

**Implementation**

**Guidelines**

Order Status API

V01.00.00

**Owner: Pavan Pasupuleti Guide Revision Number: 1**

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# Revision History

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| --- | --- | --- | --- |
| **Rev No.** | **Revision Date** | **Description** | **Revised by** |
| 1 | 08/25/2017 | Initiate new Implementation Guide for Order Status API | Mihir Raut |
| 2 | 09/1/2017 | Included comment suggest by Bill | Mihir Raut |
| 3 | 09/07/2017 | Included comments suggested by Bill & Pavan. | Mihir Raut |
| 4 | 09/11/2017 | Updated on the OAuth authentication process and URI | Pavan Pasupuleti |
| 5 | 10/23/2017 | Updated the Request & Response object structures to facilitate only the new customer order number based search | Pavan Pasupuleti |
| 6 | 10/24/2017 | Updated preface and System Integration diagram | Gurmat Singh Bhatia |

## Preface

Order Status API is a light-weight API for partners to request and receive real time Order Status information. This API provides real time status for both Stocking and Directship orders that includes Tracking Information, End Customer details, Product Information, License Keys, Serial Keys, Vendor Order references, Shipping & Billing Details.

Key benefits of using Order Status API:

* Low cost integration
* Consistent Order Status information
* Single API/entry point for order status.
* Eliminates the need of going to vendor for their order status.

# Introduction

Ingram Micro has prepared this document to be used when integrating with Ingram’s Order Status API. This document describes how a request to the API needs to be structured and what to expect in the response.

## Overview

The interactions between the partner systems and Ingram APIs are done by a request and response JSON interchange mechanism.

Partner users make a request to the APIs using JSON object encompassing key data elements as input and receive a JSON response consisting of Order Status information.



## Audience

The intended audience for this document is business analysts, IT engineers, and technical architects who are involved in the integration project. The document may also be used as a reference by other stakeholders who wish to understand business and / or technical aspects of integration.

## Scope

This document describes the implementation guidelines for request and response BODs for Order Status API. The document details out various elements and structure that form the request and response objects involved in the API calls.

## Prerequisites

It is assumed that the reader has some familiarity with Ingram EAI & EDI platforms through either formal or informal training and / or demonstration. Provided below, are the links to get detailed information on onboarding and usage of the platform. The access to the links requires valid Partner ID.

In order to use Order Status API and sFTP users need to follow below steps:

Order Status API:

* Ingram Micro API authenticates clients using OAuth as the authentication method. Under this scheme, once we register a partner, the application will generate an APP ID and Secret key. The partner then needs to fetch the token against the App Id and Secret Key combination. This token expires every 14 days. This token needs to be renewed every 14 days. This token is passed in the authorization HTTP header field.
* To authenticate your API calls, just include your encoded token string in the Authorization header. Please refer [Appendix A: Developers’ Resources](#_Appendix_A:_) for any details on how to build request to implement API call in client application. Here’s an example, to authenticate your request when accessing the /orders/orderstatus resource, send an HTTP message like the following:

POST /v1/orders/orderstatus

Beta Host: api-beta.ingrammicro.com

Content-Type: application/json

Authorization: Bearer TG9vayBhdCB0aGF0OyBEdWNrcy4uLm9uIGEgbGFrZSEK

Production Host: api.ingrammicro.com

Protocol: HTTPS

* If your request is authenticated by the server, it will reply with the appropriate data for the request you made. Otherwise, it will reply with a ‘Credentials’ missing error.

**Note**: Ingram Micro's API protects customer and partner information by passing all communication through SSL. As such, all Ingram Micro API endpoints use the HTTPS protocol.

Below are the detailed steps to generate OAuth token and pass it in the Authorization HTTP header. –

* Replace the place-holders **<app\_id>** and **<secretkey\_for\_your\_app>** in the URI below with the appropriate App ID and Secret Key provided for you by the Ingram.

