTP/1.1**

X-Subscription-Key: 066a6b...33b16

Authorization: Basic bXlBcGlMb...NTlwM1J6QTE=

If successful, the response must contain the bearer access token generated by the platform, for example:

Testing the Bearer Token

Test the received bearer token in a REST request, for example, send a request to get a list of products:

GET **/products** **HTTP/1.1**

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmRXO78

X-Subscription-Key: 066a6b...33b16

The response must contain a list of all products, for example:

If the request was successful, you can proceed to use the REST API for other requests as described in the following documents of this set.

Pagination

The **pagination** section displayed in the previous example is returned in response to every GET request for a collection of objects. It indicates the position of a range of returned objects in the full collection discovered in the platform. The **pagination** structure contains three parameters:

- **total**: The total number of all items in the collection that meet the GET request.
- **limit**: The maximum number of the items that are returned in the response. A **limit** can be specified as a query parameter in a GET request. By default, it is 10.
- **offset**: The index of the first returned item (its position in the full collection). An **offset** can be specified as a query parameter in a GET request. By default, it is 0.

The following requests illustrate the above explanations:

- Return the first 10 or fewer items from the products collection:

GET /products

- Return not more than 100 items starting from position 97:

```
GET /products?offset=97&limit=100
```

Query Parameters

Along with pagination parameters mentioned in the previous section, API clients can use other query parameters as criteria to select certain objects from a specified collection. Each collection has its own query parameters. For example, the [/orders](#) collection enables you to use the **customerId**, **status**, and other order-specific parameters to retrieve the required orders. The following sample requires a list of orders related to the specified subscription and created after the specified date and time:

```
GET /orders?subscriptionId=1000054&creationTimeFrom=2019-12-11T17:32:28Z
```

The date and time are represented in the [ISO-8601 UTC](#) format.

Applying to Support

Every API response contains the **X-Correlation-ID** header that helps engineers to identify the internal transaction that operates the respective API call. When creating a trouble ticket on the support site, please include the **X-Correlation-ID** header value in your request.

Conclusion

From this document, you learned what data you must collect and what preparation steps you must go through to integrate your management system with the platform through the CMP API. You know how to test whether your system is configured correctly for this API and how to use pagination and query parameters to request resource collections.

Identify Products

The REST API enables external systems to get data about products available in the product catalog.



The platform exposes operations with its product catalog on the `/products` endpoint.

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API Objects

Product Representation

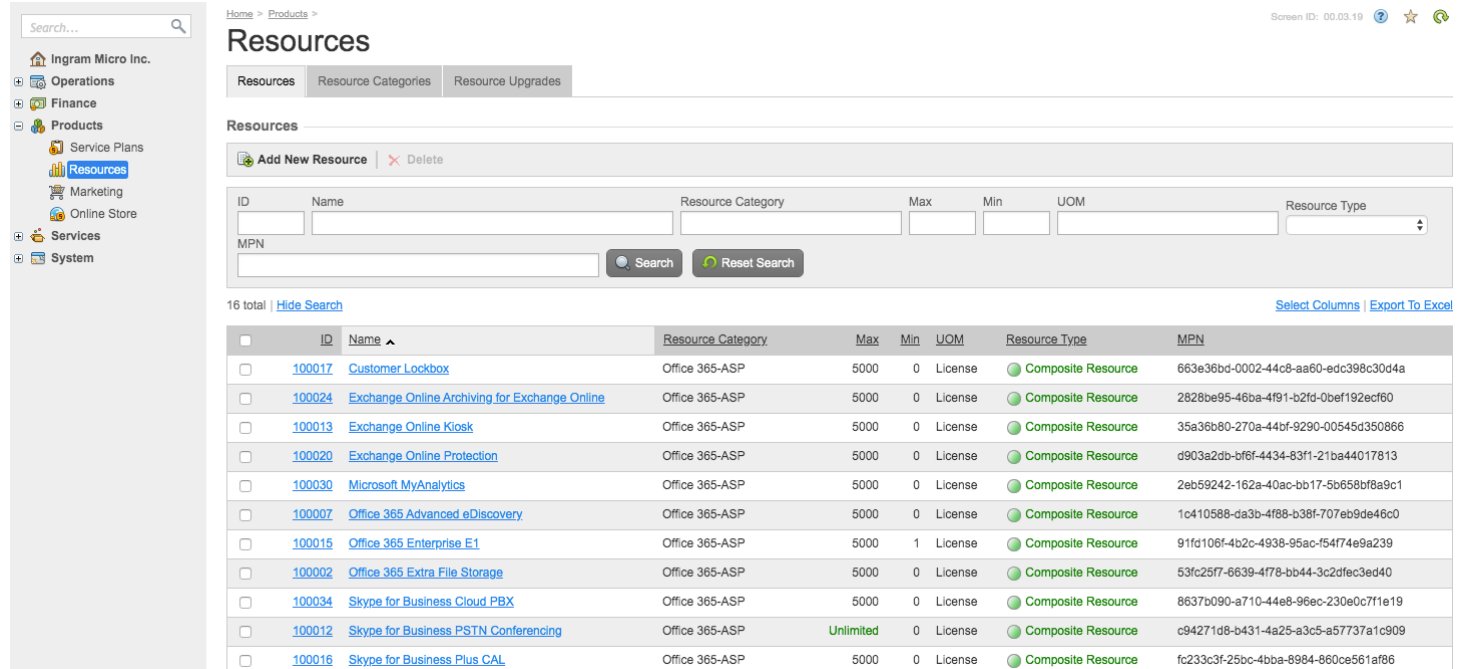
The product catalog available through the platform API is a list of offers that each contain several products. The hierarchical product components that you see in the platform UI map to the flat list of products in the API as follows:

- **service plan -> offer**
- **resource rate -> product** (available through the API)

Note: Although offers are not visible in the API, they affect [subscription creation](#) in a way that all subscribed products of one offer will be in one subscription.

Manufacturer Part Numbers

In a user interface (UI) at the provider level (the upper level in the account hierarchy), original products are represented by resources uniquely identified by MPN (Manufacturer Part Number) as in this example:



The screenshot shows the 'Resources' page in the Xvantage UI. The page has a sidebar with navigation links: Home, Operations, Finance, Products, Service Plans, Resources (selected), Marketing, Online Store, Services, and System. The main content area shows a table of resources. The table has columns: ID, Name, Resource Category, Max, Min, UOM, Resource Type, and MPN. There are 16 resources listed, all of which are 'Composite Resource' type. The MPN values are unique for each resource.

ID	Name	Resource Category	Max	Min	UOM	Resource Type	MPN
100017	Customer Lockbox	Office 365-ASP	5000	0	License	Composite Resource	663e36bd-0002-44c8-aa60-edc398c30d4a
100024	Exchange Online Archiving for Exchange Online	Office 365-ASP	5000	0	License	Composite Resource	2828be95-46ba-4f91-b2fd-0bef192ecf60
100013	Exchange Online Kiosk	Office 365-ASP	5000	0	License	Composite Resource	35a36b80-270a-44bf-9290-00545d350866
100020	Exchange Online Protection	Office 365-ASP	5000	0	License	Composite Resource	d903a2db-bf6f-4434-83f1-21ba44017813
100030	Microsoft MyAnalytics	Office 365-ASP	5000	0	License	Composite Resource	2eb59242-162a-40ac-bb17-5b658bf8a9c1
100007	Office 365 Advanced eDiscovery	Office 365-ASP	5000	0	License	Composite Resource	1c410588-da3b-4f88-b38f-707eb9de46c0
100015	Office 365 Enterprise E1	Office 365-ASP	5000	1	License	Composite Resource	91fd106f-4b2c-4938-95ac-f54f74e9a239
100002	Office 365 Extra File Storage	Office 365-ASP	5000	0	License	Composite Resource	53fc25f7-6639-4f78-bb44-3c2dfec3ed40
100034	Skype for Business Cloud PBX	Office 365-ASP	5000	0	License	Composite Resource	8637b090-a710-44e8-96ec-230e0c7f1e19
100012	Skype for Business PSTN Conferencing	Office 365-ASP	Unlimited	0	License	Composite Resource	c94271d8-b431-4a25-a3c5-a57737a1c909
100016	Skype for Business Plus CAL	Office 365-ASP	5000	0	License	Composite Resource	fc233c3f-25bc-4bba-8984-860ce561af86

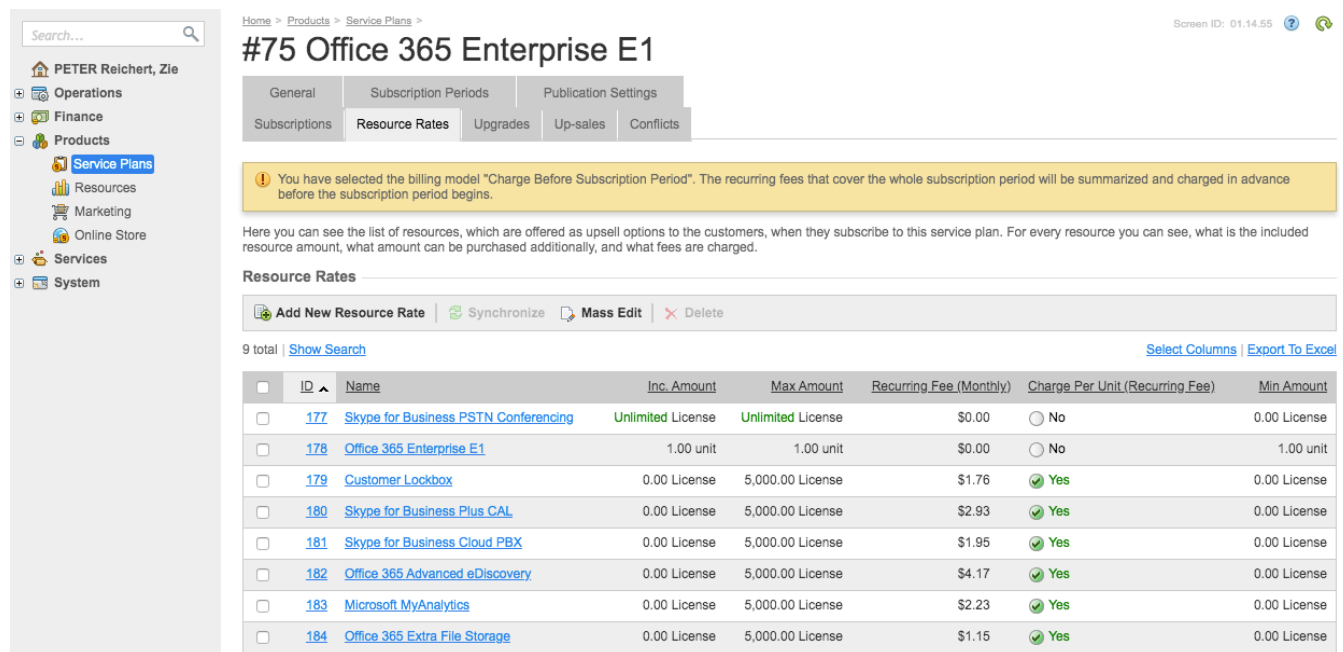
Note

1. The above list is not visible for resellers; this is only to illustrate how MPNs look.

- The MPN values here and in all other examples are fictitious and any correspondences with real values are coincidental.

List Products

This step demonstrates how you can get a list of products configured as resource rates in delegated service plans. This is how they look in the reseller control panel (inside a service plan):



The screenshot shows the 'Resource Rates' tab for service plan '#75 Office 365 Enterprise E1'. A yellow warning banner states: 'You have selected the billing model "Charge Before Subscription Period". The recurring fees that cover the whole subscription period will be summarized and charged in advance before the subscription period begins.' Below this, a text block explains that the list shows resources offered as upsell options, including included resource amounts, purchasable amounts, and fees. The 'Resource Rates' table is displayed with 9 total items. The table columns are: ID, Name, Inc. Amount, Max Amount, Recurring Fee (Monthly), Charge Per Unit (Recurring Fee), and Min Amount. The first two rows (ID 177 and 178) are for 'Skype for Business PSTN Conferencing' and 'Office 365 Enterprise E1' respectively, both with unlimited licenses and \$0.00 recurring fees. The remaining seven rows (ID 179-184) are for various add-on services like 'Customer Lockbox', 'Skype for Business Plus CAL', 'Skype for Business Cloud PBX', 'Office 365 Advanced eDiscovery', 'Microsoft MyAnalytics', and 'Office 365 Extra File Storage', all with a 0.00 license amount and varying recurring fees between \$1.15 and \$4.17.

ID	Name	Inc. Amount	Max Amount	Recurring Fee (Monthly)	Charge Per Unit (Recurring Fee)	Min Amount
177	Skype for Business PSTN Conferencing	Unlimited License	Unlimited License	\$0.00	No	0.00 License
178	Office 365 Enterprise E1	1.00 unit	1.00 unit	\$0.00	No	1.00 unit
179	Customer Lockbox	0.00 License	5,000.00 License	\$1.76	Yes	0.00 License
180	Skype for Business Plus CAL	0.00 License	5,000.00 License	\$2.93	Yes	0.00 License
181	Skype for Business Cloud PBX	0.00 License	5,000.00 License	\$1.95	Yes	0.00 License
182	Office 365 Advanced eDiscovery	0.00 License	5,000.00 License	\$4.17	Yes	0.00 License
183	Microsoft MyAnalytics	0.00 License	5,000.00 License	\$2.23	Yes	0.00 License
184	Office 365 Extra File Storage	0.00 License	5,000.00 License	\$1.15	Yes	0.00 License

To get a list of all products, your external management system must send the following request to the platform:

```
GET /products HTTP/1.1
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78
X-Subscription-Key: 066a6b...33b16
```

If successful, the response looks like this:

The above response displays that the first product (an Office 365 add-on service) depends on the second product (the Office 365 license) in the list. A subscription cannot contain add-on products without the license.

