

**E-Invoice API Document**

Of

GSTrobo e-Invoice

Binary Semantics Limited

**February 04th, 2020**

**Document ID – BSL/SD/FM-06/10**

Version- 1.2

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# Revision History

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| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 04th February, 2020 | 1.1 | e-Invoice API detail GSTrobo System | Suramya |
| 21st May,2020 | 1.2 | e-invoice validation additions and deletions | Suramya |
| 11th August, 2020 | 1.03 | E-Invoice Validation additions and deletions | Ruchika |
| 31ST August, 2020 | 1.03 | E-Invoice Validation addition and deletions | Ruchika |

## **V1.03 Highlighted, Dated- 05.08.2020**

New Additions Highlighted in Gray Deletion ~~Crossed~~

## **V1.03 Validations Additions and Deletion, Dated -27.08.2020**

New Additions Highlighted in Turquoise and Deletion Highlighted in Red

**V1.03 Validation added Dated: 08.09.20**

New Addition Highlighted in Dark Cyan

# Overview

Intend to create this document is to smoothly work with e-Invoicing features. GSTrobo API’s provide complete functionality to push e-Invoice data on GSTN government portal.

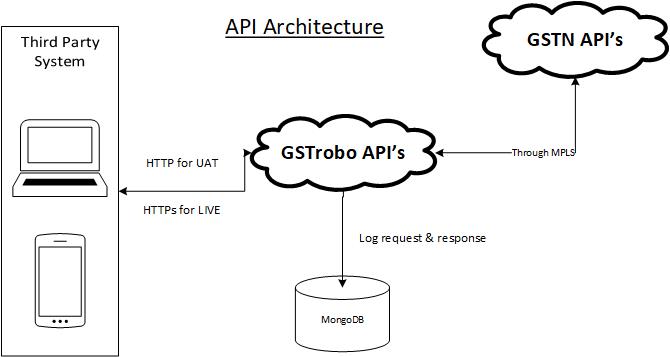
Binary Semantics will expose the required API’s and the same will be consumed by the third party’s. All API’s will work in synchronous mode with build in rules for exceptions.

# C:\Users\suram\AppData\Local\Microsoft\Windows\INetCache\Content.Word\E-Invoice Flow.jpgAPI Workflow

Note: Validation of GSTINs is not mandatory, GSTrobo applications validates the GSTINs.

APIs Generate IRN, Cancel, Get IRN Details, Get IRN status, Create E-way Bill with IRN, Cancel E-Way Bill can be performed as per user requirement.

# Architecture



Each API has its own payload and the header information. The details are as follows

## Authenticate API Validations

The base API authenticate user on GSTN portal and provide access token.

To access the API’s, application should first authenticate using the credentials. It will return an auth token that is to be used to access subsequent APIs. Validity of the auth token will be 360 minutes.

If Getting error 'Invalid Auth Token' while generating an e-Invoice through API and it is getting expired within 6 Hours.  
Auth Token will be active for 6 hours since the first successful login. Even if the Auth API is called again before 6 hours, same token will be returned, and the time is not reset. Hence you can generate new Auth token only when it expires after 6 hours. For example: If you have authenticated at 12:00, token will be active till 06:00 If auth API is called at 02:00, still the same token will be active till 06:00 and not till 08:00

If getting ‘Inactive User’ while hitting authentication API then the credentials might be incorrect.

## Generate IRN Validations

This API is used for registering the invoice and getting the Invoice Registration Number (IRN). The request payload must be as per the schema mentioned in the “E-Invoice Field Details.xlsx” excel file. The validations on Invoices are listed as below:

1. E-Invoice request JSON data must be validated as per the e-Invoice JSON Schema given in the portal.
2. Version of the Schema is mandatory and should be latest as per the notified in API portal.
3. IRN should not be passed as part of the request; it is generated by the e-Invoice system and sent as response.
4. The following fields should have one of the values given in the master codes.
   * Supply Type of Transaction
   * Document Type
5. The category of transaction of ‘Business to Consumer (B2C)’ invoices will not be considered and hence the API interface should not request for IRN for these transactions.
6. Document number should not be starting with 0, / and -. Also, alphabets in document number should not have alphabets in lower cases. If so, then request is rejected.(Now Lower case is also allowed).
7. Supplier should ensure that the unique invoice number is being generated for the financial year for each invoice, in his ERP/manual system. For the purpose of the financial year, the date of invoice is considered. The financial year starts from 1st April and ends on 31st March.
8. Duplicate IRN requests are not considered. That is, if the IRN is already generated on particular type of document and document number of the supplier for the financial year, then one more IRN cannot be generated on the same combination.
9. e-invoice(IRN) cannot be re-generated for the cancelled e-invoice(IRN) also.
10. ~~IRN cannot be cancelled, if the Valid/Active E-way Bill exists for the same.~~
11. Request for the IRN/e-Invoice can be made only by the supplier of the goods or services.
12. In case of e-commerce transactions, the e-Commerce Operator can request for the IRN/e-invoice on behalf of the supplier. In this case, the e-Commerce Operator should have been registered on the GST portal as e-Commerce Operator and pass eCom\_GSTIN accordingly.
13. In case the supplier is SEZ unit, then he cannot generate e-Invoice.
14. The Document Date can be yesterday or today’s date. (Now any earlier date is also allowed)
15. ‘Reverse Charges’ can be set as ‘Y’ in case of B2B invoices only and tax is being paid in reverse manner as per rule. Even in case of Reverse Charged invoices, the seller has to generate the IRN.
16. Recipient GSTIN should be registered and active. In case of transaction of direct export, recipient GSTIN has to be URP and state code has to be 96,  POS should be 96 and PIN Code should be 999999
17. In case, Buyer is SEZ, the Bill to State code should be 96 and also POS should be 96
18. In case, Recipient is SEZ unit or SEZ developer, the ‘Bill to’ State code should match with the state code of the Recipient.
19. First two digits of the Supplier / Recipient GSTIN should match with the state code passed in the Supplier / Recipient details accordingly except if supply type is SEZ or exports wherein Recipient state code will be 96.
20. In case of Export, POS should be 96 and in all other cases POS should be a valid state code.
21. PIN Codes are validated against the States, they belong to.
22. If ‘Shipping party’ is provided, then the transaction is considered as ‘Bill To-Ship To’.
23. In case of B2B , If ship to details are given, ship to state code should be equal to the POS.
24. If ‘Dispatching party’ is provided, then the transaction is considered as ‘Bill From – Dispatch From’.
25. If both Shipping and Dispatching parties are provided, then the transaction is considered as ‘Combination of Both’.
26. In case of export transactions, the ‘Ship-To’ address should be of the place/port from where the goods are being exported. . -To' address should be of the place/port in India from where the goods are being exported. Otherwise E-way bill can be generated later based on IRN, by passing the 'Ship-To' address as the place/port address of India from where the goods are being exported
27. In case IGST on intrastate supply, tax rates and tax values related to IGST should be passed, and Supplier state code and POS state code should be same.
28. The state code of the Supplier GSTIN and POS will decide whether the supply type is Interstate or Intrastate. That is, if the State code of Supplier and POS is same, then it is intra-state, otherwise it is inter-state. However IGST on intrastate supply attribute will overrule this condition.
29. ~~In case of Goods, the state code of the Seller GSTIN and state code of the Buyer GSTIN will decide whether the supply type is Interstate or Intrastate. That is, if the State code of Seller and buyer is same, then it is intra-state, otherwise it is inter-state.~~
30. ~~In case of Services the state code of the Seller GSTIN and state code of POS will decide whether the supply type is Interstate or Intrastate. That is, if the State code of Seller and state code of POS is same, then it is intra-state, otherwise it is inter-state.~~
31. In case of Exports and SEZ the supply is always Interstate whether Goods or Services.
32. JSON Payload Size cannot exceed 2MB.