**UAT:**

[http://developer-stage.ingrammicro.com/oauth/oauth20/token?client\_id=**<app\_id>**&client\_secret**=<secretkey\_for\_your\_app>**&grant\_type=client\_credentials](http://developer-stage.ingrammicro.com/oauth/oauth20/token?client_id=%3capp_id%3e&client_secret=%3csecretkey_for_your_app%3e&grant_type=client_credentials)

**PROD:**

[http://developer.ingrammicro.com/oauth/oauth20/token?client\_id=**<app\_id>**&client\_secret**=<secretkey\_for\_your\_app>**&grant\_type=client\_credentials](http://developer.ingrammicro.com/oauth/oauth20/token?client_id=%3capp_id%3e&client_secret=%3csecretkey_for_your_app%3e&grant_type=client_credentials)

* Ensure to set the following request headers:

Accept: \*/\*

Cache-Control: no-cache

* All set to start consuming the API.

sFTP:

* Ingram will provide the partner with the sFTP connection details to access the Order status files in JSON format.
* Client application can use any sFTP Client libraries to read these Order status files that they are entitled to by providing the appropriate sFTP access credentials. Please refer [Appendix A: Developers’ Resources](#_Appendix_A:_) for sFTP details.

# Message Guideline

## Guideline Annotations

The guideline annotations that follow apply when creating a request to invoke Order Status API or interpreting a response from the same. Cardinality values specify if a Request or Response element is required or optional, and specify the frequency at which the value must occur.

Grey color coding advises a partner that the code is not used.

##### **Table 2: Cardinality Values and Color Codes**

|  |  |
| --- | --- |
| **Cardinality Value** | **Semantics** |
| 1 | Mandatory, only one instance |
| 1..n | Mandatory, one or more instances |
| 0..1 | Optional, zero or one instance |
| 0..n | Optional, zero or more instances |
| **Color Code and Formatting** | **Significance** |
| Grey Shaded | Not used |

## Request – Response Message Guidelines

User can make an API call through creating request using key information like Customer number and Customer Order no. Along with the Order Status information user can provide his or her preference for receiving Order Status info for a specific country by setting the Country code value. The possible values for the Country code are US for US and CA for Canada.

|  |  |
| --- | --- |
|  | Use Case |
|  | **Request Status & Order Status Information Package**  **(For a single Order Status )** |
|  | **Order Status Identifier**  **Customer Number** **,Customer Order Number, Country Code** |
|  |  |

##### **Table 3: Request Message Guidelines**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr #** | **Cardinality** | **Elements** | **Requirement type** | **Guidelines/Description** | **Format/ Sample** |
| 1 |  | Orderstatus |  | v1/orders/orderstatus |  |
| 2 | 1 | | -- OrderstatusRequest | Only 1 instance to be created for this HTTP POST request |  |  |
| 3 | 1 | || --CustomerNumber | **Required** | Customer BCN | Format: String  Sample: xx-xxxxxx |
| 4 | 1 | || --CustomerOrderNo | **Required** | ResellerPO | Format: String  Samples: xxxxx /xxxxxxxx / POxxxxx |
| 5 | 1 | || --CountryCode | **Required** | ISO country code | Format: String  Sample: US  [Appendix D](#_Appendix_E:__1) |

##### 

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Is field Present in Request? (Y/N) | | | Response | |
| Customer Order Number (Reseller PO) | Customer Number | Country Code | Valid Data | Invalid Data |
| Y | Y | Y | Based on ResellerPO | Error # 1 |
| Y | N | Y | Error | Error # 2 |
| N | Y | Y | Error | Error # 2 |
| Y | Y | N | Error | Error # 2 |

##### **Note:**

1. HTTP POST Request JSON document to be created and sent to fetch details for a single customer order number only. Please refer [Appendix C](#_Appendix_C:_) for list of error responses from Ingram.
2. While acquiring order status using Customer order number, following fields are mandatory

