

GST e-invoice / IRN System

Detailed Overview

A. e-invoice - Background:

The GST Council, in its 37th meeting held on 20th September, 2019, has approved introduction of electronic invoice ('e-invoice') in GST in a phased manner. Accordingly, steps have been initiated to introduce 'e-invoicing' for reporting of Business to Business (B2B) invoices, beginning from 1st January, 2020 on voluntary basis.

Further, the GST Council, in its 39th meeting, held on 14th March, 2020, has further recommended certain classes of registered persons to be exempt from issuing e-invoices and the date for implementation of e-invoicing to be extended to 01.10.2020 for certain category of taxpayers.

B. e-invoice – Advantages:

e-invoice has many advantages for businesses such as *standardisation, inter-operability, auto-reporting of invoices into GST return, auto-generation of e-way bill (where required), reduction in processing costs, reduction in disputes, improving payment cycles and thereby improving overall business efficiency*. Huge advancements in technology sophistication, increased penetration of internet along with availability of computer systems at reasonable cost has made 'e-invoice', a popular choice worldwide. Due to these benefits, which ensure ease of doing business, many countries have already adopted e-invoicing.

Benefits of e-invoice from GST perspective are enumerated below:

<i>Area</i>	<i>Outcome</i>
Automation of reporting documents	<ul style="list-style-type: none"> One time reporting of B2B invoice data in the e-invoice form will reduce the reporting of the same in multiple forms (GSTR-1, e-way bill etc.).

for various compliances in GST	<ul style="list-style-type: none"> • e-way bill can also be generated using e-invoice data. GSTR-1 can also be auto-populated with the e-invoice data. • It will become part of the business process of the taxpayer. • Substantial reduction in transcription errors as same data will get reported to tax department as well as to buyer to prepare his inward supplies (purchase) register. • On receipt of information through GST System, buyer can do reconciliation with his Purchase Order
Reduction of tax evasion	<ul style="list-style-type: none"> • Complete trail of B2B invoices. • System-level matching of input credit and output tax
Fraud mitigation	<ul style="list-style-type: none"> • Elimination of fake invoices

C. e-invoice – Schema (Standard format):

Presently, businesses are using various accounting/billing software, each generating and storing invoices in their own electronic formats. These different formats are neither understood by GST System nor among the systems of suppliers and receivers. For example, an invoice generated by SAP system cannot be read by a machine which is using ‘Tally’ system, unless a connector is used. With more than 300 accounting/billing software products, there is no way to have connectors for all.

In this scenario, ‘e-invoicing’ aims at machine-readability and uniform interpretation. To ensure this complete ‘inter-operability’ of e-invoices across the entire GST eco-system, an invoice standard is a must. By this, e-invoices generated by one software can be read by any other software, thereby eliminating the need of fresh/manual data entry.

Since, there was no such standard for e-invoice in the country, as a first step, a standard/format for e-invoice has been finalized after detailed consultations with Trade/Industry Bodies (*CII, PHD, FICCI, ASSOCHAM etc.*), as well as Institute of Chartered Accountants of India (ICAI). Though it is based on international standard, it has been customised to cater to Indian business practices and requirements.

The Schema/Format was notified as **Form GST INV-1**.