Note: If you place the order for a product with a non-unique MPN (for example, if the MPN is duplicated in the product catalog), the error message in response will contain the explanation that you need to provide additional parameters. Therefore, you must provide more parameters in the

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request to identify such product. The following parameters are used to identify a product (from the most to least important): *mpn*, *vendor*, *subscriptionPeriod*, *billingPeriod*. See the example below:

```
{
  "customerId": "1012954",
  "poNumber": "myponumber"
  "type": "sales",
  "products": [
    {
      "mpn": "bd938-058f-4927-bba3-ae36b1d2501c",
      "vendor": "somevendor",
      "billingPeriod": {
        "type": "month",
        "duration": 1
      },
      "subscriptionPeriod": {
        "type": "year",
        "duration": 1
      }
    }
  ]
}
```

Conclusion

After this phase, the external system that works on behalf of a reseller has all the necessary data to request the selected products for this reseller's customers.

Manage Customers

In the platform, a customer is an account (person or organization) that purchases and consumes services provided by its [sales vendor](#). Before requesting a product, the external system that works on behalf of a sales vendor must identify a customer in the platform or create one.



The platform exposes operations with its customers on the [/customers](#) endpoints.

List Customers

To get a list of all customers, the system must send the following request:

GET /customers HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response looks like this:

HTTP/1.1 200 OK

```
{
  "data": [
    {
      "id": "1000001",
      "externalId": "externalId1",
      "name": "RBCustomer",
      "status": "active"
    },
    {
      "id": "1000002",
      "externalId": "externalId2",
      "name": "RBCustomer2",
      "status": "active"
    }
  ],
  "pagination": {
    "offset": 0,
    "limit": 10,
    "total": 2
  }
}
```

Create Customers

To create a customer, the system must send a POST request with the JSON representation of the customer as in this example:

POST /customers HTTP/1.1

Content-Type: application/json

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

```
{
```

```
"id": "string",
"externalId": "EXTERNAL-A1S2D3",
"attributes": {
  "property1": "string",
  "property2": "string"
},
"name": "John Smith",
"externalId": "jsmith101",
"taxRegId": "1357",
"address": {
  "streetAddress": "101, Any Street",
  "addressExtension": "extension",
  "postalCode": "12345",
  "city": "Herndon",
  "state": "VA",
  "countryCode": "US"
},
"contactPersons": [
  {
    "type": "admin",
    "firstName": "John",
    "lastName": "Smith",
    "email": "js@aps.test",
    "phoneNumber": "88##18881234567#"
  },
  {
    "type": "technical",
    "firstName": "John",
    "lastName": "Smith",
    "email": "js@aps.test",
    "phoneNumber": "88##18881234567#"
  },
  {
    "type": "billing",
    "firstName": "John",
    "lastName": "Smith",
    "email": "cbdemoisv@aps.test",
    "phoneNumber": "88##18881234567#"
  }
],
"language": "en"
}
```

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Note: The **countryCode** property must be the two uppercase character country code (Alpha-2 code) as specified by [ISO.3166-1](#).

If successful, the response must look as follows:

HTTP/1.1 200 OK

```
{
  "id": "1000240",
  "externalId": "jsmith101",
  "attributes": {
    "property1": "string",
    "property2": "string"
  },
  "name": "John Smith",
  "status": "pending",
  "address": {
    "streetAddress": "101, Any Street",
    "addressExtension": "extension",
    "postalCode": "12345",
    "city": "Herndon",
    "state": "VA",
    "countryCode": "US"
  },
  "contactPersons": [
    {
      "type": "admin",
      "firstName": "John",
      "lastName": "Smith",
      "email": "js@aps.test",
      "phoneNumber": "88##18881234567#"
    },
    {
      "type": "technical",
      "firstName": "John",
      "lastName": "Smith",
      "email": "js@aps.test",
      "phoneNumber": "88##18881234567#"
    },
    {
      "type": "billing",
      "firstName": "John",
      "lastName": "Smith",

```

```
"email": "cbdemoisv@aps.test",
"phoneNumber": "88##18881234567#"
}
],
"language": "en"
}
```

Note: You can specify the login and password of the customer's **admin** user when creating a customer. The customer will be able to use these credentials to access the user control panel. To do this, add the **login** and **password** properties to the **contactPerson** structure of type **admin**. For security reasons, these properties are not returned in a POST or GET response. For more details, refer to the `createCustomer` specification.

Get Customer Details

To get the full representation of a customer, the system must specify the customer ID as in this example:

```
GET /customers/1000240 HTTP/1.1
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78
X-Subscription-Key: 066a6b...33b16
The response must look as follows:
HTTP/1.1 200 OK
```

```
{
  "id": "1000240",
  "externalId": "jsmith101",
  "attributes": {
    "property1": "string",
    "property2": "string"
  },
  "name": "John Smith",
  "taxRegId": "1357",
  "status": "active",
  "address": {
    "streetAddress": "101, Any Street",
    "addressExtension": "extension",
    "postalCode": "12345",
    "city": "Herndon",
    "state": "VA",
    "countryCode": "US"
  },
  "contactPersons": [
```

```
{
  "type": "admin",
  "firstName": "John",
  "lastName": "Smith",
  "email": "js@aps.test",
  "phoneNumber": "88##18881234567#"
},
{
  "type": "technical",
  "firstName": "John",
  "lastName": "Smith",
  "email": "js@aps.test",
  "phoneNumber": "88##18881234567#"
},
{
  "type": "billing",
  "firstName": "John",
  "lastName": "Smith",
  "email": "cbdemoisv@aps.test",
  "phoneNumber": "88##18881234567#"
}
],
"language": "en"
}
```

Update Customers

To create a customer, the system must send a PATCH request with the JSON representation of the customer details and specify the customer ID as in this example:

PATCH /customers/100234 HTTP/1.1

Content-Type: application/json

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

```
{
  "externalId": "EXTERNAL-A1S2D3",
  "name": "Acme Inc.",
  "taxRegId": "00-0000000",
  "address": {
    "streetAddress": "555 Main Street",
    "addressExtension": "Suite 100",
    "postalCode": "92612",
```



```
"city": "Irvine",
"state": "CA",
"countryCode": "US"
},
"contactPersons": [
  {
    "type": "admin",
    "firstName": "Jane",
    "lastName": "Doe",
    "email": "jane.doe@email.com",
    "phoneNumber": "81##18881234567#",
    "login": "someadmin@example.com",
    "password": "Ecx$cvdazv"
  }
],
"id": "string"
}
```

The response must look as follows:

HTTP/1.1 200 OK

```
{
  "id": "string",
  "externalId": "EXTERNAL-A1S2D3",
  "attributes": {
    "property1": "string",
    "property2": "string"
  },
  "status": "active",
  "name": "Acme Inc.",
  "address": {
    "streetAddress": "555 Main Street",
    "addressExtension": "Suite 100",
    "postalCode": "92612",
    "city": "Irvine",
    "state": "CA",
    "countryCode": "US"
  },
  "contactPersons": [
    {
      "type": "admin",
      "firstName": "Jane",
```

```
"lastName": "Doe",  
  "email": "jane.doe@email.com",  
  "phoneNumber": "81##18881234567#"  
},  
  "language": "string",  
  "taxRegId": "00-0000000",  
  "resellerId": "string"  
}
```

Conclusion

After this phase, the external system has all the necessary data to order selected products for certain customers.

Manage Orders

To subscribe a customer to products, the external system must place an order for those products. After the order is paid, the requested services are provisioned in the scope of the new subscription created for that customer.



The platform exposes operations with its orders on the [/orders](#) endpoints.

Place Orders

In the platform, orders are used to perform certain operations with subscriptions. Through the CMP API, you can operate the following orders:

- **Sales Order:** creates a subscription for specified products. A subscription is created for a customer during the order provisioning and is valid during a subscription period (a number of months or years as specified in the respective service plan).
- **Change Order:** upgrades or downgrades a specified subscription. Correspondingly, it increases or decreases the limits on product units that the subscriber can use.
- **Renewal Order:** renews a specified subscription for the next subscription period.
- **Cancellation Order:** cancels a specified subscription.
- **Migration Order:** migrates a customer's subscription from an external system.

Sales Order

To subscribe a customer to products, the external system must place a sales order containing the customer ID and a list of products (with limits on the number of product units - **quantity**) as in this example:

```
POST /orders/ HTTP/1.1
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78
Content-Type: application/json
X-Subscription-Key: 066a6b...33b16
```

```
{
  "type": "sales",
  "customerId": "1000001",
  "poNumber": "myponumber",
  "products": [
    {
      "mpn": "53fc25f7-6639-4f78-bb44-3c2dfec3ed40",
      "quantity": "2.0"
    },
    {
      "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239",
      "quantity": "1.0",
      "parameters": [
        {
          "name": "domain",
          "value": "jsmith201"
        }
      ]
    }
  ]
}
```

Note: If you place the order for a product with a non-unique MPN (for example, if the MPN is duplicated in the product catalog), the error message in response will contain the explanation that you need to provide additional parameters. Therefore, you must provide more parameters in the request to identify such product. The following parameters are used to identify a product (from the most to least important): **mpn**, **vendor**, **subscriptionPeriod**, **billingPeriod**. See the example below:

```
{
  "customerId": "1012954",
  "poNumber": "myponumber"
```

```
"type": "sales",
"products": [
  {
    "mpn": "bd938-058f-4927-bba3-ae36b1d2501c",
    "vendor": "somevendor",
    "billingPeriod": {
      "type": "month",
      "duration": 1
    },
    "subscriptionPeriod": {
      "type": "year",
      "duration": 1
    }
  }
]
}
```

If successful, the response looks like this:

HTTP/1.1 200 OK

```
{
  "id": "1000001",
  "type": "sales",
  "customerId": "1000001",
  "creationDate": "2019-09-02T06:26:08Z",
  "status": "processing"
}
```

All requested products of an offer will be in the same subscription.

Note: The format of a response on placing other order types is the same. For this reason, the other responses are no longer displayed in this document.

Placing Sales Order for Microsoft NCE Products

To learn which parameters must be in the request when Microsoft NCE products are purchased, refer to this section Parameters.

If you want to place a Sales Order and bypass the Partner Attestation manual checkbox, please see the example of a Sales Order below:

```
application/json={
  "customerId": "1000111111",
  "type": "sales",
```

```
"ponumber": "00-0000",
"subscriptionPeriod": {
  "type": "year",
  "duration": 1
},
"products": [
  {
    "mpn": "CFQ7TTC0LH16:0001",
    "quantity": 1,
    "billingPeriod": {
      "type": "month",
      "duration": 1
    },
    "parameters": [
      {
        "name": "tenant_preference",
        "value": "new"
      },
      {
        "name": "partner_on_record_attestation_accepted",
        "structured_value": {
          "attestation_accepted": true
        }
      },
      {
        "name": "microsoft_domain",
        "value": "PlaceDemo1525.onmicrosoft.com"
      },
      {
        "name": "mca_acceptance",
        "value": "yes"
      },
      {
        "name": "agreement_date",
        "value": "04-09-2022"
      },
      {
        "name": "first_name_agreement",
        "value": "John"
      },
      {
        "name": "last_name_agreement",
        "value": "Doe"
      }
    ]
  }
]
```

```
},
{
  "name": "email_address_agreement",
  "value": john@doe.com
},
{
  "name": "effective_address",
  "value": "53 Pendell Road"
},
{
  "name": "effective_city",
  "value": "Poughkeepsie"
},
{
  "name": "effective_state",
  "value": "NY"
},
{
  "name": "effective_postal_code",
  "value": "12601"
},
{
  "name": "effective_country",
  "value": "US"
},
{
  "name": "effective_phonenumber",
  "value": "(661) 424-0888"
},
{
  "name": "customer_company_name",
  "value": "Place Demo"
},
{
  "name": "customer_email",
  "value": john@doe.com
},
{
  "name": "special_qualifications",
  "value": "None"
},
{
  "name": "offer_attestation",
```

```

    "structured_value": {
      "attestation_accepted": false
    }
  }
]
}

```

Change Order

Change orders enable you to change product units in a specified subscription:

- Add more products
- Increase (upgrade) or decrease (downgrade) limits on product units

Similar to sales orders, the limits on product units in a change order are the final values to be set in the subscription. For example, if the current limit on a product's units in a subscription is 10 and you want to change it to 20, the change order must have **quantity** equal 20 in the change order for this product:

```

POST /orders HTTP/1.1
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78
Content-Type: application/json
X-Subscription-Key: 066a6b...33b16
{
  "customerId": "1012954",
  "poNumber": "PO2244",
  "type": "change",
  "products": [
    {
      "subscriptionId": "1211331",
      "mpn": "SQXAMSENS",
      "quantity": "20"
    }
  ]
}

```

If you need to remove a product from a subscription, make its **quantity** zero in this subscription.

Renewal Order

To renew a subscription for the next period, place a renewal order as in the following example:

Xvantage: Cloud Marketplace API

POST **/orders/ HTTP/1.1**

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "customerId": "1012954",
  "poNumber": "PO2244",
  "type": "renewal",
  "products": [
    {
      "subscriptionId": "1211330"
    }
  ]
}
```

If successful, the subscription expiration date will be moved forward by the subscription period as configured in the offer.

Cancellation Order

When a subscription is no longer necessary, you can cancel it by posting a request for a cancellation order, for example:

POST **/orders HTTP/1.1**

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "customerId": "1012954",
  "poNumber": "PO2244",
  "type": "cancellation",
  "products": [
    {
      "subscriptionId": "1211331"
    }
  ]
}
```

A cancellation order stays in the **submitted** status until you approve it manually in the reseller control panel. After that, the subscription is terminated.