* Customer Number
* Customer Order Number
* Country Code

##### **Table 4: Detailed Response Message Guidelines**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr #** | **Cardinality** | **Order Response** | **Guidelines/Description** | **Format/ Sample** |
| 1 | 1 | OrderResponse |  |  |
| 2 | 1 | | -- OrderResponseHeader |  |  |
| 3 | 1 | ||-- RequestStatus | Result of API call. Could be SUCCESS or ERROR. SUCCESS = API call was successful in fetching order status data. ERROR = There were some issues with the call and data couldn’t be fetched | Format: String  Sample: Success |
| 4 | 1 | ||-- RequestStatusDescription | Description about status of the operation performed | Format: String  Sample :Order View Request Successful |
| 5 | 1 | || -- RequestDateTime | requested Date and time | Format yyyy-MM-dd HH:mm:ss Sample: 2017-08-23 11:00:00 |
| 6 | 1 | |-- OrderResponseBody |  |  |
| 7 | 1..n | ||-- VendorResponseBody |  |  |
| 8 | 1 | |||--IMOrderDate | Order entry date | Format yyyy-MM-dd HH:mm:ss Sample: 2017-08-23 11:00:00 |
| 9 | 1 | |||--ResellerPO | Reseller Purchase Order Number | Format: String  Sample : xxxxxxxx |
| 10 | 1 | |||--CustomerNumber | BCN of the Customer | Format: String  Sample : xx-xxxxxx |
| 11 | 1 | |||--IMSalesOrderNumber | Sales Order Number | Format: String  Sample: xxxxxxxxxxxx |
| 12 | 1 | |||--IMPurchaseOrderNumber | Purchase Order Number | Format: String  Sample : xxxxxxxxxxxxxx |
| 13 | 1 | |||--VendorWebOrderID | Web Order Id | Format: String  Sample : xxxxxx-xxxxxxxxx |
| 14 | 1 | |||--Status | Order Status | Format: String  Sample :xxxxxxxxxxxxx |
| 15 | 1 | |||--VendorSalesOrderReference | Vendor Sales Order Reference | Format: String  Sample :xxxxxxxxxxxxxx |
| 16 | 1 | |||--EndCustomerInformation |  |  |
| 17 | 1 | ||||-- EndCustomerName | Customer Name | Format: String  Sample : xxxxxxxxxxxxxx |
| 18 | 1 | ||||-- EndCustomerAddress |  |  |
| 19 | 1 | |||||--AddressLine | Customer Address | Format: String  Sample : xxxxxxxxxxxxxxxxx |
| 20 | 1 | |||||--CityName | City | Format: String  Sample :xxxxxxxxxxxx |
| 21 | 1 | |||||-- CountrySubDivisionCode | Country Subdivision Code | Format: String  Sample :xx. |
| 22 | 1 | |||||--CountryCode | Country Code | Format: String  Sample :xxxxxxxxxxxxxxxxxxxxx. |
| 23 | 1 | |||||--PostalCode | Postal Code | Format: String  Sample : 999999999999 |
| 24 | 1..n | |||--OrderLines | Order Line Items |  |
| 25 | 1 | ||||-ShipSetNumber | Shipset Number | Format: String  Sample :999 |
| 26 | 1 | ||||--LineNumber | Line Item Number | Format: String  Sample : xx.x |
| 27 | 1 | ||||--Status | Status | Format: String  Sample : xxxxxxxxxx |
| 28 | 1 | ||||--ShipmentDate | Shipment Date | Format yyyy-MM-dd HH:mm:ss Sample: 2017-08-23 11:00:00 |
| 29 | 1 | ||||--PartNumber | Part Number | Format: String  Sample : PartNumber |
| 30 | 1 | ||||--Description | Part Description | Format: String  Sample : Part Description |
| 31 | 1 | ||||--Quantity | Quantity | Format: String  Sample : 9999 |
| 32 | 1 | ||||--RequestedDeliveryDate | Delivery Date | Format yyyy-MM-dd HH:mm:ss Sample: 2017-08-23 11:00:00 |
| 33 | 1 | ||||-- PromisedDeliveryDateTime | Promised Delivery Data | Format yyyy-MM-dd HH:mm:ss Sample: 2017-08-23 11:00:00 |