D. e-invoice – Process:

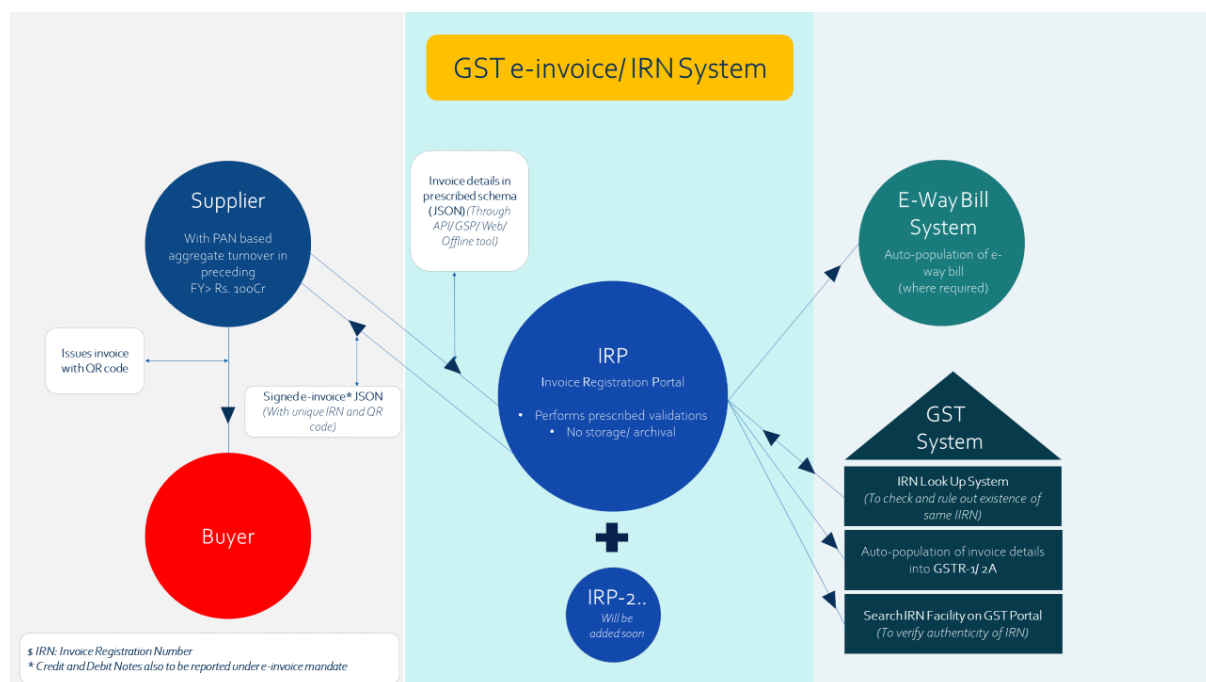
The documents covered by ‘e-invoice’ system are:

- i. Invoices
- ii. Credit Note
- iii. Debit Note

‘e-invoicing’ is not generation of invoice by a Government portal. Taxpayers will continue to create their GST invoices on their own Accounting/Billing/ERP Systems. These invoices will now be reported to ‘Invoice Registration Portal (IRP)’. On reporting, IRP will generate a unique ‘Invoice Reference Number (IRN)’, digitally sign it and return the e-invoice. A GST invoice will be valid only with a valid IRN.

IRP will also generate a QR code containing the unique IRN along with certain other key particulars. The QR code (which can be printed on invoice) enables offline verification of the fact whether the e-invoice has been reported on the IRP or not (*using Mobile App etc.*)

The process of e-invoicing can be depicted as follows:



E-invoice schema only mandates what particulars shall be reported in electronic format to IRP so as to receive signed e-invoice from IRP. On successful reporting of invoice in JSON format to IRP, the supplier receives a signed JSON from the IRP. This payload can be received, converted to readable format and populated into a PDF file also. If the taxpayer desires, he can print it as paper invoice, as he is doing today, by also placing entity logo and other information, as needed.

Cancellation/Amendment of Reported Invoice:

Where needed, the seller can cancel IRN for an e-invoice already reported by reporting it on IRP within specified time. Amendment of e-invoice already uploaded on IRP will be done only on GST portal. Amendment of invoices is not possible through the IRP.

To begin with, there will be only one IRP, but more IRPs will be added to provide sufficient availability, redundancy, speed and a diversified and distributed service to taxpayers with a choice.

E. e-invoice – Implications for Businesses:

The e-invoicing system won't entail much changes from the way businesses are issuing invoices presently. Businesses would not find much change since they would continue to see the physical or electronic (PDF/Excel) output of the invoices in the same manner as it is today.