Migration Order

To move a customer's subscription from an external system to the platform, you can migrate it by posting a request for a migration order.

Note: Before placing such an order, make sure that the service plan to be bound to the migrated subscription exists because you need to provide its ID in the payload. After placing the order, make sure to take necessary actions to perform provisioning after the subscription is migrated. The time part in the provisioning date of the migrated subscription will be reset to the start of the day.

To specify whether the customer should be billed for the current billing period of the migrated subscription, use the **migrationProgram** property with one of the following values:

- **count_migration_billing_period**, customer will be billed for the current billing period fully.
- **do_not_count_migration_billing_period**, customer will not be billed for the current billing period.
- **prorate_migration_billing_period**, customer will be billed only for the part of current billing period: from the date of migration till the period end.

In the migration order, the **migrationDate** date must be later than the **startDate** one.

This is an example of a request for placing a migration order:

POST /orders HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "type": "migration",
  "customerId": "1000005",
  "products": [
    {
      "mpn": "SQXAMSENS",
      "quantity": "1",
      "parameters": [
        {
          "name": "deal_id",
          "value": "42332510"
        }
      ]
    }
  ]
}
```

```
    "name": "provisioning_contact_name",
    "value": "Someone"
  },
  {
    "name": "provisioning_contact_phone",
    "value": "1234567890"
  },
  {
    "name": "provisioning_contact_email",
    "value": "someone@xyz.com"
  },
  {
    "name": "delayshipdate",
    "value": "14/03/2020"
  },
  {
    "name": "web_order_id",
    "value": "86598126"
  },
  {
    "name": "vendor_portal_submission",
    "value": "NO"
  },
  {
    "name": "vendor_subscription_id",
    "value": "RBhhhh2d2d44a6c2812"
  }
],
"billingPeriod": {
  "type": "month",
  "duration": 1
}
},
"startDate": "2021-06-06",
"migrationDate": "2022-03-29",
"expirationDate": "2022-06-06",
"autorenewal": true,
"migrationProgram": "count_migration_billing_period",
"subscriptionPeriod": {
  "type": "year",
  "duration": 1
},

```

```
"planId": "2147147",
"billingModel": "chargeBeforeBillingPeriod"
}
```

If the order is successfully placed, the response will be similar to the following:

```
{
  "id": "10436379",
  "orderNumber": "MO014932",
  "type": "migration",
  "customerId": "1000005",
  "creationDate": "2022-03-29T11:22:35Z",
  "status": "processing",
  "statusCode": "OP",
  "details": [],
  "attributes": {
    "bill_to": "000",
    "PONumber": "N/A",
    "reseller_contact_phone": "913235285",
    "isresellercentric": "1",
    "reseller_contact_name": "JOHN EXAMPLE",
    "reseller_contact_email": "JOHN.EXAMPLE@EXAMPLE.COM",
    "payment_method": "600"
  },
  "creditCheck": true,
  "products": [
    {
      "mpn": "SQXAMSENS",
      "vendor": "AB-023-329",
      "id": "ABC-1803Y8F",
      "name": "Sample product name",
      "quantity": 1.0,
      "subscriptionId": "1079644"
    }
  ]
}
```

Update Orders

The ability to update an order is limited to a single property **creditCheck**. You can modify it to enable or disable checks of the customer's credit. To update an order, the requester must specify the order ID in the request and provide the following content:

PATCH /orders/100230 HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmRXO78

Content-Type: application/json
X-Subscription-Key: 066a6b...33b16

```
{  
  "creditCheck": true  
}
```

The response looks similar to the following:

HTTP/1.1 200 OK

```
{  
  "id": "string",  
  "orderNumber": "SO000012",  
  "type": "sales",  
  "customerId": "string",  
  "poNumber": "PO1234",  
  "creationDate": "2019-08-24T14:15:22Z",  
  "status": "submitted",  
  "statusCode": "CP",  
  "total": {  
    "currency": "USD",  
    "amount": "70.5"  
  },  
  "products": [  
    {  
      "mpn": "d903a2db-bf6f-4434-83f1-21ba44017813_ANNUAL",  
      "id": "sku-d903a2db-bf6f-4434-83f1-21ba44017813",  
      "billingPeriod": {  
        "type": "month",  
        "duration": 0  
      },  
      "newMPN": "string",  
      "newId": "string",  
      "name": "Office 365 Enterprise E1",  
      "quantity": 10,  
      "extendedPrice": {  
        "currency": "USD",  
        "amount": "70.5"  
      },  
      "specialPrice": {  
        "currency": "USD",  
        "amount": "70.5"  
      },  
    },  
  ],  
}
```

```
"specialCost": {
  "currency": "USD",
  "amount": "70.5"
},
"specialProviderCost": {
  "currency": "USD",
  "amount": "70.5"
},
"subscriptionId": "string",
"parameters": [
  {
    "name": "domain",
    "value": "example.com"
  }
]
},
"details": [
  {
    "type": "recurring",
    "mpn": "d903a2db-bf6f-4434-83f1-21ba44017813_ANNUAL",
    "productId": "sku-d903a2db-bf6f-4434-83f1-21ba44017813",
    "duration": {
      "type": "month",
      "duration": 1
    },
    "description": "Recurring for the product",
    "quantity": 5,
    "unitPrice": {
      "currency": "USD",
      "amount": "70.5"
    },
    "extendedPrice": {
      "currency": "USD",
      "amount": "70.5"
    },
    "discount": {
      "type": "percent",
      "value": "0.5",
      "amount": "25.0"
    },
    "taxAmount": {
      "currency": "USD",
```

```

        "amount": "70.5"
      },
      "exclusiveTaxAmount": {
        "currency": "USD",
        "amount": "70.5"
      }
    }
  ],
  "attributes": {
    "property1": "string",
    "property2": "string"
  },
  "creditCheck": true,
  "autorenewal": true,
  "startDate": "2020-10-30T00:00:00.000Z",
  "expirationDate": "2020-10-30T00:00:00.000Z",
  "lastBillingDate": "2020-10-30T00:00:00.000Z",
  "nextBillingDate": "2020-10-30T00:00:00.000Z",
}

```

List Orders

An API client can get the full list of orders or narrow down the returned list by adding certain search criteria to a request.

List All Orders

To get the full list of orders, send this request:

```

GET /orders?customerId=1000275 HTTP/1.1
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78
X-Subscription-Key: 066a6b...33b16
The response looks similar to the following:
HTTP/1.1 200 OK

```

```

{
  "data": [
    {
      "id": "1001042",
      "type": "sales",
      "customerId": "1000275",
      "creationDate": "2019-10-25T09:52:54Z",
      "status": "error"
    }
  ]
}

```

```
{
  },
  {
    "id": "1001044",
    "type": "sales",
    "customerId": "1000275",
    "creationDate": "2019-10-25T10:06:17Z",
    "status": "completed"
  }
],
"pagination": {
  "offset": 0,
  "limit": 10,
  "total": 2
}
}
```

List Selected Orders

The returned list of orders is narrowed down by the following query parameters:

- **customerId:** the ID of the order owner that is a customer (also known as a subscriber)
- **status:** the order status (“draft”, “processing”, “error”, “complete”, or “cancelled”)
- **subscriptionId:** the ID of the related subscription
- **creationTimeFrom:** the beginning of a specific period of time used to search for orders created during that same period
- **creationTimeTo:** the end of a specific period of time used to search for orders created during that same period

The following request illustrates the use of all the above query parameters:

```
GET
/orders?customerId=1000001&status=complete&subscriptionId=1000054&creationTimeFrom=2019-10-01T03:00:00Z&creationTimeTo=2019-12-17T03:00:00Z
```

Get Order Details

To get details of an order, the requester must specify the order ID in the request as in this example:

```
GET /orders/1001044 HTTP/1.1
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78
X-Subscription-Key: 066a6b...33b16
```

The response looks similar to the following:

HTTP/1.1 200 OK

```
{
  "id": "1001044",
  "type": "sales",
  "customerId": "1000275",
  "creationDate": "2019-10-25T10:06:17Z",
  "status": "completed",
  "products": [
    {
      "mpn": "53fc25f7-6639-4f78-bb44-3c2dfec3ed40",
      "name": "Office 365 Extra File Storage",
      "quantity": "2.0",
      "extendedPrice": {
        "currency": "USD",
        "amount": "2.3"
      },
      "subscriptionId": "1000177"
    },
    {
      "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239",
      "name": "Office 365 Enterprise E1",
      "quantity": "1.0",
      "extendedPrice": {
        "currency": "USD",
        "amount": "19.8"
      },
      "subscriptionId": "1000177"
    }
  ]
}
```

Price Estimation

The API allows you to estimate the total price and price components of an order before placing that same real order. A request looks the same as a request for placing an order as in the following example:

POST /orders/estimate HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "customerId": "1012954",
  "type": "sales",
  "products": [
    {
      "mpn": "53fc25f7-6639-4f78-bb44-3c2dfec3ed40",
      "quantity": "2.0"
    },
    {
      "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239",
      "quantity": "1.0"
    }
  ]
}
```

The response contains the total order price and its components:

HTTP/1.1 200 OK

```
{
  "total": {
    "currency": "AUD",
    "amount": "22.1"
  },
  "products": [
    {
      "mpn": "53fc25f7-6639-4f78-bb44-3c2dfec3ed40",
      "quantity": "2.0",
      "price": {
        "currency": "USD",
        "amount": "1.15"
      }
    },
    {
      "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239",
      "quantity": "1.0",
      "price": {
        "currency": "USD",
        "amount": "19.8"
      }
    }
  ]
}
```

```
}
]
}
```

An estimation is available for Sales, Change, Renewal, and Cancellation orders.

Limitations

Single Subscription

An order manages only one subscription. However, you can place a sales order to purchase products from different offers (service plans), which will create several subscriptions.

Order Type Dependence

An order request body contains the following properties in an element of the **products** array depending on the order type:

Property	Sales	Change	Renewal Cancellation
mpn, name, quantity	Required	Required	Not used
subscriptionId	Not used	Required	Required

Quantities in Change Orders

When requesting a new limit for a product in a certain subscription, a change order must contain that same limit as the product **quantity**. However, when you request the order details after it is completed, you will find the difference between the quantity after the change is completed and its initial value. For example, if the initial quantity was 2 and you requested 22 in a change order, in the response for the order details you will find 20.

Special Prices

There are the following limits on the use of special prices:

- Special pricing only works when [placing](#) or [estimating sales orders](#). It does not work with other order types.
- In every product within an order, the price must contain only one component; this is usually a recurring fee.
- To use the **specialProviderCost** property, the privilege **Application Order Management: Allow to place orders with spot provider costs** must be enabled for the user

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authenticated in the corresponding API call. For security configuration, open the OSS provider control panel, navigate to **System > Settings**, and then follow the **Security** link.

Conclusion

After this phase, your customers are subscribed to the selected products. The reseller's system continues managing the created subscriptions as described in the next phase.

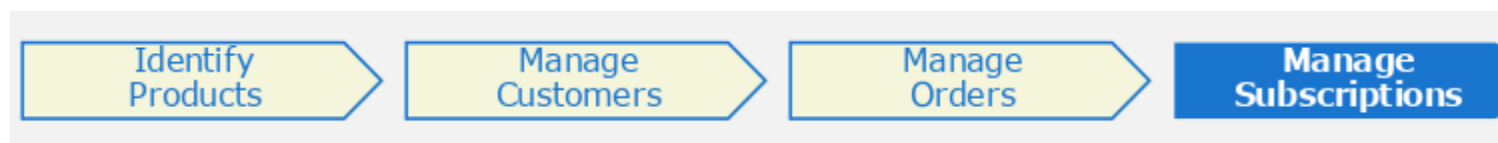
Manage Subscriptions

A subscription acts as a contract between the sales vendor and the customer. Usually, the platform is configured so that a subscription for an offer is created after the corresponding [sales order](#) is paid for.



Manage Subscriptions

A subscription acts as a contract between the [sales vendor](#) and the [customer](#). Usually, the platform is configured so that a subscription for an offer is created after the corresponding [sales order](#) is paid for.



The platform exposes operations with its subscriptions on the /subscriptions endpoints.

List Subscriptions

An API client can get the full list of orders or narrow down the returned list by adding certain search criteria to a request.

List All Subscriptions

To get the full list of a subscriptions, send the following request:

```
GET /subscriptions HTTP/1.1
```

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Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

The response looks similar to the following:

HTTP/1.1 200 OK

```
{
  "data": [
    {
      "id": "1000177",
      "customerId": "1000275",
      "status": "active",
      "renewalStatus": true,
      "creationDate": "2019-10-25",
      "renewalDate": "2020-10-23",
      "lastModifiedDate": "2019-10-25"
    }
  ],
  "pagination": {
    "offset": 0,
    "limit": 10,
    "total": 1
  }
}
```

List Selected Subscriptions

The returned list of subscriptions can be narrowed down by the following query parameters:

- **customerId:** the ID of the subscriber
- **status:** the subscription status that can be one of ["pending", "active", "hold", "terminated", "removed"]

The following request illustrates how to retrieve all active subscriptions of a certain customer:

GET /subscriptions?customerId=1000001&status=active

Get Subscription Details

To view details of a certain subscription, send a request with the subscription ID as the suffix of the URL, for example:

GET /subscriptions/1000177 HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

The response looks similar to the following:

HTTP/1.1 200 OK

```
{
  "id": "1000177",
  "customerId": "1000275",
  "status": "active",
  "renewalStatus": true,
  "creationDate": "2019-10-25",
  "renewalDate": "2020-10-23",
  "lastModifiedDate": "2019-10-25",
  "totalPrice": {
    "currency": "USD",
    "amount": "22.1"
  },
  "products": [
    {
      "mpn": "53fc25f7-6639-4f78-bb44-3c2dfec3ed40",
      "quantity": "2.0",
      "unitPrice": {
        "currency": "USD",
        "amount": "1.15"
      },
      "extendedPrice": {
        "currency": "USD",
        "amount": "2.3"
      }
    },
    {
      "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239",
      "quantity": "1.0",
      "unitPrice": {
        "currency": "USD",
        "amount": "19.8"
      },
      "extendedPrice": {
        "currency": "USD",
        "amount": "19.8"
      }
    }
  ]
}
```

```
],  
"fulfillmentParameters": [  
  {  
    "name": "adminLogin",  
    "value": "admin@example.onmicrosoft.com"  
  },  
  {  
    "name": "adminPassword",  
    "value": "F4a[&jsio3"  
  }  
]  
}
```

A [sales order](#) can request several products from an offer; all of them will be in the same subscription. If products in the order are from multiple offers, multiple subscriptions will be created, one for each offer referenced.