| 34 | 1 | ||||--ShipFrom | Ship From | Format: String  Sample : xxxxxxxxxxxxxx |
| 35 | 0..n | ||||-- LicensePAKKeys | License PAK Keys | Format: String  Sample : XUXGNXYPSKX |
| 36 | 1 | ||||--ServiceContractInformation |  |  |
| 37 | 1 | |||||--ContractNumber | Contract Number | Format: String  Sample :XXXXXXXXX |
| 38 | 1 | |||||--ContractStatus | Contract Status | Format: String  Sample :xxxxxxxxxxxx |
| 39 | 1 | |||||--StartDate | Contract Start Date | Format yyyy-MM-dd HH:mm:ss Sample: 2017-08-23 11:00:00 |
| 40 | 1 | |||||--EndDate | Contract End Data | Format yyyy-MM-dd HH:mm:ss Sample: 2017-08-23 11:00:00 |
| 41 | 1 | ||||-- SubscriptionDetail |  |  |
| 42 | 1 | |||||-- SubscriptionID | Subscription Id | Format: String  Sample : Sub11234 |
| 43 | 1 | |||||--DurationAndTerm | Duration and Terms |  |
| 44 | 1 | ||||||--StartDateTime | Start Date | Format yyyy-MM-dd HH:mm:ss Sample: 2017-08-23 11:00:00 |
| 45 | 1 | ||||||--EndDateTime | End Data | Format yyyy-MM-dd HH:mm:ss Sample: 2017-08-23 11:00:00 |
| 46 | 1 | ||||||--InitialTerm | Initial Term | Format: String  Sample : xx |
| 47 | 1 | ||||||--PrepayTerm | Prepay Term | Format: String  Sample : xx |
| 48 | 1 | ||||||--AutoRenewalTerm | Auto Renewal Term | Format: String  Sample : xx |
| 49 | 1 | ||||||--TrueUpTerm | True Up Terms | Format: String  Sample : xx |
| 50 | 1 | |||||--ServiceStartDate |  |  |
| 51 | 1 | ||||||-RequestedDate | Requested Date | Format: String  Sample : 2016-08-09T00:00:00 |
| 52 | 1 | ||||||--EstimatedDate | EstimatedDate | Format: String  Sample : 2016-08-09T00:00:00 |
| 53 | 1 | |||||--BillingInfo |  |  |
| 54 | 1 | ||||||--BillingModel | Billing Model | Format: String  Sample : Billing Model |
| 55 | 1 | ||||||-- SubscriptionChargeType | Subscription Charge Type | Format: String  Sample :xxxxxxxxxxx |
| 56 | 1 | ||||||--ChargeFrequency | Charge Frequency | Format: String  Sample :xx xxxxx |
| 57 | 1 | ||||||--UnitOfMeasure | Unit of Measure | Format: String  Sample : xxxx |
| 58 | 1..n | ||||--TrackingInformation | Tracking Details |  |
| 59 | 1 | |||||--Carrier | Carrier | Format: String  Sample : Carrier |
| 60 | 1 | |||||--TrackingNumber | TrackingNumber | Format: String  Sample : TrackingNumber |
| 61 | 1 | |||||--TrackingURL | TrackingURL | Format: String  Sample : TrackingURL |
| 62 | 0..n | |||--SerialNumbers | Serial numbers |  |
| 63 | 1 | ||||--LineNumber | Line Number | Format: String  Sample :x.x.x |
| 64 | 1 | ||||--ManufacturePartNumber | Manufactured Part Number | Format: String  Sample : Manufactured Part Number |
| 65 | 1 | ||||--SerialNumber | Serial Number | Format: String  Sample :xxxxxxxxxxxxxx |
| 66 | 1 | ||||--ParentSerialNumber | Part Serial Number | Format: String  Sample :xxxxxxxxxxxxxx OR N/A |
| 67 | 1 | ||-- IngramResponseBody |  |  |
| 68 | 1 | |||--OrderDate | Order Date | Format: String  Sample : 2016-08-09T00:00:00 |
| 69 | 1 | |||--ResellerPO | Reseller PO number | Format: String  Sample 999999999 |
| 70 | 1 | |||--CustomerNumber | Customer Number | Format: String  Sample : xx-xxxxxxxxx |
| 71 | 1 | |||--ResellerBillingAddress | Reseller Billing Address |  |
| 72 | 1 | ||||--Name | Name | Format: String  Sample : xxxxxxxxxxx |