Necessary changes to enable such reporting of invoices to IRP and obtain IRN, will be made by ERP/Accounting and Billing Software providers in their respective software.

Multiple modes of reporting e-invoice will be made available so that taxpayer can choose one based on his/her need: *API based, Mobile app based, Offline tool based and GSP based.*

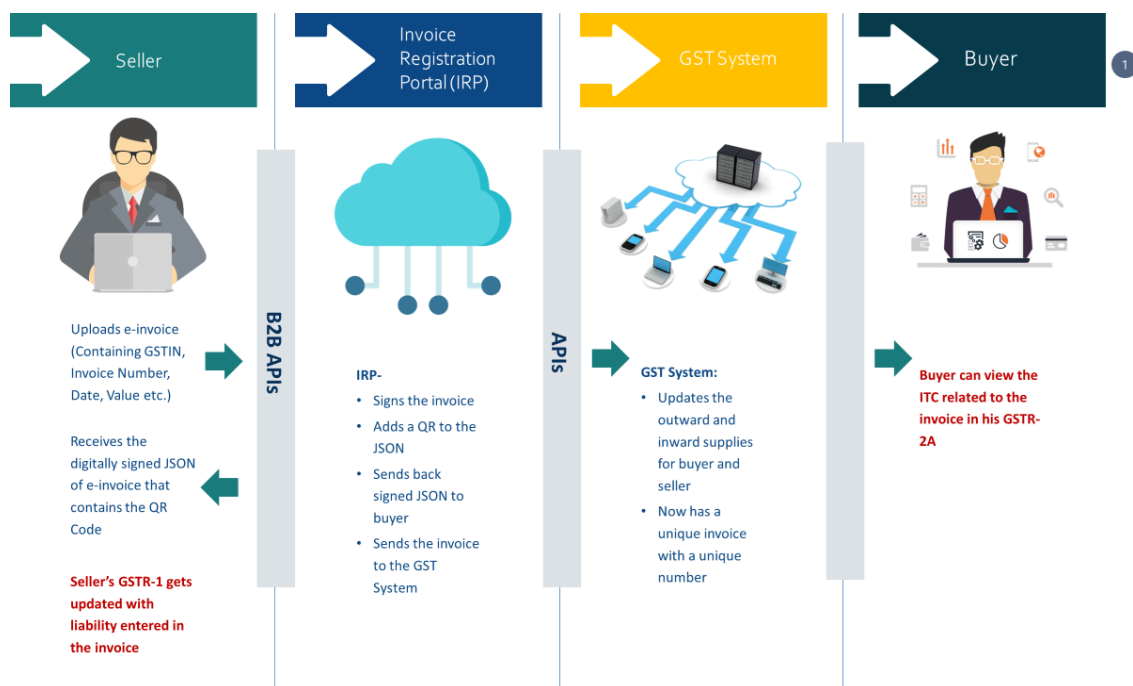
F. e-invoice – Legal Provisions:

Below notifications were issued on e-invoice:

Notification No.	Key Contents
68/2019 Dt. 13-12-2019	<p>Central Goods and Services Tax (Eighth Amendment) Rules (<i>Amending Rule 48</i>)</p> <p><i>e-invoice</i></p> <ul style="list-style-type: none"> to be prepared by such class of registered persons as may be notified <ul style="list-style-type: none"> by including such particulars in FORM GST INV-01 after obtaining an IRN (Invoice Reference Number) by uploading information contained therein (INV-01); Every invoice issued by such person in any other manner shall not be treated as an invoice; preparation of multiple copies of invoice as per Rule 48(1) & 48(2) not applicable to e-invoice
69/2019 Dt. 13-12-2019	Notified 10 Common Goods and Services Tax Electronic Portals for the purpose of preparation of invoice in terms of rule 48 (4)
2 of 2020 Dt. 1-1-2020	Substituted Form GST INV-1 as e-invoice schema
13 of 2020 Dt. 21-3-2020 (in supersession of 70/2019 Dt. 13-12-2019)	e-invoicing to start from the 1st October, 2020; Seeks to exempt certain classes of registered persons from issuing e-invoices; issued in supersession of earlier notification, 70/2019 Dt. 13-12-2019