Subscription Operations

All operations with subscriptions are initiated by placing certain orders:

- Upgrade or downgrade (change limits on products or add more products): [Change Order](#)
- Renew for the next subscription period: [Renewal Order](#)
- Cancel: [Cancellation Order](#)

When upgrading or downgrading a subscription, you can choose which date to use as subscription period start date after the change: start date of the current subscription period or the date the subscription was changed.

To select the date, add the **upgradeStartType** order property with one of these values:

- FROM_DATE_OF_UPGRADE (used as the default in billing configuration)
- FROM_OLD_START_DATE

For example:

```
POST /orders HTTP/1.1  
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78  
Content-Type: application/json  
X-Subscription-Key: 066a6b...33b16  
  
{  
  "customerId": "1012954",
```

```
"poNumber": "PO2244",
"type": "change",
"upgradeStartType": FROM_OLD_START_DATE,
"products": [
  {
    "subscriptionId": "1211331",
    "mpn": "SQXAMSENS",
    "quantity": "20"
  }
]
```

Conclusion

This is the final step in the typical workflow, which results in a customer being subscribed to a product and the provisioning of this product's services to the customer. Periodically, a reseller needs consolidated data for the commercial activity of the previous period. The next step in the workflow describes how to collect such reports.

Get Data Reports

To assist resellers in analyzing their commercial activities, there is a Reporting and Data Export (RDE) service that, once installed on the platform, allows resellers to generate and download rated data reports about the accounts and related commercial resources (customers, subscriptions, invoices, and other) that changed during a specified period.



The platform RDE service exposes its resources on the /reports endpoint.

Report Configuration

To learn how to configure report generators, refer to the [Reporting and Data Export documentation](#).

Requesting Report Collection

The API client can send a request for a set of rated data reports generated during a specified period. For this, a request contains the following query parameters:

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- **from**: the first day of the requested period in [ISO 8601](#) format.
- **to**: the last day of the requested period in [ISO 8601](#) format.
- **format** (optional): requests the reports of the specified format only. The formats supported by RDE are: **json**, **xml**, **csv**, and **xslx**.

Note

1. The pagination query parameters **offset** and **limit** are not parsed on this endpoint as the mentioned above **from**, **to**, and **format** query parameters define the limitation for the response.

2. In a response, **offset** is always zero and **limit** equals **total**.

Get All Reports

Use a request without the **format** query parameter to receive the URLs of all reports for a specified period:

```
GET /reports?from=2019-11-05&to=2019-12-03 HTTP/1.1
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78
X-Subscription-Key: 066a6b...33b16
```

If successful, the response looks like this (the URLs are cut for brevity):

```
HTTP/1.1 200 OK

{
  "data": [
    {
      "name": "withres2",
      "format": "XLSX",
      "creationDate": "2019-11-12T09:51:14Z",
      "downloadUrl": "https://drrde3.blob.core.windows.net/rdecontainer/withres2.0fb84e60...-0f2cd36236ce.2019-11-12.10-51-15.216+0100.xlsx?sig=rb8TTt...iUY%3D&api-version=2016-05-31&st=2019-11-12T09%3A...%3A15Z&sv=2016-05-31&sp=rwd&sr=b"
    },
    {
      "name": "daily-dr1",
      "format": "JSON",
      "creationDate": "2019-11-14T20:57:29Z",
      "downloadUrl": "https://drrde3.blob.core.windows.net/rdecontainer/daily-dr1.1124976b...-ce8560b8626b.2019-11-14.21-57-30.014+0100.json.gz?sig=Ub2%2FU...%3D&api-version=2016-05-31&st=2019-11-14T20%3A47%3A...%3A30Z&sv=2016-05-31&sp=rwd&sr=b"
    }
  ],
}
```



```
{
  "name": "report",
  "format": "XLSX",
  "creationDate": "2019-11-05T12:15:18Z",
  "downloadUrl": "https://drrde3.blob.core.windows.net/rdecontainer/report.12e9a7a4...-5d6515120ae1.2019-11-05.13-15-19.254+0100.xlsx?sig=bLUSOw%2BaSP...%3D&api-version=2016-05-31&st=2019-11-05T12%3A05%3A...%3A19Z&sv=2016-05-31&sp=rwd&sr=b"
},
{
  "name": "dr-rep2",
  "format": "XLSX",
  "creationDate": "2019-11-05T12:59:32Z",
  "downloadUrl": "https://drrde3.blob.core.windows.net/rdecontainer/dr-rep2.1c65e292...-a3d0a48c39b4.2019-11-05.13-59-32.900+0100.xlsx?sig=pJJRiB6Afp...%3D&api-version=2016-05-31&st=2019-11-05T12%3A49%3A...%3A33Z&sv=2016-05-31&sp=rwd&sr=b"
},
{
  "name": "dr-rep1",
  "format": "XLSX",
  "creationDate": "2019-11-05T12:59:13Z",
  "downloadUrl": "https://drrde3.blob.core.windows.net/rdecontainer/dr-rep1.39512e47...-be6c0b6d6bc9.2019-11-05.13-59-13.398+0100.xlsx?sig=CLah1V6%2B...%3D&api-version=2016-05-31&st=2019-11-05T12%3A49%3A...%3A13Z&sv=2016-05-31&sp=rwd&sr=b"
},
{
  "name": "sample1",
  "format": "JSON",
  "creationDate": "2019-11-19T15:46:46Z",
  "downloadUrl": "https://drrde3.blob.core.windows.net/rdecontainer/sample1.f162d420...-b261564255a4.2019-11-19.16-46-46.616+0100.json.gz?sig=UhvFMT...%3D&api-version=2016-05-31&st=2019-11-19T15%3A36%3A...%3A46Z&sv=2016-05-31&sp=rwd&sr=b"
},
{
  "name": "daily-dr1",
  "format": "JSON",
  "creationDate": "2019-11-22T20:57:43Z",
  "downloadUrl": "https://drrde3.blob.core.windows.net/rdecontainer/daily-dr1.fb548...-0bda2d322d76.2019-11-22.21-57-43.445+0100.json.gz?sig=FsjOYz...3D&api-version=2016-05-31&st=2019-11-22T20%3A47%3A...%3A43Z&sv=2016-05-31&sp=rwd&sr=b"
},
/* Other reports */
}
```

```
],  
  "pagination": {  
    "offset": 0,  
    "limit": 28,  
    "total": 28  
  }  
}
```

Get Reports in a Certain Format

Use a request with the **format** query property to select all reports of the specified format, for example, JSON:

```
GET /reports?from=2019-11-05&to=2019-12-03&format=json HTTP/1.1  
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78  
X-Subscription-Key: 066a6b...33b16
```

If successful, the response looks like this (the URLs are cut for brevity):

HTTP/1.1 200 OK

```
{  
  "data": [  
    {  
      "name": "daily-dr1",  
      "format": "JSON",  
      "creationDate": "2019-11-14T20:57:29Z",  
      "downloadUrl": "https://drrde3.blob.core.windows.net/rdecontainer/daily-dr1.1124976b...-  
ce8560b8626b.2019-11-14.21-57-30.014+0100.json.gz?sig=Ub2%2FU...%3D&api-version=2016-  
05-31&st=2019-11-14T20%3A47%3A...%3A30Z&sv=2016-05-31&sp=rwd&sr=b"  
    },  
    {  
      "name": "sample1",  
      "format": "JSON",  
      "creationDate": "2019-11-19T15:46:46Z",  
      "downloadUrl": "https://drrde3.blob.core.windows.net/rdecontainer/sample1.f162d420...-  
b261564255a4.2019-11-19.16-46-46.616+0100.json.gz?sig=UhvFMT...%3D&api-version=2016-  
05-31&st=2019-11-19T15%3A36%3A...%3A46Z&sv=2016-05-31&sp=rwd&sr=b"  
    },  
    {  
      "name": "daily-dr1",  
      "format": "JSON",  
      "creationDate": "2019-11-22T20:57:43Z",
```

```
"downloadUrl": "https://drrde3.blob.core.windows.net/rdecontainer/daily-dr1.fb548...-0bda2d322d76.2019-11-22.21-57-43.445+0100.json.gz?sig=FsjOYz...3D&api-version=2016-05-31&st=2019-11-22T20%3A47%3A...%3A43Z&sv=2016-05-31&sp=rwd&sr=b"
},
{
  /* Other reports */
}
],
"pagination": {
  "offset": 0,
  "limit": 17,
  "total": 17
}
}
```

Schedule Generation of a One-Time Report

You can also schedule generation of a report for the specified dates using a request similar to this:

GET /reports?from=2019-11-05&to=2019-12-03&format=json HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmRXO78

X-Subscription-Key: 066a6b...33b16

```
{
  "name": "Daily report",
  "customizationName": "string",
  "format": "json",
  "startDate": "2019-11-07T17:02:59.000Z",
  "endDate": "2019-12-07T17:02:59.000Z",
  "downloadUrl": "https://report-
storage1.blob.core.windows.net/rdecontainer/Customer1.e1...12d.2019-11-21.14-02-
20.551+0100.json?sig=4JbyvWJAUwwN7R...3D&api-version=2016-05-31&st=2019-11-
21T12%3A52%&se=202...0-02-19T12=2016-05-31&sp=rwd&sr=b"
}
```

If successful, the response looks like this (the URLs are cut for brevity):

HTTP/1.1 200 OK

```
{
  "id": "f40c942d-ebec-41b9-b604-5ed9ffb6d4f2",
```

```
"name": "Daily report",
"customizationName": "string",
"status": "completed",
"type": "onetime",
"format": "json",
"creationDate": "2020-11-07T17:02:59.000Z",
"startDate": "2019-11-07T17:02:59.000Z",
"endDate": "2019-12-07T17:02:59.000Z",
"downloadUrl": "https://report-
storage1.blob.core.windows.net/rdecontainer/Customer1.e1...12d.2019-11-21.14-02-
20.551+0100.json?sig=4JbyvWJAUwwN7R...3D&api-version=2016-05-31&st=2019-11-
21T12%3A52%&se=202...0-02-19T12=2016-05-31&sp=rwd&sr=b"
}
```

Report Details

Refer to the Reporting and Data Export documentation for the complete list of parameters available in the reports. Conclusion =====

This step completes the typical sales workflow. In the past steps, you learned how to use the CMP API to manage your customers, observe and select the required offers and products provided by them, order those products for your customers, manage the created subscriptions, and collect the rated data reports.

To understand how to sell common services in more detail, follow the [Sales Scenarios](#).

Sales Scenarios

Office 365

[Office 365](#) is a set of cloud-based subscription services offered by Microsoft for effective user communication and collaboration. The platform provides various [Office 365 products](#) through its CMP API.

Below are step-by-step instructions on how to use the CMP API to identify the Office 365 products, subscribe a customer to certain products, and manage the created subscription.

[Generate the Access Token](#)

Before sending HTTP requests, the API client must obtain an access code as explained in [Getting Started](#) (in this document, the security strings are reduced for brevity):

POST /token HTTP/1.1

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X-Subscription-Key: 066a6b...33b16

Authorization: Basic bXlBcGlMb...NTlwM1J6QTE=

If successful, the response must contain the bearer access token generated by the platform, for example:

HTTP/1.1 200 OK

```
{
  "token": "eyJwcm...0fQtrLk4RToj51HAmRXO78",
  "expiresInSeconds": 1500
}
```

As an access token has a limited lifetime (1500 sec), the API client must send this request periodically.

[Manage Customers](#)

The API client can create a customer or identify an existing customer. The following sections illustrate both operations.

Create a Customer

NOTE

The Office 365 cloud system validates the address parameters of every new customer when ordering a product as described in the [Place a Sales Order](#) section. When creating a test customer, ensure that the country code, state (if applicable), city, and postal code (or zip code) correspond to real geographical objects.