| 73 | 1 | ||||--AddressLine1 | Address | Format: String  Sample : xxxxxxxxxxx |
| 74 | 1 | ||||--AddressLine2 | Address | Format: String  Sample : xxxxxxxxxxx |
| 75 | 1 | ||||--AddressLine3 | Address | Format: String  Sample : xxxxxxxxxxx |
| 76 | 1 | ||||--City | City | Format: String  Sample : xxxxxxxxxxx |
| 77 | 1 | ||||--State | State | Format: String  Sample : xxxxxxxxxxx |
| 78 | 1 | ||||--PostalCode | Postal Code | Format: String  Sample : xxxxxxxxxxx |
| 79 | 1 | ||||--CountryCode | Country Code | Format: String  Sample : xxxxxxxxxxx |
| 80 | 1 | |||--ResellerShippingAddress | Reseller Shipping Address |  |
| 81 | 1 | ||||--Name | Name | Format: String  Sample : xxxxxxxxxxx |
| 82 | 1 | ||||--AddressLine1 | Address | Format: String  Sample : xxxxxxxxxxx |
| 83 | 1 | ||||--AddressLine2 | Address | Format: String  Sample : AddressLine2 |
| 84 | 1 | ||||--AddressLine3 | Address | Format: String  Sample : AddressLine3 |
| 85 | 1 | ||||--City | City | Format: String  Sample : City |
| 86 | 1 | ||||--State | State | Format: String  Sample : State |
| 87 | 1 | ||||--PostalCode | Postal Code | Format: String  Sample : Postal Code |
| 88 | 1 | ||||--CountryCode | Country Code | Format: String  Sample : US |
| 89 | 1..n | |||--ShippingDetails | Shipping Details |  |
| 90 | 1 | ||||--IMSalesOrderNumber | Ingram Sales Order number | Format: String  Sample : xx-xxxxx-xx |
| 91 | 1 | ||||--Status | Status | Format: String  Sample : Invoiced |
| 92 | 1 | ||||--HoldReason | Hold Reason | Format: String  Sample : xxxxxxxxxxx |
| 93 | 1 | ||||--ShipFrom | Ship From | Format: String  Sample : xxxxxxx, xx, xx |
| 94 | 1 | ||||--FreightAmount | Freight Amount | Format: String  Sample : x.x |
| 95 | 1 | ||||--FreightWeight | Freight Weight | Format: String  Sample : x.x |
| 96 | 1 | ||||--PONumber | PO Number | Format: String  Sample : N/A |
| 97 | 1 | ||||--OrderType | Order Type | Format: String  Sample : Stocking |
| 98 | 1 | ||||--PromiseDate | Promised Date | Format: String  Sample : 2016-08-09T00:00:00 |
| 99 | 1 | ||||--shippedDate | Shipped Date | Format: String  Sample : 2016-08-09T00:00:00 |
| 100 | 1 | ||||--CarrierName | Carrier Name | Format: String  Sample : xxxxxxxxxxx |
| 101 | 1..n | ||||--IMLineItems |  |  |
| 102 | 1 | |||||--SKU | Ingram SKU | Format: String  Sample : SKU123 |
| 103 | 1 | |||||--ManufacturePartNumber | Manufacture Part Number | Format: String  Sample : ManufacturePartNumber |
| 104 | 1 | |||||--PartDescription | Part Description | Format: String  Sample : xxxxxxxxxxx |
| 105 | 1 | |||||--QuantityOrdered | Ordered Quantity | Format: String  Sample :x |
| 106 | 1 | |||||--QuantityShipped | Shipped Quantity | Format: String  Sample : x |
| 107 | 1 | |||||-ScheduledShipDate | Scheduled Ship Date | Format: String  Sample : 2016-08-09T00:00:00 |
| 108 | 1 | |||||--UnitPrice | Unit Price | Format: String  Sample :xxx.x |
| 109 | 1 | |||||--LinePrice | Line Price | Format: String  Sample :xxx.x |
| 110 | 0..n | |||||--SerialNumbers | Serial Numbers | Format: String  Sample : XXXX2122XXX8, XXXXXXXXX |
| 111 | 1 | |||||--DeliveryInformation |  |  |
| 112 | 1 | ||||||--TrackingNumber | Tracking Number | Format: String  Sample : 11111111111 |