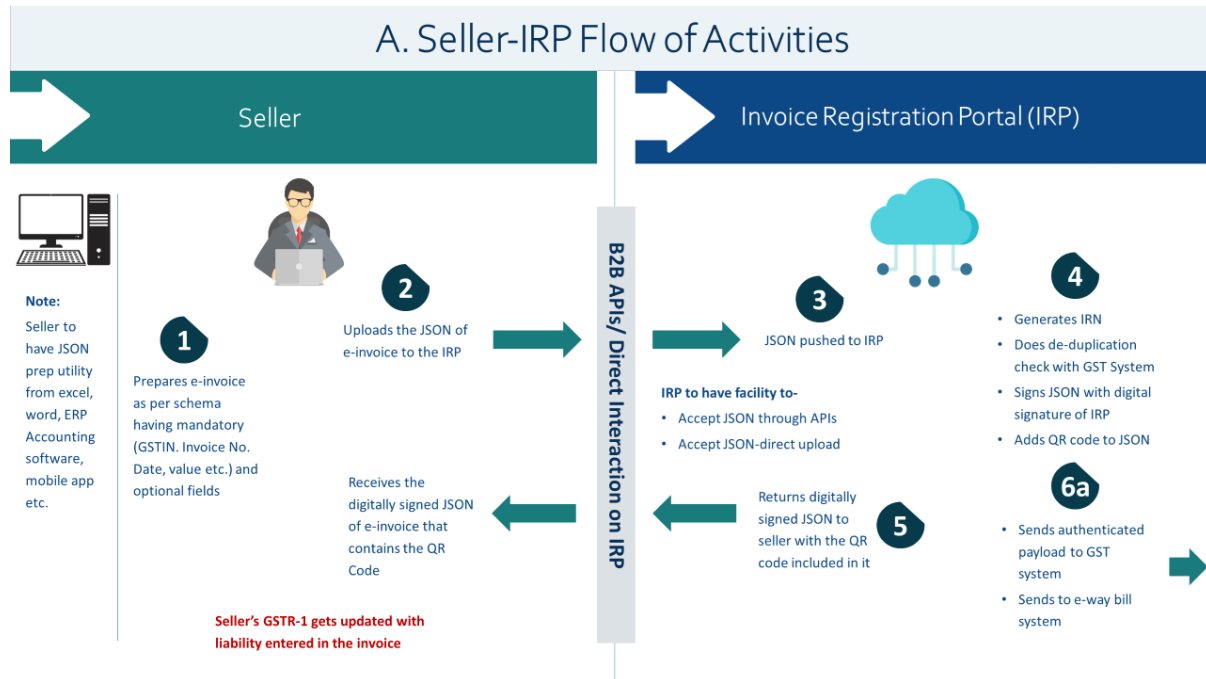
G. e-invoice – Detailed Work flow:

The overall work flow of ‘e-invoice’ system is as follows:



The above flow of e-invoice generation, its reporting/registration and receipt of confirmation can be logically divided into **two major parts**:

- A. Interaction between the business (supplier) and the Invoice Registration Portal (IRP).
- B. Interaction between the IRP and the GST/E-Way Bill Systems and the Buyer.



Part A: Flow from Supplier to IRP:

Step 1 is the generation of the invoice by the seller in his own accounting or billing system (*it can be any software utility that generates invoice including those using excel or GSTN-provided Offline Utility*). The invoice must conform to the e-invoice schema (standard format notified) and have the mandatory parameters. The optional parameters can be according to the business need of the supplier. **The supplier's (seller's) software should be capable to generate a JSON of the final invoice that is ready to be uploaded to the IRP. The IRP will only take JSON of the e-invoice.**

Note:

1. Seller should have a utility that will output invoice data in JSON format, either from his accounting or billing software or his ERP or excel/word document or even a mobile app. [All accounting and billing software companies are being separately asked to

adopt the e-invoice standard so that their users can generate the in notified standard from the software and upload the same on the IRP.]