To create a customer, send the following request containing all required details:

POST /customers HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "name": "` John Smith `",
```

```
"externalId": "jsmith201",
"taxRegId": "1357",
"address": {
  "streetAddress": "201, Any Street Rd",
  "addressExtension": "extension",
  "postalCode": "10001",
  "city": "New York",
  "state": "NY",
  "countryCode": "US"
},
"contactPersons": [
  {
    "type": "admin",
    "firstName": "John",
    "lastName": "Smith",
    "email": "jsmith@aps.test",
    "phoneNumber": "81##18881234567#"
  },
  {
    "type": "technical",
    "firstName": "John",
    "lastName": "Smith",
    "email": "jsmith@aps.test",
    "phoneNumber": "81##18881234567#"
  },
  {
    "type": "billing",
    "firstName": "John",
```

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```
"lastName": "Smith",  
"email": "jsmith@aps.test",  
"phoneNumber": "81##18881234567#"  
}
```

```
],
```

```
"language": "en"
```

```
}
```

If successful, the response must look as follows:

HTTP/1.1 200 OK

```
{  
  "id": "1000275",  
  "externalId": "jsmith201",  
  "name": "` John Smith `",  
  "status": "pending",  
  "address": {  
    "streetAddress": "201, Any Street Rd",  
    "addressExtension": "extension",  
    "postalCode": "10001",  
    "city": "New York",  
    "state": "NY",  
    "countryCode": "US"  
  },  
  "contactPersons": [  
    {  
      "type": "admin",  
      "firstName": "John",
```

```
{
  "lastName": "Smith",
  "email": "jsmith@aps.test",
  "phoneNumber": "81##18881234567#"
},
{
  "type": "technical",
  "firstName": "John",
  "lastName": "Smith",
  "email": "jsmith@aps.test",
  "phoneNumber": "81##18881234567#"
},
{
  "type": "billing",
  "firstName": "John",
  "lastName": "Smith",
  "email": "jsmith@aps.test",
  "phoneNumber": "81##18881234567#"
}
],
"language": "en"
}
```

The customer is not active yet, as the platform requires some time to complete the operation.

Get a List of Customers

To identify an existing customer, send a request for the list of all customers of the reseller. To narrow down the range, use the **offset** and **limit** query parameters:

GET /customers?offset=87&limit=2 HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmRXO78

X-Subscription-Key: 066a6b...33b16

The response must look as follows:

HTTP/1.1 200 OK

```
{
  "data": [
    {
      "id": "1000275",
      "externalId": "jsmith201",
      "name": "` John Smith `",
      "status": "active",
      "address": {
        "streetAddress": "201, Any Street Rd",
        "addressExtension": "extension",
        "postalCode": "10001",
        "city": "New York",
        "state": "NY",
        "countryCode": "US"
      },
      "contactPersons": [
        {
          "type": "admin",
          "firstName": "John",
          "lastName": "Smith",
          "email": "jsmith@aps.test",
          "phoneNumber": "81##18881234567#"
        },
        {
```

```
"type": "technical",
"firstName": "John",
"lastName": "Smith",
"email": "jsmith@aps.test",
"phoneNumber": "81##18881234567#"
},
{
  "type": "billing",
  "firstName": "John",
  "lastName": "Smith",
  "email": "jsmith@aps.test",
  "phoneNumber": "81##18881234567#"
}
],
"language": "en"
},
{
  "id": "1000194",
  "externalId": "externalId1",
  "name": "RBCustomer",
  "status": "active",
  "address": {
    "streetAddress": "My Adress",
    "addressExtension": "extension",
    "postalCode": "10001",
    "city": "New York",
    "state": "NY",
    "countryCode": "us"
```

```
},
"contactPersons": [
  {
    "type": "admin",
    "firstName": "Mike",
    "lastName": "Wilson",
    "email": "cbdemoisvsrem64a@check.test",
    "phoneNumber": "81##18881234567#"
  },
  {
    "type": "technical",
    "firstName": "Mike",
    "lastName": "Wilson",
    "email": "cbdemoisv9ldv5g0@check.test",
    "phoneNumber": "81##18881234567#"
  },
  {
    "type": "billing",
    "firstName": "Mike",
    "lastName": "Wilson",
    "email": "cbdemoisvz80t0dd@check.test",
    "phoneNumber": "81##18881234567#"
  }
],
"language": "en"
},
],
"pagination": {
```

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```
"offset": 87,  
"limit": 2,  
"total": 161  
}  
}
```

Get Customer Details

When details about a customer are required, the API client specifies the customer ID in the following request:

GET /customers/1000275 HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78

X-Subscription-Key: 066a6b...33b16

The response must look as follows:

HTTP/1.1 200 OK

```
{  
  "id": "1000275",  
  "externalId": "jsmith201",  
  "name": "` John Smith`",  
  "taxRegId": "1357",  
  "status": "active",  
  "address": {  
    "streetAddress": "201, Any Street Rd",  
    "addressExtension": "extension",  
    "postalCode": "10001",  
    "city": "New York",  
    "state": "NY",  
    "countryCode": "US"
```

```
},
"contactPersons": [
  {
    "type": "admin",
    "firstName": "John",
    "lastName": "Smith",
    "email": "jsmith@aps.test",
    "phoneNumber": "81##18881234567#"
  },
  {
    "type": "technical",
    "firstName": "John",
    "lastName": "Smith",
    "email": "jsmith@aps.test",
    "phoneNumber": "81##18881234567#"
  },
  {
    "type": "billing",
    "firstName": "John",
    "lastName": "Smith",
    "email": "jsmith@aps.test",
    "phoneNumber": "81##18881234567#"
  }
],
"language": "en"
}
```

Identify Products

This example is based on an Office 365 service plan delegated to resellers. This service plan contains several resource rates (products) that may depend on each other as you will find out later.

The API client must identify the products that it can sell to the reseller's customer. For this purpose, it sends a request for the list of available products:

GET /products HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains a list of products delegated to the reseller and available for sale:

HTTP/1.1 200 OK

```
{
  "data": [
    {
      "mpn": "8637b090-a710-44e8-96ec-230e0c7f1e19",
      "serviceName": "O365",
      "name": "Skype for Business Cloud PBX",
      "minimumQuantity": "0.0",
      "maximumQuantity": "5000.0",
      "prices": [
        {
          "currency": "USD",
          "amount": "1.95",
          "type": "recurring"
        }
      ]
    }
  ],
}
```

```
"billingPeriod": {
  "type": "month",
  "duration": 1
},
"dependsOn": [
  { "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239" }
],
{
  "mpn": "c94271d8-b431-4a25-a3c5-a57737a1c909",
  "serviceName": "O365",
  "name": "Skype for Business PSTN Conferencing",
  "minimumQuantity": "0.0",
  "maximumQuantity": "-1.0",
  "prices": [
    {
      "currency": "USD",
      "amount": "0.0",
      "type": "recurring"
    }
  ],
  "billingPeriod": {
    "type": "month",
    "duration": 1
  },
  "dependsOn": [
    { "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239" }
  ]
}
```

```
{
  {
    "mpn": "53fc25f7-6639-4f78-bb44-3c2dfec3ed40",
    "serviceName": "O365",
    "name": "Office 365 Extra File Storage",
    "minimumQuantity": "0.0",
    "maximumQuantity": "5000.0",
    "prices": [
      {
        "currency": "USD",
        "amount": "1.15",
        "type": "recurring"
      }
    ],
    "billingPeriod": {
      "type": "month",
      "duration": 1
    },
    "dependsOn": [
      { "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239" }
    ]
  },
  {
    "mpn": "fc233c3f-25bc-4bba-8984-860ce561af86",
    "serviceName": "O365",
    "name": "Skype for Business Plus CAL",
    "minimumQuantity": "0.0",
    "maximumQuantity": "5000.0",
```



```
"prices": [  
  {  
    "currency": "USD",  
    "amount": "2.93",  
    "type": "recurring"  
  }  
],  
"billingPeriod": {  
  "type": "month",  
  "duration": 1  
},  
"dependsOn": [  
  { "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239" }  
],  
},  
{  
  "mpn": "1c410588-da3b-4f88-b38f-707eb9de46c0",  
  "serviceName": "O365",  
  "name": "Office 365 Advanced eDiscovery",  
  "minimumQuantity": "0.0",  
  "maximumQuantity": "5000.0",  
  "prices": [  
    {  
      "currency": "USD",  
      "amount": "4.17",  
      "type": "recurring"  
    }  
  ],  
}
```

```
"billingPeriod": {
  "type": "month",
  "duration": 1
},
"dependsOn": [
  { "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239" }
],
{
  "mpn": "663e36bd-0002-44c8-aa60-edc398c30d4a",
  "serviceName": "O365",
  "name": "Customer Lockbox",
  "minimumQuantity": "0.0",
  "maximumQuantity": "5000.0",
  "prices": [
    {
      "currency": "USD",
      "amount": "1.76",
      "type": "recurring"
    }
  ],
  "billingPeriod": {
    "type": "month",
    "duration": 1
  },
  "dependsOn": [
    { "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239" }
  ]
}
```

```
,
{
  "mpn": "2eb59242-162a-40ac-bb17-5b658bf8a9c1",
  "serviceName": "O365",
  "name": "Microsoft MyAnalytics",
  "minimumQuantity": "0.0",
  "maximumQuantity": "5000.0",
  "prices": [
    {
      "currency": "USD",
      "amount": "2.23",
      "type": "recurring"
    }
  ],
  "billingPeriod": {
    "type": "month",
    "duration": 1
  },
  "dependsOn": [
    { "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239" }
  ]
},
{
  "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239",
  "serviceName": "O365",
  "name": "Office 365 Enterprise E1",
  "minimumQuantity": "0.0",
  "maximumQuantity": "5000.0",
```

```
"prices": [  
  {  
    "currency": "USD",  
    "amount": "19.8",  
    "type": "recurring"  
  }  
],  
"billingPeriod": {  
  "type": "month",  
  "duration": 1  
},  
}  
],  
"pagination": {  
  "offset": 0,  
  "limit": 10,  
  "total": 8  
}  
}
```

There are two types of Office 365 products exposed through this API:

- The **license** is a base product whose configuration is used by products of the **add-on** type. It does not depend on other products.
- **Add-on** products depend on the **license** product provided by the same service plan. You can sell an **add-on** product only along with the **license** within the same subscription.

[Identify Product Parameters](#)

Office 365 services are available on a domain created by a customer request in the domain zone provided by Microsoft. A domain name must be specified by providing a domain prefix in the **domain** input parameter when ordering Office 365 services for a customer.

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Before sending an order request, verify that the required domain is not occupied by another customer. For example, if the customer wants to work in the **jsmith201.onmicrosoft.com** domain, send the following request, in which the full domain name is a parameter of the license product. Later, when ordering Office 365 services, use only the prefix of that domain.

POST /validation/parameters HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "customerId": "1000275",
  "products": [
    {
      "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239",
      "quantity": "1.0",
      "parameters": [
        {
          "name": "domain",
          "value": "jsmith201.onmicrosoft.com"
        }
      ]
    }
  ]
}
```

If the required domain is available for use, the response looks as follows:

HTTP/1.1 200 OK

```
{
```

```
"data": [  
  {  
    "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239",  
    "parameters": [  
      {  
        "name": "domain",  
        "result": "SUCCESS",  
        "message": "Available to purchase. Not found."  
      }  
    ]  
  }  
],  
  
"pagination": {  
  
  "offset": 0,  
  
  "limit": 1,  
  
  "total": 1  
  
}  
}
```

As the verified domain is available for purchase, proceed to the next step.

[Order Products for a Customer](#)

Place a Sales Order

NOTE

Xvantage: Cloud Marketplace API

By placing a sales order, you confirm that you have received the acceptance from your customer for the [Terms & Conditions](#). The platform automatically marks those Terms and Conditions as Accepted.

The following request places a sales order for the license and one add-on product:

POST **/orders** HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "customerId": "1000275",
  "poNumber": "myponumber",
  "type": "sales",
  "products": [
    {
      "mpn": "53fc25f7-6639-4f78-bb44-3c2dfec3ed40",
      "quantity": "2.0"
    },
    {
      "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239",
      "quantity": "1.0",
      "parameters": [
        {
          "name": "domain",
          "value": "jsmith201"
        }
      ]
    }
  ]
}
```

```
]
}
```

If successful, the response contains the reference properties and status of the placed order:

HTTP/1.1 200 OK

```
{
  "id": "1001044",
  "type": "sales",
  "customerId": "1000275",
  "creationDate": "2019-10-25T10:06:17Z",
  "status": "processing"
}
```

Pay attention to the ID of the created sales order.

When you are placing an order for a customer who has already purchased Microsoft services through a 3rd-party provider (known as an “existing tenant”), in addition to the domain prefix in the domain input parameter, you must also provide the tenant’s Microsoft Account Identifier in the **msAccountId** input parameter as in this example:

POST /orders HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "customerId": "1000275",
  "poNumber": "myponumber",
  "type": "sales",
  "products": [
    {
```


Xvantage: Cloud Marketplace API

```
"mpn": "53fc25f7-6639-4f78-bb44-3c2dfec3ed40",
"quantity": "2.0"
},
{
  "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239",
  "quantity": "1.0",
  "parameters": [
    {
      "name": "domain",
      "value": "jsmith201"
    },
    {
      "name": "msAccountid",
      "value": "917cd03a-c81a-43ac-91ad-a3c1c3f57bcd"
    }
  ]
}
]
```

Verify an Order

After an order is created, it is necessary to verify if the order is completed and get a reference to the created subscription as in the following request:

GET **/orders/1001044** **HTTP/1.1**

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains the reference properties and status of the placed order:

HTTP/1.1 200 OK

```
{
  "id": "1001044",
  "type": "sales",
  "customerId": "1000275",
  "creationDate": "2019-10-25T10:06:17Z",
  "status": "completed",
  "products": [
    {
      "mpn": "53fc25f7-6639-4f78-bb44-3c2dfec3ed40",
      "name": "Office 365 Extra File Storage",
      "quantity": "2.0",
      "extendedPrice": {
        "currency": "USD",
        "amount": "2.3"
      },
    },
    "subscriptionId": "1000177"
  ],
  {
    "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239",
    "name": "Office 365 Enterprise E1",
    "quantity": "1.0",
    "extendedPrice": {
      "currency": "USD",
      "amount": "19.8"
    },
  },
  "subscriptionId": "1000177"
}
```

```
]
}
```

Pay attention to the ID or the created subscription.