##### **NOTES**

##### All Amounts are in US Dollars (Table 4:).

##### Phone# and Postal code# are not formatted. They will be passed as they received from the given vendors.

##### All Date/Time type fields represent date and time data in **DateTime.Now**

# Appendix A: Developers’ Resources

**API Access URLs**

**UAT:** <https://api-beta.ingrammicro.com:443/v1/orders/orderstatus>

**Production:** <https://api.ingrammicro.com/v1/orders/orderstatus>

**Token Generation URL:** will be provided in a separate e-mail.

**Sample Messages:**

****

**sFTP Details**

**Host: venus.ingrammicro.com**

**Port: 22**

**Username:**

**Password:**

**Root folder: / PartnerName/ORDER\_STATUS\_FEED**

**Sample Push file:**

****

**Implementation Resources:**

****

**Trial Recommendation:**

Ingram recommends trying out the API over UAT environment first and then moving onto Production if satisfied.

# Appendix B: Glossary of Terms and Abbreviations

**Table 5: Glossary of Terms and Abbreviations**

|  |  |
| --- | --- |
| **Term/Acronym** | **Definition** |
| API | Application Program Interface |
| sFTP | Secure File Transfer Protocol |
| JSON | JavaScript Object Notation |
| EDI | Electronic Data Interchange |
| EAI | External Application Interface |

# Appendix C: Error Responses

Following is the list of all error responses sent by Ingram in case there were some technical or business issues with retrieval of Order Status information

**Table 6: List of all error responses sent by Ingram**

|  |  |  |
| --- | --- | --- |
| **Sr #** | **Code** | **Description** |
| 1 | PA-ONF | Customer Order not found |
| 2 | PA-MIM | MANDATORY INFORMATION MISSING. If any mandatory Parameters are missing. |
| 3 | PA-IA | INVALID-AUTHENTICATION. If Customer number is not allowed to Execute Service |
| 4 | PA-DBF | INVALID-AUTHENTICATION. If Connection to Partner's Database failed |
| 5 | PA-EXE | EXCEPTION OCCURRED. If can exception occurred in the code. |
| 6 | PA-IREQ | INVALID REQUEST. Request is not in the Expected Format |
| 7 | PA-SF | FAILED. If service Fails. |

**Sample Error Response**:

{

"OrderResponseHeader": {

"RequestStatus": "FAILED",

"RequestStatusDescription": "Error Code: PA-MIM. Description: Following Information is Mandatory: Country Code",

"RequestDateTime": "0001-01-01T00:00:00"

},

"OrderResponseBody": null

}

# ­Appendix D: Ingram’s Internal Country Code List

##### Table 7: List of all valid internal country codes

|  |  |  |
| --- | --- | --- |
| **Sr #** | **Internal Country Code** | **Name** |
| 1 | US | United S­tates |
| 2 | CA | Canada |