Those who do not use any accounting software or IT tool to generate the invoice, will be provided a free offline tool to key-in data of invoices and then report the same to IRP and obtain IRN.

2. *The small and medium size taxpayers who do not have accounting/billing software can avail free accounting and billing systems offered by GSTN- empanelled providers.*

Steps 2 and 3: To upload and push the e-invoice JSON to the IRP by the seller. The JSON may be uploaded directly on the IRP or also through GSPs or through third party, if software is available for the same.

Step 4: The IRP will generate Invoice Reference Number (IRN), based on Supplier's GSTIN, Document Type, Document Number and Financial Year and check the same from the Central Registry of GST System to ensure that the same document (invoice etc.) from the same supplier pertaining to same Fin. Year is not being uploaded again. In computer science language IRN is also called hash.

On receipt of confirmation from Central Registry, IRP will add its signature on the Invoice Data as well as a QR code to the JSON. The QR code will contain GSTINs of seller and buyer, Invoice number, invoice date, number of line items, HSN of major commodity contained in the invoice as per value, hash etc. ***The hash computed by IRP will become the IRN (Invoice Reference Number) of the e-invoice.*** This shall be unique to each invoice and hence be the unique identity for each invoice for the entire financial year in the entire GST System for a taxpayer. [GST System will create a central registry where hashes sent by all IRPs will be kept to ensure uniqueness of the same].

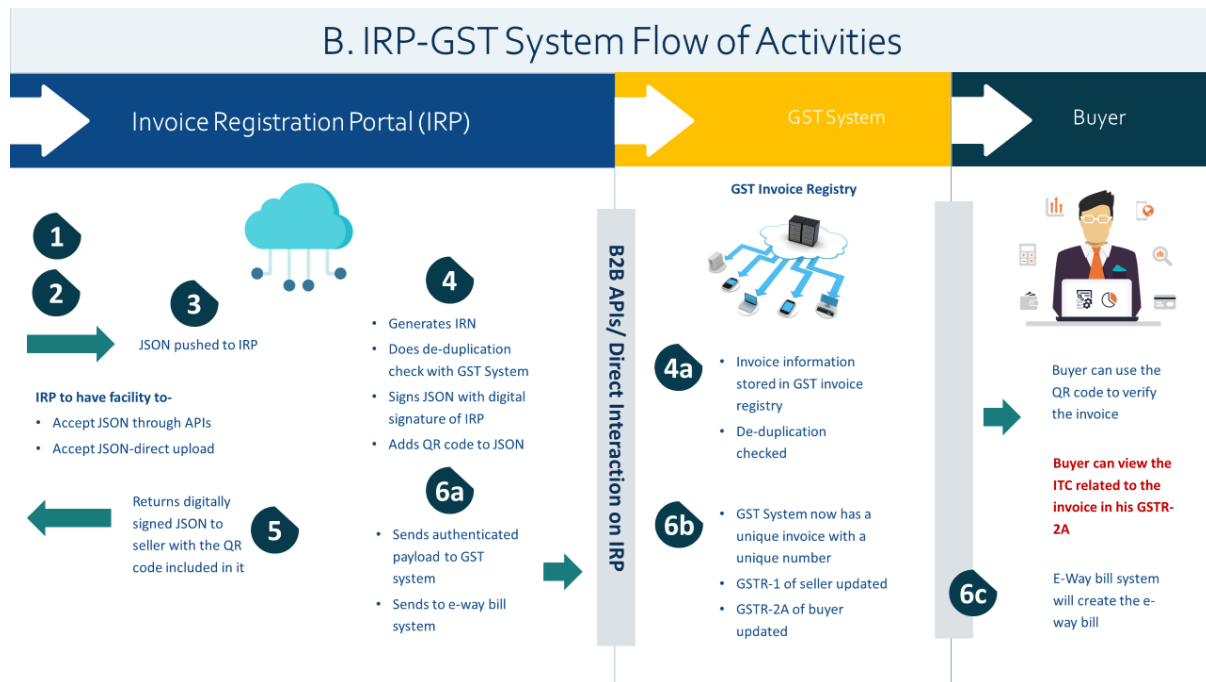
In case the same document has been uploaded earlier, the IRP will reject it with an error code, back to the supplier.