### Validations on Items:

1. Sl.no of the item is verified for duplicate values.
2. Each item needs to have valid HSN code with at least 4 digits. ~~That is, items of goods type should be 4 or 6 or 8 digits and items of service type should be 4 or 5 or 6 digits. HSN Code should be valid as per the GST master.~~
3. If Is\_Service is selected, then the HSN codes must belong to services.
4. Each item should have valid Unit Quantity Code (UQC) as per the master codes, in case of goods.
5. Quantity and Unit Quantity Code are mandatory for Goods and optional for Services.
6. Tax rates are being validated. Only the allowed tax rates will be accepted.
7. In case of intra-state transaction, the sum of SGST and CGST tax rates should be entered as GST Rate.
8. In case of inter-state transaction, the IGST tax rate and value has to be passed.
9. In case of export transaction, IGST tax rate and value has to be passed.
10. In case the buyer is SEZ unit, then IGST tax rate and value has to be passed irrespective of state of the buyer.
11. Maximum number of items in each invoice should not exceed more than 1000 items and a minimum of 1 item should be available.

### Calculation of Values:

1. The following summation validations are to be done for items
   * Gross Amount of Item = Quantity X Selling Unit Price (Temporarily, the validation of 'Gross Amount of Item with Quantity and Selling Unit Price' has been withdrawn, we would suggest not to remove this validation) ~~(Rounded to 2 decimal places)~~
   * Taxable Value of Item = Gross Amount of Item – Discount
   * SGST Value of Item = Taxable Value of Item X GST Rate / 2, if intra-state ~~(Rounded to 2 decimal places)~~
   * CGST Value of Item = Taxable Value of Item X GST Rate / 2, if intra-state ~~(Rounded to 2 decimal places)~~
   * IGST Value of Item = Taxable Value of Item X GST Rate, if inter-state ~~(Rounded to 2 decimal places)~~
   * Cess Value of Item = Taxable Value of Item X Cess Rate ~~(Rounded to 2 decimal places)~~
   * State Cess Value of Item = Taxable Value of Item X State Cess Rate  ~~(Rounded to 2 decimal places)~~
   * Total Value of Item = Taxable Value of Item + SGST Value of Item + CGST Value of Item + IGST Value of Item + Cess Value of Item + State Cess Value of Item + Non-Advol Cess Value of Item + State Cess Non-advol value of Item + Other charges.
2. The following summation validations are to be done on Invoice total
   * Total Taxable Value = Taxable Value of all Items
   * Total SGST Value = SGST Value of all Items
   * Total CGST Value = CGST Value of all Items
   * Total IGST Value = IGST Value of all Items
   * Total Cess Value = Cess Value of all Items + Non-Advol Cess Value of all Items
   * Total State Cess Value = State Cess Value of all Items + State Cess Non advol Value of all Items
   * ~~Total Invoice Value = Total Taxable Value + Total SGST Value + Total CGST Value + Total IGST Value + Total Cess Value + Total State Cess Value + Total Non-Advol Cess Value~~
   * Total Invoice Value = Sum of all Total value of Items – Invoice Discount + Invoice Other Charges + Round-off Amount
   * Calculated value / amount in above points can be between actual calculated value / amount and calculated value / amount rounded up to next rupee.
   * The round-off value can be upto 99.99 ~~+ or -  RS~~ 10 The round-off value for ' Round\_off\_amount' attribute to adjust final 'Total\_Invoice\_Value\_INR' attribute can be between -99.99 and +99.99

3. ~~Tolerance limit for 'Passed value / amount' for all calculations shown under point 1 and 2 can be between actual calculated value / amount and calculated value / amount rounded up to next rupee.~~

* ~~Example: In Point 1, calculated value for IGST of item A is 2345.04 then tolerance limit for passed value of that item is between 2345.04 and 2346.~~
* ~~Example: In Point 2, if calculated value of IGST of all items is 10241.61 then tolerance limit for passed value of IGST of all items is between 10241.61 and 10242.00.~~

~~Similarly, the same tolerance limit is allowed for all calculations under point 1 and 2 respectively~~

1. Tolerance Limit: The passed value should be between minimum and maximum values as explained here. Minimum value is considered as the rupee part of the calculated value minus one rupee and maximum value is taken as the rounded up to next rupee value of the calculated value plus one rupee.