Get a List of Orders

To get a list of orders, send a GET request. (Optional) You can specify the pagination (**offset** and **limit**) and other query parameters to select a range of orders. Use this example:

GET **/orders?customerId=1000275** HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains a list of placed orders in accordance with the query parameters:

HTTP/1.1 200 OK

```
{
  "data": [
    {
      "id": "1001042",
      "type": "sales",
      "customerId": "1000275",
      "creationDate": "2019-10-25T09:52:54Z",
      "status": "error"
    },
    {
      "id": "1001044",
      "type": "sales",
      "customerId": "1000275",
      "creationDate": "2019-10-25T10:06:17Z",
      "status": "completed"
    }
  ]
}
```

```
}  
],  
"pagination": {  
  "offset": 0,  
  "limit": 10,  
  "total": 2  
}  
}
```

[Manage Subscriptions](#)

Get Subscription Details

After an order for products is completed, check the details of the created subscription. For this purpose, send the following request using the subscription ID in the request path:

GET /subscriptions/1000177 HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains the subscription general properties and a list of references to the products:

HTTP/1.1 200 OK

```
{  
  "id": "1000177",  
  "customerId": "1000275",  
  "status": "active",  
  "renewalStatus": true,  
  "creationDate": "2019-10-25",  
  "renewalDate": "2020-10-23",  
  "lastModifiedDate": "2019-10-25",  
  "totalPrice": {  
    "currency": "USD",
```

```
"amount": "22.1"
},
"products": [
{
  "mpn": "53fc25f7-6639-4f78-bb44-3c2dfec3ed40",
  "quantity": "2.0",
  "unitPrice": {
    "currency": "USD",
    "amount": "1.15"
  },
  "extendedPrice": {
    "currency": "USD",
    "amount": "2.3"
  }
},
{
  "mpn": "91fd106f-4b2c-4938-95ac-f54f74e9a239",
  "quantity": "1.0",
  "unitPrice": {
    "currency": "USD",
    "amount": "19.8"
  },
  "extendedPrice": {
    "currency": "USD",
    "amount": "19.8"
  }
}
],
```

```
"fulfillmentParameters": [  
  {  
    "name": "adminLogin",  
    "value": "admin@example.onmicrosoft.com"  
  },  
  {  
    "name": "adminPassword",  
    "value": "F4a[&jsio3"  
  }  
]
```

As follows from the response, the created subscription is active and it represents a list of products. In this list, the **quantity** property of the provisioned products displays the number of product units.

Get a List of Subscriptions

To get a list of subscriptions, send a GET request. (Optional) You can specify the pagination (**offset** and **limit**) and other query parameters to select a range of subscriptions. Use this example:

GET /subscriptions?customerId=1000275 HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains a list of selected subscriptions in accordance with the query parameters:

HTTP/1.1 200 OK

```
{  
  "data": [  
    {  
      "id": "1000177",
```

```
"customerId": "1000275",
"status": "active",
"renewalStatus": true,
"creationDate": "2019-10-25",
"renewalDate": "2020-10-23",
"lastModifiedDate": "2019-10-25"
}
],
"pagination": {
  "offset": 0,
  "limit": 10,
  "total": 1
}
}
```

Upgrade a Subscription

To add more Office 365 products to a subscription, place a **change** order containing a request for the required product in a specified subscription. The following is a request to increase the quantity of a product existing in the subscription and add two units of “Microsoft MyAnalytics” as a new product:

POST /orders HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "customerId": "1000275",
  "poNumber": "myponumber",
  "type": "change",
```

```
"products": [  
  {  
    "subscriptionId": "1000177",  
    "mpn": "53fc25f7-6639-4f78-bb44-3c2dfec3ed40",  
    "quantity": "12.0"  
  },  
  {  
    "subscriptionId": "1000177",  
    "mpn": "2eb59242-162a-40ac-bb17-5b658bf8a9c1",  
    "quantity": "2.0"  
  }  
]
```

If successful, the response contains the reference properties and status of the placed change order:

HTTP/1.1 200 OK

```
{  
  "id": "1001046",  
  "type": "change",  
  "customerId": "1000275",  
  "creationDate": "2019-10-25T10:26:13Z",  
  "status": "processing"  
}
```

Verify that the order processing is completed as described in the [Verify an Order](#) section and the subscription is upgraded as expected following the [Get Subscription Details](#) section.

Downgrade a Subscription

There are two methods to reduce the amount of purchased resources:

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- Reduce the quantity of a purchased product.
- When a service in a subscription is no longer required, remove the respective product by setting its quantity in the subscription to zero.

Both methods are illustrated in the following request for a change order:

POST **/orders** HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "customerId": "1000275",
  "poNumber": "myponumber",
  "type": "change",
  "products": [
    {
      "subscriptionId": "1000177",
      "mpn": "53fc25f7-6639-4f78-bb44-3c2dfec3ed40",
      "quantity": "1.0"
    },
    {
      "subscriptionId": "1000177",
      "mpn": "2eb59242-162a-40ac-bb17-5b658bf8a9c1",
      "quantity": "0"
    }
  ]
}
```

If successful, the response contains the reference properties and status of the placed change order:

HTTP/1.1 200 OK

```
{
  "id": "1001048",
  "type": "change",
  "customerId": "1000275",
  "creationDate": "2019-10-25T10:31:29Z",
  "status": "processing"
}
```

Verify that the order processing is completed as described in the [Verify an Order](#) section and the subscription is downgraded as required following the [Get Subscription Details](#) section.

Cancel a Subscription

When a subscription is not needed anymore, you can cancel it by posting a request for a **cancellation** order, for example:

POST /orders HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "customerId": "1000275",
  "poNumber": "myponumber",
  "type": "cancellation",
  "products": [
    {
      "subscriptionId": "1000177"
    }
  ]
}
```

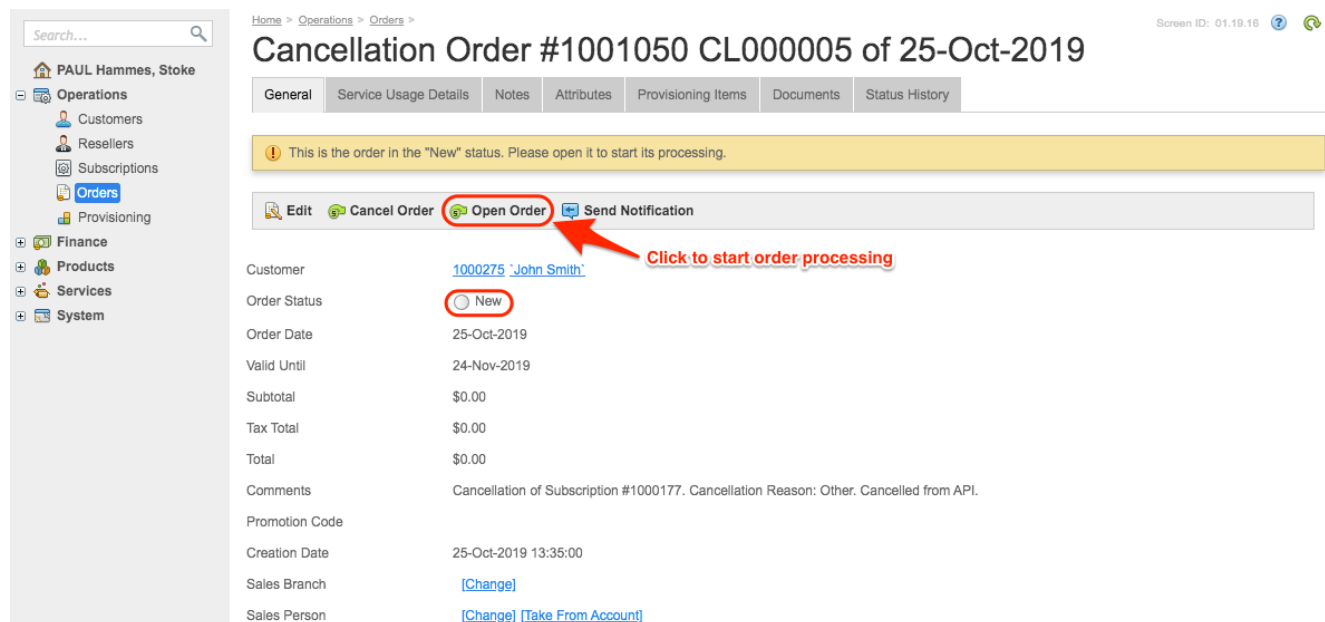
```
}
```

If successful, the response contains the reference properties and status of the placed cancellation order:

HTTP/1.1 200 OK

```
{
  "id": "1001050",
  "type": "cancellation",
  "customerId": "1000275",
  "creationDate": "2019-10-25T10:35:06Z",
  "status": "submitted"
}
```

In the reseller control panel, open the new cancellation order to start its processing:



The screenshot shows the 'Cancellation Order #1001050 CL000005 of 25-Oct-2019' page in the reseller control panel. The left sidebar shows the navigation menu with 'Orders' selected. The main content area has a breadcrumb 'Home > Operations > Orders' and a search bar. Below the title, there are tabs for 'General', 'Service Usage Details', 'Notes', 'Attributes', 'Provisioning Items', 'Documents', and 'Status History'. A yellow warning box states: 'This is the order in the "New" status. Please open it to start its processing.' Below this, there are buttons for 'Edit', 'Cancel Order', 'Open Order', and 'Send Notification'. The 'Open Order' button is highlighted with a red circle and a red arrow pointing to it, with a red text label 'Click to start order processing' next to it. The order details table shows the following information:

Customer	1000275 'John Smith'
Order Status	☒ New
Order Date	25-Oct-2019
Valid Until	24-Nov-2019
Subtotal	\$0.00
Tax Total	\$0.00
Total	\$0.00
Comments	Cancellation of Subscription #1000177. Cancellation Reason: Other. Cancelled from API.
Promotion Code	
Creation Date	25-Oct-2019 13:35:00
Sales Branch	[Change]
Sales Person	[Change] [Take From Account]

Verify that the order processing is completed as described in the [Verify an Order](#) section and the subscription status is changed to **removed** following the [Get Subscription Details](#) section.

[Conclusion](#)

This completes a typical scenario of selling the Office 365 products delegated to a reseller. You went through the whole subscription life cycle: from its ordering, to upgrade or downgrade, and finally to its cancellation.

Azure CSP

The Azure CSP (Cloud Solution Provider) offer in the platform enables customers to provision and manage Virtual Machines (VMs) and other services provided by the Microsoft Azure cloud application. This offer is delegated to resellers that do not have a direct Azure CSP partnership with Microsoft.

Note: *This offer must be replaced by the new Azure CSP New Experience offer.*

Below are step-by-step instructions on how to use the CMP API to identify the Azure product, subscribe a customer to this product, and manage the created subscription.

[Generate the Access Token](#)

Before sending REST requests, the API client must obtain an access code as explained in [Getting Started](#) (in this document, the security strings are reduced for brevity):

```
POST /token HTTP/1.1
```

```
X-Subscription-Key: 066a6b...33b16
```

```
Authorization: Basic bXlBcGlMb...NTlwM1J6QTE=
```

If successful, the response must contain the bearer access token generated by the platform, for example:

```
HTTP/1.1 200 OK
```

```
{  
  "token": "eyJwcm...0fQtrLk4RToj51HAmsRXO78",  
  "expiresInSeconds": 1500  
}
```

As an access token has a limited lifetime (1500 sec), the API client must send this request periodically.

[Manage Customers](#)

The API client can create a customer or identify an existing customer. The following sections illustrate both operations.

[Create a Customer](#)

Note: *The cloud system validates the address parameters of every new customer when ordering a product as described in the [Place a Sales Order](#) section. When creating a test customer, ensure that the country code, state (if applicable), city, and postal code (or zip code) correspond to real geographical objects.*

To create a customer, send the following request containing all required details:

POST /customers HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "name": "Adam Blake",
  "externalId": "ablake102",
  "taxRegId": "1357",
  "address": {
    "streetAddress": "201, Any Street Rd",
    "addressExtension": "extension",
    "postalCode": "10001",
    "city": "New York",
    "state": "NY",
    "countryCode": "US"
  },
  "contactPersons": [
    {
      "type": "admin",
      "firstName": "Adam",
      "lastName": "Blake",
      "email": "ablake102@aps.test",
      "phoneNumber": "81##18881234567#"
    },
    {
      "type": "technical",
      "firstName": "Adam",
      "lastName": "Blake",
      "email": "ablake102@aps.test",
      "phoneNumber": "81##18881234567#"
    },
    {
      "type": "billing",
      "firstName": "Adam",
      "lastName": "Blake",
      "email": "ablake102@aps.test",
      "phoneNumber": "81##18881234567#"
    }
  ],
  "language": "en"
}
```

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If successful, the response must look as follows:

HTTP/1.1 200 OK

```
{
  "id": "1000057",
  "externalId": "ablake102",
  "name": "Adam Blake",
  "status": "pending",
  "address": {
    "streetAddress": "101, Any Street",
    "addressExtension": "extension",
    "postalCode": "12345",
    "city": "Herndon",
    "state": "VA",
    "countryCode": "US"
  },
  "contactPersons": [
    {
      "type": "admin",
      "firstName": "Adam",
      "lastName": "Blake",
      "email": "ablake102@aps.test",
      "phoneNumber": "88##18881234567#"
    },
    {
      "type": "technical",
      "firstName": "Adam",
      "lastName": "Blake",
      "email": "ablake102@aps.test",
      "phoneNumber": "88##18881234567#"
    },
    {
      "type": "billing",
      "firstName": "Adam",
      "lastName": "Blake",
      "email": "ablake102@aps.test",
      "phoneNumber": "88##18881234567#"
    }
  ],
  "language": "en"
}
```

The customer is not active yet, as the platform requires some time to complete the operation.