Step 5 will involve returning the digitally signed JSON with IRN back to the seller along with a QR code.

Step 6 will involve sharing the uploaded data of document (invoice etc.) with GST and e-way bill system.

Part B: Flow from IRP to GST System/E-Way Bill System & Buyer:

The following diagram shows how e-Invoice data would be consumed by GST System for generation of e-way bill or populating relevant parts GST Returns, stated in Step-6 above.



Step 6(a) will be to send the signed and authenticated e-invoice data along with IRN (same as that has been returned by the IRP to the seller) to the GST System as well as to E-Way Bill System.

Step 6(b) The GST System will update GSTR-1.

Step 6(c) The e-invoice schema includes parameters e.g. ‘Transporter ID’ and ‘Vehicle Number’, etc. that are required for creating and generating e-way bills. These can be entered if available with seller, at the time of generation of e-invoice so that e-way bill can be created using this data without any further requirement of data entry by the user.

Note 1: The e-invoice standardized schema has mandatory and optional items. The e-invoice shall not be accepted in the GST System unless all the mandatory items are present. The optional items are to be used by the seller and buyer as per their business need to enforce their business obligations or relationships.

Note 2: Seller may send his e-invoice for registration to more than one registrar. But, the GST system and IRP will perform a de-duplication check with central registry to ensure that the IRN that is generated is unique for each invoice. Therefore, the IRP shall return **ONLY ONE** registered IRN for each invoice to the seller. In case of multiple registrars (more than one IRPs) only one IRP will return a valid IRN to the seller. Except one, all other IRPs will reject the request of registration.

Note 3: The QR code will enable quick view, validation and access of the invoices from the GST system from hand held devices.

H. e-invoice – Salient Features

a. Unique Invoice Reference Number (IRN):

The unique IRN will be based on the computation of hash of GSTIN of generator of document (invoice or credit note or debit note), Financial Year, Document Type and Document number like invoice number. This hash will be as published in the e-invoice standard and unique for this combination. This way hash will always be the same irrespective of the registrar who processes it.

To ensure de-duplication, the registrar will be required to send the hash to Central Registry of GST System to confirm whether the same has been reported already. In case, it has been reported by another registrar (*as and when more registrars/IRPs are added*) and the Central Registry already has the same IRN, then the registrar will reject the registration and inform the sender by sending appropriate error code. Only unique invoices from a taxpayer will be accepted and registered by the registrar.

b. Digital Signing of e-Invoice by Invoice Registration Portal (IRP):

The invoice data will be uploaded on the IRP (Invoice Registration Portal), which will also generate the hash (as the IRN) and then digitally sign it with the private key of the IRP. The IRP will sign the complete e-invoice JSON payload (that includes the IRN/hash). Thereafter, this e-invoice signed by the IRP will be a valid e-invoice for the seller and can be used by the seller for his business transactions. The IRP will also push this signed e-invoice to the GST and the E-Way bill systems.

c. QR Code with key particulars:

The IRP will also generate a QR code containing the unique IRN (hash) along with some important parameters of invoice and digital signature so that it can be verified on the central portal as well as by a mobile App. This will be helpful for tax officers to verify the authenticity of invoice during road checks when Internet connectivity may not be available all the time.