* Example 1: if calculated value for IGST of item A is 2345.34 then tolerance limit for passed value of that item is between 2344.00 and 2347.00.
* Example 2: if calculated value of IGST of all items is 10241.00 then tolerance limit for passed value of IGST of all items is between 10240.00and 10242.00

### Validations on e-waybill:

1. E-waybill can be generated only if E-way Bill related details are passed where distance is mandatory
2. E-way Bill is not generated for document types of Debit Note and Credit Note and Services.
3. E Way Bill can be generated provided at least HSN of one item belongs to goods.
4. If only Transporter –Id is provided, then only Part-A is generated. Transport Mode, Vehicle Type, Vehicle No, Transportation document number and date should be null or attributes should not have been passed.
5. If mode of transportation in ‘Road’, then the Vehicle number and vehicle type should be passed.
6. If mode of transportation in Ship. Air, Rail, then the transport document number and date should be passed and vehicle type and vehicle number should be null or attributes should not have been passed.
7. The Vehicle no. should match with specified format and exist in Vahan database.
8. E-Waybill will not be generated if the seller or buyer GSTIN is blocked due to non-filing of Returns.
9. Pincode of Recipient GSTIN is mandatory if Ship-To details are not entered
10. PIN-PIN distance is validated.
11. The distance of transportation is validated against the auto-calculated PIN-PIN distance stored in the system. The allowed distance for transportation should be between +/- 10 % of auto-calculated PIN-PIN distance.
12. If the distance of transportation is passed as 0 (zero), then the system will consider it as request made by the tax payer, to consider the auto-calculated PIN-PIN distance for the generation of e-way bill and generate the e-way bill along with IRN.
13. If the PIN-PIN distance is not available in the system, the passed value of distance will be taken for generation of e-way bill.
14. The actual distance has to be passed in case the source and destination PIN codes are same and the allowed range of value is from 1 to 100.
15. In case of export of goods, shipping address should have been passed during generation of IRN. In case of export of goods, if e-way bill has to be generated, then the address of port should have been passed as shipping address during generation of IRN.
16. In case incomplete information has been passed for generation of E Way Bill, then IRN will be generated and returned but not E Way Bill number. However subsequently, based on IRN, E Way Bill can be generated.
17. In case of Debit and Credit Note tax rate can be passed with any value.
18. IGST Value will not be validated even actual tax rate is passed in case of EXPWOP and SEZWOP, if the passed value of IGST for that is ZERO.

## Cancel IRN

This API is used for cancelling an e-Invoice within stipulated time by passing the IRN.

IRN cannot be cancelled, if the Valid/Active E-way Bill exists for the same.

Response will contain:

* IRN that is cancelled
* Date of cancellation of the IRN

## Get E-inVoice Details for IRN

This API provides e-Invoice details for a given IRN. The details are mentioned in ‘E-Invoice Field Details.xlsx’

## Get GSTIN Details

Attributes provided in response are as follows:

* GSTIN
* Trade Name of the GSTIN
* Legal Name of the GSTIN
* Address
* State Code
* PIN code

### Validations

1. "Status" will have values as 'ACT' (Active) or 'CNL' (Cancelled) or 'INA' (Inactive) or 'PRO' (Provision). Considered active only if status='ACT'
2. The "blkStatus" indicates the status of blocking of generation of E Way Bill and will have following values  
   i) 'U' or '' for Unblocked  
   ii) 'B' for blocked - E Way Bill generation is not allowed for tax payers who have not filed the returns for last two months

## EWB Generation by IRN

This API is used to generate the e-waybill using Invoice Registration Number (IRN). The details and parameters of the requests and responses are explained.

1. E-Waybill will not be generated if the seller or buyer GSTIN is blocked due to non-filing of Returns.
2. E-way Bill is not generated for document types of Debit Note and Credit Note and Services.
3. ~~E-way Bill cannot be generated for cancelled IRN.~~
4. E Way Bill can be generated provided at least HSN of one item belongs to goods.
5. If only Transporter –Id is provided, then only Part-A is generated. Transport Mode, Vehicle Type, Vehicle No, Transportation document number and date should be null or attributes should not have been passed
6. If mode of transportation in ‘Road’, then the Vehicle number and vehicle type should be passed.
7. If mode of transportation in Ship. Air, Rail, then the transport document number and date should be passed and vehicle number and vehicle type should be null or attributes should not have been passed.
8. The Vehicle no. should match with specified format and exist in Vahan database.
9. PIN-PIN distance is validated.