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Get a List of Customers

To identify an existing customer, send a request for the list of all customers of the reseller. To narrow down the range, use the **offset** and **limit** query parameters:

```
GET /customers?offset=47 HTTP/1.1
```

```
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78
```

```
Content-Type: application/json
```

```
X-Subscription-Key: 066a6b...33b16
```

The response must look as follows:

```
HTTP/1.1 200 OK
```

```
{
  "data": [
    {
      /* Another customer */
    },
    {
      "id": "1000057",
      "externalId": "ablake102",
      "name": "Adam Blake",
      "status": "active",
      "address": {
        "streetAddress": "101, Any Street",
        "addressExtension": "extension",
        "postalCode": "12345",
        "city": "Herndon",
        "state": "VA",
        "countryCode": "US"
      },
      "contactPersons": [
        {
          "type": "admin",
          "firstName": "Adam",
          "lastName": "Blake",
          "email": "ablake102@aps.test",
          "phoneNumber": "88##18881234567#"
        },
        {
          "type": "technical",
          "firstName": "Adam",
          "lastName": "Blake",
          "email": "ablake102@aps.test",
          "phoneNumber": "88##18881234567#"
        }
      ]
    }
  ]
}
```

```
{
  },
  {
    "type": "billing",
    "firstName": "Adam",
    "lastName": "Blake",
    "email": "ablake102@aps.test",
    "phoneNumber": "88##18881234567#"
  }
],
"language": "en"
}
],
"pagination": {
  "offset": 47,
  "limit": 10,
  "total": 48
}
}
```

Get Customer Details

When details about a customer are required, the API client specifies the customer ID in the following request:

GET /customers/1000057 HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78

X-Subscription-Key: 066a6b...33b16

The response must look as follows:

HTTP/1.1 200 OK

```
{
  "id": "1000057",
  "externalId": "ablake102",
  "name": "Adam Blake",
  "taxRegId": "1357",
  "status": "active",
  "address": {
    "streetAddress": "101, Any Street",
    "addressExtension": "extension",
    "postalCode": "12345",
    "city": "Herndon",
    "state": "VA",
    "countryCode": "US"
  }
}
```



```
},
"contactPersons": [
  {
    "type": "admin",
    "firstName": "Adam",
    "lastName": "Blake",
    "email": "ablake102@aps.test",
    "phoneNumber": "88##18881234567#"
  },
  {
    "type": "technical",
    "firstName": "Adam",
    "lastName": "Blake",
    "email": "ablake102@aps.test",
    "phoneNumber": "88##18881234567#"
  },
  {
    "type": "billing",
    "firstName": "Adam",
    "lastName": "Blake",
    "email": "ablake102@aps.test",
    "phoneNumber": "88##18881234567#"
  }
],
"language": "en"
}
```

Identify Products

This example is based on an Azure CSP service plan delegated to resellers. This service plan contains a resource representing a counter that rates the resource consumption on the Azure portal.

List all Products

The API client must identify the products that it can sell to the reseller's customer. For this purpose, it sends a request for the list of available products (use the **offset** and **limit** query parameters to reduce the number of products returned):

GET **/products?offset=14** HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains a list of products delegated to the reseller and available for sale:

HTTP/1.1 200 OK

```
{
  "data": [
    { /* Other products */
    },
    {
      "mpn": "MS-AZR-0145P",
      "name": "Total Cost of Azure Services",
      "serviceName": "Azure CSP",
      "minimumQuantity": "0.0",
      "maximumQuantity": "-1.0",
      "prices": [
        {
          "currency": "USD",
          "amount": "0.0",
          "type": "recurring"
        }
      ],
      "billingPeriod": {
        "type": "month",
        "duration": 1
      }
    }
  ],
  "pagination": {
    "offset": 14,
    "limit": 10,
    "total": 16
  }
}
```

In the above example, the offer contains one product.

Identify Product Parameters

Azure CSP services are available on a subdomain created by a customer request in the domain zone provided by Microsoft. The domain name must be specified by the **domain_prefix** input parameter when ordering Azure CSP services for a customer.

Before sending an order request, verify that the required subdomain is not occupied by another customer. For example, if the customer wants to work in subdomain **customer1000057**, send the following request in which the **domain_prefix** parameter must be the same as the one you will use later when ordering the Azure product:

```
POST /validation/parameters HTTP/1.1
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78
Content-Type: application/json
```

Xvantage: Cloud Marketplace API

X-Subscription-Key: 066a6b...33b16

```
{
  "customerId": "1000057",
  "products": [
    {
      "mpn": "MS-AZR-0145P",
      "parameters": [
        {
          "name": "domain_prefix",
          "value": "customer1000057"
        }
      ]
    }
  ]
}
```

If the required subdomain is available for use, the response looks as follows:

HTTP/1.1 200 OK

```
{
  "data": [
    {
      "mpn": "MS-AZR-0145P",
      "parameters": [
        {
          "name": "domain_prefix",
          "result": "SUCCESS",
          "message": "Available to purchase. Not found."
        }
      ]
    }
  ],
  "pagination": {
    "offset": 0,
    "limit": 1,
    "total": 1
  }
}
```

As the validated subdomain is available for purchase, proceed to the next step.

[Order Products for a Customer](#)

Place a Sales Order

Xvantage: Cloud Marketplace API

Note: By placing a sales order, you confirm that you have received the acceptance from your customer for the Terms & Conditions. The platform automatically marks those Terms and Conditions as Accepted.

The following request places a sales order for the Azure product:

POST /orders HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "customerId": "1000057",
  "poNumber": "PO2244",
  "type": "sales",
  "products": [
    {
      "mpn": "MS-AZR-0145P",
      "quantity": "1",
      "parameters": [
        {
          "name": "domain_prefix",
          "value": "customer1000057"
        }
      ]
    }
  ]
}
```

If successful, the response contains the reference properties and status of the placed order:

HTTP/1.1 200 OK

```
{
  "id": "1000112",
  "type": "sales",
  "customerId": "1000057",
  "creationDate": "2019-11-29T11:56:28Z",
  "status": "processing"
}
```

Pay attention to the ID of the created sales order.

Verify an Order

After an order is created, it is necessary to verify if the order is completed and get a reference to the created subscription as in the following request:

GET /orders/1000112 HTTP/1.1

Xvantage: Cloud Marketplace API

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains the reference properties and status of the placed order:

HTTP/1.1 200 OK

```
{
  "id": "1000112",
  "type": "sales",
  "customerId": "1000057",
  "creationDate": "2019-11-29T11:56:28Z",
  "status": "completed",
  "products": [
    {
      "mpn": "MS-AZR-0145P",
      "name": "Total Cost of Azure Services",
      "quantity": "1.0",
      "extendedPrice": {
        "currency": "USD",
        "amount": "0.0"
      },
      "subscriptionId": "1000106"
    }
  ]
}
```

Pay attention to the ID or the created subscription.

Get a List of Orders

To get a list of orders, send a GET request. (Optional) You can specify the pagination (**offset** and **limit**) and other query parameters to select a range of orders. Use this example:

GET /orders?customerId=1000057 HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains a list of placed orders in accordance with the query parameters:

HTTP/1.1 200 OK

```
{
  "data": [
    {
      "id": "1000111",
```

```
{
  "type": "sales",
  "customerId": "1000057",
  "creationDate": "2019-11-29T11:44:34Z",
  "status": "error"
},
{
  "id": "1000112",
  "type": "sales",
  "customerId": "1000057",
  "creationDate": "2019-11-29T11:56:28Z",
  "status": "completed"
}
],
"pagination": {
  "offset": 0,
  "limit": 10,
  "total": 2
}
}
```

Manage Subscriptions

Get Subscription Details

After an order for products is completed, check the details of the created subscription. For this purpose, send the following request using the subscription ID in the request path:

GET /subscriptions/1000106 HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains the subscription general properties and a list of references to the products:

HTTP/1.1 200 OK

```
{
  "id": "1000106",
  "customerId": "1000057",
  "status": "active",
  "renewalStatus": true,
  "creationDate": "2019-11-29",
  "renewalDate": "2019-12-27",
  "lastModifiedDate": "2019-11-29",
  "totalPrice": {
    "currency": "USD",
    "amount": "0.0"
  }
}
```

```

},
"products": [
  {
    "mpn": "MS-AZR-0145P",
    "quantity": "1.0",
    "unitPrice": {
      "currency": "USD",
      "amount": "0.0"
    },
    "extendedPrice": {
      "currency": "USD",
      "amount": "0.0"
    }
  }
]
}

```

As follows from the response, the created subscription is active and it represents the product that provides access to the Azure portal for the subscriber.

Get a List of Subscriptions

To get a list of subscriptions, send a GET request. (Optional) You can specify the pagination (**offset** and **limit**) and other query parameters to select a range of subscriptions. Use this example:

GET **/subscriptions?customerId=1000057** HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains a list of selected subscriptions in accordance with the query parameters:

HTTP/1.1 200 OK

```

{
  "data": [
    {
      "id": "1000105",
      "customerId": "1000057",
      "status": "pending",
      "renewalStatus": true,
      "lastModifiedDate": "2019-11-29"
    },
    {
      "id": "1000106",
      "customerId": "1000057",
      "status": "active",
      "renewalStatus": true,

```

```
"creationDate": "2019-11-29",
"renewalDate": "2019-12-27",
"lastModifiedDate": "2019-11-29"
},
],
"pagination": {
  "offset": 0,
  "limit": 10,
  "total": 2
}
}
```

Upgrade and Downgrade a Subscription

Subscription upgrades and downgrades are not supported by the Azure offer as the subscription contains a singleton product that counts the resource usage on the Azure portal where the customer can request provisioning and unprovisioning of those resources. The invoice for the consumed resources is calculated by the platform every billing period on a pay-as-you-go basis.

Cancel a Subscription

When a subscription is no longer needed, you can cancel it by posting a request for a **cancellation** order, for example:

```
POST /orders HTTP/1.1
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78
Content-Type: application/json
X-Subscription-Key: 066a6b...33b16
```

```
{
  "customerId": "1000057",
  "poNumber": "myponumber",
  "type": "cancellation",
  "products": [
    {
      "subscriptionId": "1000106"
    }
  ]
}
```

If successful, the response contains the reference properties and status of the placed cancellation order:

```
HTTP/1.1 200 OK
```

```
{
  "id": "1000113",
  "type": "cancellation",
  "customerId": "1000057",
```


Xvantage: Cloud Marketplace API

```
"creationDate": "2019-11-29T13:11:43Z",  
"status": "submitted"  
}
```

In the reseller control panel, open the new cancellation order to start its processing. Verify that the order processing is completed as described in the [Verify an Order](#) section and the subscription status is changed to **removed** following the [Get Subscription Details](#) section.

Conclusion

This completes a typical scenario of selling the Azure product delegated to resellers. You went through the whole subscription life cycle, from ordering to cancellation.

Azure CSP New Experience

Microsoft announced the new program [Expanding partner opportunities with Azure CSP](#) that is named shortly as NCE (New Commerce Experience). Respectively, the platform provides the Azure CSP NCE offer that must replace the current [Azure CSP](#) offer.

Below are step-by-step instructions on how to use the CMP API to identify the Azure product, subscribe a customer to this product, and manage the created subscription.

Generate the Access Token

Before sending REST requests, the API client must obtain an access code as explained in [Getting Started](#) (in this document, the security strings are reduced for brevity):

POST /token HTTP/1.1

X-Subscription-Key: 066a6b...33b16

Authorization: Basic bXlBcGlMb...NTlwM1J6QTE=

If successful, the response must contain the bearer access token generated by the platform, for example:

HTTP/1.1 200 OK

```
{  
  "token": "eyJwcm...0fQtrLk4RToj51HAmRXO78",  
  "expiresInSeconds": 1500  
}
```

As an access token has a limited lifetime (1500 sec), the API client must send this request periodically.

Manage Customers

The API client can create a customer or identify an existing customer. The following sections illustrate both operations.

Xvantage: Cloud Marketplace API

Create a Customer

Note: The cloud system validates the address parameters of every new customer when ordering a product as described in the [Place a Sales Order](#) section. When creating a test customer, ensure that the country code, state (if applicable), city, and postal code (or zip code) correspond to real geographical objects.

To create a customer, send the following request containing all required details:

POST /customers HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "name": "Adam Blake",
  "externalId": "ablake102",
  "taxRegId": "1357",
  "address": {
    "streetAddress": "201, Any Street Rd",
    "addressExtension": "extension",
    "postalCode": "10001",
    "city": "New York",
    "state": "NY",
    "countryCode": "US"
  },
  "contactPersons": [
    {
      "type": "admin",
      "firstName": "Adam",
      "lastName": "Blake",
      "email": "ablake102@aps.test",
      "phoneNumber": "81##18881234567#"
    },
    {
      "type": "technical",
      "firstName": "Adam",
      "lastName": "Blake",
      "email": "ablake102@aps.test",
      "phoneNumber": "81##18881234567#"
    },
    {
      "type": "billing",
      "firstName": "Adam",
      "lastName": "Blake",
      "email": "ablake102@aps.test",

```

Xvantage: Cloud Marketplace API

```
"phoneNumber": "81##18881234567#"
},
"language": "en"
}
```

If successful, the response must look as follows:

The customer is not active yet, as the platform requires some time to complete the operation.