The QR code will consist of the following key particulars of e-invoice:

- a. GSTIN of Supplier
- b. GSTIN of Recipient
- c. Invoice number, as given by Supplier
- d. Date of generation of invoice
- e. Invoice value (taxable value and gross tax)
- f. Number of line items
- g. HSN Code of main item (*line item having highest taxable value*)
- h. Unique IRN (Invoice Reference Number/hash)

Note: *It is the signed QR code which will be easily verifiable by taxpayers as well as Tax Officers to validate whether the e-invoice has been reported to the IRP and accepted by it, as it will contain both the IRN as well as the Digital Signature of IRP as proof of having received and registered the e-invoice. If the signed JSON is tampered then e-invoice will become invalid and the digital signature will fail.*

A Mobile App will be provided for anyone to authenticate the QR code of the e-invoice and verify its basic details. The facility to view the e-invoice will be provided to buyers and tax officers, on the GST System / E-way bill system.

Note: *The facility of e-invoice verification is planned to be made available only through the GST System and not the IRP. This is because the IRP will not have the mandate to store invoices. In order to achieve speed and efficiency, the IRP will be a lean and focused portal for providing invoice registration and verification service, generation of IRN and the QR codes. Hence, storing of the invoices will not be a feature of the IRP.*

d. Multiple Registrars/IRPs:

Multiple registrars (IRPs) will be put in place to ensure 24X7 operations without any break. To start with, NIC will be the first Registrar. More registrars (IRPs) will be added in due course.

e. Standardization of e-Invoice:

A technical group constituted by the GST Council Secretariat has drafted standards for e-invoice after having industry consultation. The e-invoice schema/template is since notified as ***Form GST-INV-1***.

f. Multiple Modes for reporting e-invoice:

Multiple modes will be made available so that taxpayer can use the best mode based on his/her need. Below modes are envisaged at this stage:

- a. API based,
- b. Mobile app based,
- c. Offline tool based and
- d. GSP based.

Using API mode, the applicable taxpayers and their ERP/internal IT services/accounting software providers can interface their systems and get the signed e-invoice from IRP - after passing the relevant invoice information in JSON format. APIs will also handle multiple requests for invoices registration and to generate the IRN. This mode can also be used for multiple invoices as well. The e-way bill system provides the same methodology.

g. Printing of e-Invoice:

The supplier receives a signed JSON from the IRP. This payload can be received, converted to readable format and populated into a PDF file also. If the taxpayer desires, he can print it as paper invoice, as he is doing today, by also placing entity logo and other information, as needed. E-invoice schema only mandates what will be reported in electronic format to IRP and to receive the corresponding signed e-invoices from the IRP.

h. Cancellation of e-invoice:

The seller can initiate cancellation of IRN of the e-invoice already reported, if that invoice is required to be cancelled by him/her. The cancellation of an invoice will be done as per procedure given under accounting standards. The cancellation will be allowed within specified time after generation of IRN.

The cancellation of e-invoice will be done by using the 'Cancel IRN' API (published on the e-invoice sandbox portal). The API will be a POST API and will require the IRN that is to be

cancelled as the key parameter of the payload. Please refer the e-invoice sandbox for more details on the specifications and how to exchange and handle the payload and responses, respectively. The invoice number of cancelled invoice can't be used again.

i. Amendment of e-invoice already reported:

Amendment of e-invoice already uploaded on IRP will be done **only** on GST portal. Any amended e-invoice, if reported to IRP, will get rejected as its IRN (unique hash) will already be existing in the IRP system. Hence, amendment of invoices will not be possible through the IRP.

I. e-invoice – Sandbox/API Testing:

Please visit: <https://einv-apisandbox.nic.in>

J. e-invoice – Resources & Feedback

You can go through ***Frequently Asked Questions on e-invoice***

Awareness Videos on e-invoice can be accessed at below links:

[*e-invoice - Everything you may like to know about E-Invoice*](#)

[*e-invoice – Myths vs. Reality*](#)

Feedback & Suggestions on e-invoice are welcome at [*e-invoice@gstn.org.in*](mailto:e-invoice@gstn.org.in)