Get a List of Customers

To identify an existing customer, send a request for the list of all customers of the reseller. To narrow down the range, use the **offset** and **limit** query parameters:

```
GET /customers?offset=47 HTTP/1.1
```

```
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78
```

```
Content-Type: application/json
```

```
X-Subscription-Key: 066a6b...33b16
```

The response must look as follows:

```
HTTP/1.1 200 OK
```

```
{
  "data": [
    {
      /* Another customer */
    },
    {
      "id": "1000057",
      "externalId": "ablake102",
      "name": "Adam Blake",
      "status": "active",
      "address": {
        "streetAddress": "101, Any Street",
        "addressExtension": "extension",
        "postalCode": "12345",
        "city": "Herndon",
        "state": "VA",
        "countryCode": "US"
      },
      "contactPersons": [
        {
          "type": "admin",
```

Xvantage: Cloud Marketplace API

```
{
  "firstName": "Adam",
  "lastName": "Blake",
  "email": "ablake102@aps.test",
  "phoneNumber": "88##18881234567#",
},
{
  "type": "technical",
  "firstName": "Adam",
  "lastName": "Blake",
  "email": "ablake102@aps.test",
  "phoneNumber": "88##18881234567#"
},
{
  "type": "billing",
  "firstName": "Adam",
  "lastName": "Blake",
  "email": "ablake102@aps.test",
  "phoneNumber": "88##18881234567#"
}
],
"language": "en"
}
],
"pagination": {
  "offset": 47,
  "limit": 10,
  "total": 48
}
}
```

Get Customer Details

When details about a customer are required, the API client specifies the customer ID in the following request:

GET **/customers/1000057** HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78

X-Subscription-Key: 066a6b...33b16

The response must look as follows:

HTTP/1.1 200 OK

```
{
  "id": "1000057",
```

```
"externalId": "ablake102",
"name": "Adam Blake",
"taxRegId": "1357",
"status": "active",
"address": {
  "streetAddress": "101, Any Street",
  "addressExtension": "extension",
  "postalCode": "12345",
  "city": "Herndon",
  "state": "VA",
  "countryCode": "US"
},
"contactPersons": [
  {
    "type": "admin",
    "firstName": "Adam",
    "lastName": "Blake",
    "email": "ablake102@aps.test",
    "phoneNumber": "88##18881234567#"
  },
  {
    "type": "technical",
    "firstName": "Adam",
    "lastName": "Blake",
    "email": "ablake102@aps.test",
    "phoneNumber": "88##18881234567#"
  },
  {
    "type": "billing",
    "firstName": "Adam",
    "lastName": "Blake",
    "email": "ablake102@aps.test",
    "phoneNumber": "88##18881234567#"
  }
],
"language": "en"
}
```

Identify Products

This example is based on an Azure CSP service plan delegated to resellers. The service plan contains a free resource representing a tenant that grants access to the Azure portal. A subscription must have only one such resource in accordance with the **Min Amount** and **Max Amount** properties. The Azure services used by the subscriber are charged by the platform every billing period on a pay-as-you-go basis.

Xvantage: Cloud Marketplace API

The API client must identify the products that the reseller can sell to its customers. For this purpose, it sends a request for the list of available products (use the **offset** and **limit** query parameters to reduce the number of returned products):

```
GET /products?offset=14 HTTP/1.1
```

```
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78
```

```
X-Subscription-Key: 066a6b...33b16
```

If successful, the response contains a list of products delegated to the reseller and available for sale:

```
HTTP/1.1 200 OK
```

```
{
  "data": [
    { /* Other products */
    },
    {
      "mpn": "MS-AZR-0017G",
      "name": "Azure Tenant",
      "serviceName": "Azure CSP",
      "minimumQuantity": "1.0",
      "maximumQuantity": "1.0",
      "prices": [
        {
          "currency": "USD",
          "amount": "0.0",
          "type": "recurring"
        }
      ],
      "billingPeriod": {
        "type": "month",
        "duration": 1
      }
    }
  ],
  "pagination": {
    "offset": 14,
    "limit": 10,
    "total": 16
  }
}
```

Identify Product Parameters

Azure services are available on a subdomain created by a customer request in the domain zone provided by Microsoft. This allows Azure to identify a tenant by the subdomain owned by this tenant. Before sending an order request, verify that the required subdomain is not occupied by another customer. For example, if the customer wants to work in subdomain **customer1000057**, send the following request in which the **tenant_name** parameter must be the same as the one you will use later when ordering the Azure product:

```
POST /validation/parameters HTTP/1.1
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmRXO78
Content-Type: application/json
X-Subscription-Key: 066a6b...33b16
```

```
{
  "customerId": "1000057",
  "products": [
    {
      "mpn": "MS-AZR-0017G",
      "parameters": [
        {
          "name": "tenant_name",
          "value": "customer1000057.onmicrosoft.com"
        }
      ]
    }
  ]
}
```

If the required subdomain is available for use, the response looks as follows:

As the validated subdomain is available for purchase, proceed to the next step.

Order Products for a Customer

Place a Sales Order

Note: By placing a sales order, you confirm that you have received the acceptance from your customer for the [Terms & Conditions](#). The platform automatically marks those Terms and Conditions as Accepted.

The following request places a sales order for the Azure product:

```
POST /orders HTTP/1.1
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmRXO78
Content-Type: application/json
X-Subscription-Key: 066a6b...33b16
```

```
{
```

Xvantage: Cloud Marketplace API

```
"customerId": "1000057",
"poNumber": "PO2244",
"type": "sales",
"products": [
  {
    "mpn": "MS-AZR-0017G",
    "quantity": "1",
    "parameters": [
      {
        "name": "tenant_name",
        "value": "customer1000057.onmicrosoft.com"
      }
    ]
  }
]
```

If successful, the response contains the reference properties and status of the placed order:

HTTP/1.1 200 OK

```
{
  "id": "1000112",
  "type": "sales",
  "customerId": "1000057",
  "creationDate": "2019-11-29T11:56:28Z",
  "status": "processing"
}
```

Pay attention to the ID of the created sales order.

Verify an Order

After an order is created, it is necessary to verify if the order is completed and get a reference to the created subscription as in the following request:

GET /orders/1000112 HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains the reference properties and status of the placed order:

HTTP/1.1 200 OK

```
{
  "id": "1000112",
  "type": "sales",
  "customerId": "1000057",
  "creationDate": "2019-11-29T11:56:28Z",
  "status": "processing"
}
```


Xvantage: Cloud Marketplace API

```
"status": "completed",
"products": [
  {
    "mpn": "MS-AZR-0017G",
    "name": "Azure Tenant",
    "quantity": "1.0",
    "extendedPrice": {
      "currency": "USD",
      "amount": "0.0"
    },
    "subscriptionId": "1000106"
  }
]
```

Pay attention to the ID or the created subscription.

Get a List of Orders

To get a list of orders, send a GET request. (Optional) You can specify the pagination (**offset** and **limit**) and other query parameters to select a range of orders. Use this example:

GET **/orders?customerId=1000057** HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains a list of placed orders in accordance with the query parameters:

HTTP/1.1 200 OK

```
{
  "data": [
    {
      "id": "1000111",
      "type": "sales",
      "customerId": "1000057",
      "creationDate": "2019-11-29T11:44:34Z",
      "status": "error"
    },
    {
      "id": "1000112",
      "type": "sales",
      "customerId": "1000057",
      "creationDate": "2019-11-29T11:56:28Z",
      "status": "completed"
    }
  ]
}
```

```
],  
  "pagination": {  
    "offset": 0,  
    "limit": 10,  
    "total": 2  
  }  
}
```

Manage Subscriptions

Get Subscription Details

After an order for products is completed, check the details of the created subscription. For this purpose, send the following request using the subscription ID in the request path:

GET /subscriptions/1000106 HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmSRXO78

X-Subscription-Key: 066a6b...33b16

If successful, the response contains the subscription general properties and a list of references to the products:

HTTP/1.1 200 OK

```
{  
  "id": "1000106",  
  "customerId": "1000057",  
  "status": "active",  
  "renewalStatus": true,  
  "creationDate": "2019-11-29",  
  "renewalDate": "2019-12-27",  
  "lastModifiedDate": "2019-11-29",  
  "totalPrice": {  
    "currency": "USD",  
    "amount": "0.0"  
  },  
  "products": [  
    {  
      "mpn": "MS-AZR-0017G",  
      "quantity": "1.0",  
      "unitPrice": {  
        "currency": "USD",  
        "amount": "0.0"  
      },  
    },  
    "extendedPrice": {
```

Xvantage: Cloud Marketplace API

```
"currency": "USD",  
"amount": "0.0"  
}  
}  
]  
}
```

As follows from the response, the created subscription is active and it represents the product that provides access to the Azure portal for the subscriber.

Get a List of Subscriptions

To get a list of subscriptions, send a GET request. (Optional) You can specify the pagination (**offset** and **limit**) and other query parameters to select a range of subscriptions. Use this example:

```
GET /subscriptions?customerId=1000057 HTTP/1.1
```

```
Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmsRXO78
```

```
X-Subscription-Key: 066a6b...33b16
```

If successful, the response contains a list of selected subscriptions in accordance with the query parameters:

```
HTTP/1.1 200 OK
```

```
{  
  "data": [  
    {  
      "id": "1000105",  
      "customerId": "1000057",  
      "status": "pending",  
      "renewalStatus": true,  
      "lastModifiedDate": "2019-11-29"  
    },  
    {  
      "id": "1000106",  
      "customerId": "1000057",  
      "status": "active",  
      "renewalStatus": true,  
      "creationDate": "2019-11-29",  
      "renewalDate": "2019-12-27",  
      "lastModifiedDate": "2019-11-29"  
    }  
  ],  
  "pagination": {  
    "offset": 0,  
    "limit": 10,  
  }  
}
```

Xvantage: Cloud Marketplace API

```
"total": 2
}
}
```

Upgrade and Downgrade a Subscription

Subscription upgrades and downgrades are not supported by the Azure offer as the subscription contains a singleton product that provides access to the Azure portal where the customer can request provisioning and unprovisioning of resources. The invoice for the consumed resources is calculated by the platform every billing period on a pay-as-you-go basis.

Cancel a Subscription

When a subscription is no longer needed, you can cancel it by posting a request for a **cancellation** order, for example:

POST /orders HTTP/1.1

Authorization: Bearer eyJwcm...0fQtrLk4RToj51HAmRXO78

Content-Type: application/json

X-Subscription-Key: 066a6b...33b16

```
{
  "customerId": "1000057",
  "poNumber": "myponumber",
  "type": "cancellation",
  "products": [
    {
      "subscriptionId": "1000106"
    }
  ]
}
```

If successful, the response contains the reference properties and status of the placed cancellation order:

HTTP/1.1 200 OK

```
{
  "id": "1000113",
  "type": "cancellation",
  "customerId": "1000057",
  "creationDate": "2019-11-29T13:11:43Z",
  "status": "submitted"
}
```

In the reseller control panel, open the new cancellation order to start its processing. Verify that the order processing is completed as described in the [Verify an Order](#) section and the subscription status is changed to **removed** following the [Get Subscription Details](#) section.

Conclusion

This completes a typical scenario of selling the Azure product delegated to resellers. You went through the whole subscription life cycle, from ordering to cancellation.

Glossary

Account

An account is a representation of an organization or a person (do not confuse with [user](#)) in the platform's hierarchical business model. There are three types of accounts: [provider](#) (there is a single account of this type in the platform), [reseller](#), and [customer](#). An account can have two types of users: [administrators](#) and [service users](#).

Administrator

Administrators

A type of [user](#) who is able to manage its associated account. Similar to a [service user](#), an administrator can consume services purchased by the [account](#) associated with this user.

API client

A software tool used by resellers to access the API exposed by the platform. This can be a specialized REST UI application, a script, or a command line tool (or a combination of these) used in the production environment and for testing.

CMP API

Cloud Marketplace API

Marketplace API

This is the subject of the whole document set you are reading now. The CMP API is based on REST concepts and designed to enable Ingram Micro Cloud partners to integrate their management systems with the [Platform](#).

Customer

Xvantage: Cloud Marketplace API

A type of [account](#) that represents an organization or a person (do not confuse with [user](#)) that can purchase and consume services from its [product vendor](#). Unlike [reseller](#), a customer is not able to have its subsidiary accounts or resell products.

ISV

Independent software vendor

Application vendor

A company specializing in making or selling software designed for mass or niche markets. In the [platform](#), there are no resources that represent ISVs. They are known as independent software vendors that are responsible for the services provided by their cloud applications integrated with the platform.

MPN

Manufacture Part Number

This is a unique identifier of a product assigned by the respective service vendor. In the API, an MPN is used to differentiate products from each other when listing, searching, and ordering products.

Platform

Ingram Micro Cloud platform is a modular, scalable, and secure platform that enables the end-to-end delivery of services, including onboarding, automation, integration, distribution, go-to-market, and support.

Provider

A type of [account](#) that is the owner of the platform. It represents an organization with [users](#) that manages the whole platform. Particularly, the provider creates the hierarchical business model, deploys services, and configures products for sales.

Reseller

A type of [account](#) that represents an organization or a person (do not confuse with [user](#)) that can resell the provider's resources directly or through its [product vendor](#). Similar to a [customer](#), a reseller can also purchase and consume services from its [product vendor](#).

Sales vendor



Xvantage: Cloud Marketplace API

Product vendor

For an [account](#), this is the [provider](#) or a [reseller](#) who created that account and provides products for it.

Service user

Service users

A type of [user](#) who is a consumer of services purchased by the [account](#) associated with this user. Unlike [administrator](#), a service user is not able to manage its associated account.

User

Users

A representation of a user who is associated with a particular account and can log in to the platform user panel to manage its own resources (as a [service user](#)) or its account (as an [administrator](#)).