

# The IT Strategy for GST

Empowered Group on IT Infrastructure on GST headed by  
Shri Nandan Nilekani

## Preface

The broad IT plan for enabling GST was presented to the Government of India and the Empowered Committee of State Finance Ministers under the Chairmanship of Dr. Asim Dasgupta on July 21, 2010. This document is a follow-up to that presentation and feedback thereon and describes the IT strategy for GST implementation.

This document is at the draft stage, and will evolve as various stakeholders and experts are consulted.

## 1. Table of Contents

Preface.....	1
1. Introduction .....	2
1.1 The merits of GST.....	2
1.2 Urgency.....	2
2. An IT infrastructure for GST .....	3
2.1 Desirable features of Goods & Service Tax Network (GSTN).....	3
2.2 Stakeholders.....	4
2.3 Workflows .....	5
3. The solution architecture.....	6
3.1 A common GST portal .....	6
3.2 Basic solution architecture .....	7
3.3 Information Flow .....	8
3.4 Funds flow .....	9
4. Tax Booster.....	10
4.1 Tax computation and accounting.....	10
4.2 Tax booster.....	11
5. Implementation plan .....	12
6. Current Status of GSTN implementation.....	12

## **1. Introduction**

### **1.1 The merits of GST**

GST will bring about a change in the tax system by redistributing the burden of taxation equitably between manufacturing and services. GST will enable broadening of the tax base, which will further result in reduction in effective rate of tax. It will reduce distortions by applying the destination principle for levy of taxes. It will foster a common market across the country, reduce compliance costs and promote exports. It can provide a fiscal base for local bodies to enable them to fulfill their obligations. It will facilitate investment decisions being made on purely economic concerns independent of tax considerations.

### **1.2 Urgency**

The broad framework of GST is now clear, with the model being approved by the Government of India and Empowered Committee of State Finance Ministers. The GST will be a dual tax with both Central and State GST component levied on the same base. The IGST framework will be used for goods and services that are exported across state boundaries. Thus, all goods and services, barring a few exceptions, will be brought into the GST base. For reasons of simplicity for the taxpayer, ease of tax administration, and bringing about a national common market, a common PAN-based taxpayer ID, a common return, and a common challan for tax payment have been agreed to by all stakeholders.

A number of issues still remain to be resolved. These are presently under the consideration of the Empowered Committee of State Finance Ministers under the Chairmanship of Dr Asim Dasgupta. Such issues include: the rates of taxation, the revenue sharing between States and Centre, and a framework for exemption, thresholds and composition.

On the IT front, there has been consensus that there will be a common portal providing three core services (registration, returns and payments). The broad services framework of the portal has been discussed with the Sub Working group for IT. Various technology issues have been addressed including solution architecture and selection of likely service provider. However many other related issues need to be addressed which are on the critical path for GST going live by April 2011. Some of these issues include incubation, ownership and governance structures, development, deployment, and integration of existing systems, and change management procedures, among others. An update on some of these issues is provided in Section 6 of this document.

Without a well-designed and well-functioning IT system, the benefits of GST will remain elusive. It is important that the design and implementation of the GST IT systems start without any further delay, and consensus is achieved on the unresolved policy issues in the earliest possible timeframe.

## 2. An IT infrastructure for GST



Figure 1: Desirable features of GSTN

### 2.1 Desirable features of Goods & Service Tax Network (GSTN)

**Simplicity for taxpayers:** The process of filing of tax returns and payment of tax should be simple and uniform and should be independent of taxpayer's location and size of business. In addition, the compliance process should not place any undue burden on the taxpayer and should be an integral part of his business process.

**Respect autonomy of states:** The design of the IT system should respect the constitutional autonomy of the states. Several business processes will be re-engineered as a new IT system for GST is put into place. There should be no dilution of the autonomy of states as a result of the IT system, or the re-engineering. On the contrary, it should strengthen the autonomy of states. This is a key factor in the design of the IT system presented in the rest of this document.

**Uniformity of policy administration:** The business processes surrounding GST need to be standardized. Uniformity of policy administration across states and centre will lead to a better taxpayer experience, and cut down costs of compliance as well as tax administration.

**Enable digitization and automation of the whole chain:** All the business processes surrounding GST should be automated to the extent possible, and all documents processed electronically. This will lead to faster processing and reconciliation of tax information and enable

risk based scrutiny by tax authorities. For small taxpayers, facilitation centres can be set up to ease the migration.

**Reduce leakages:** A fully electronic GST can dramatically increase tax collections by reducing leakages. Tools such as matching the input tax credit, data mining and pattern detection will deter tax evasion and thus increase collections.

**Leverage existing investments:** Existing IT investments of states should be leveraged. The Mission Mode Project on Commercial Tax should be aligned with the GST implementation going forward.

## 2.2 Stakeholders

The design of an IT infrastructure should serve all stakeholders and their business processes. The various stakeholders in a GST IT implementation are as follows (Figure 2):



**Figure 2: Stakeholders**

**Small taxpayers:** Much of the economic activity in India is concentrated among small taxpayers. They may not have the skill or the resources to effectively migrate to GST. Thus, adequate preparations must be done to ensure smooth migration for small taxpayers to GST. This includes extensive consultations, setting up of facilitation centres, education and training.

**Corporate taxpayers:** Corporate taxpayers may operate across various states and typically have sophisticated IT systems for accounting, e-filing returns, payments etc. Common file formats and message specifications should be released early to allow IT vendors that provide software to corporate taxpayers to modify and release updated versions with GST support.

**State tax authorities:** The state tax authorities would be responsible for collecting SGST. Common file formats, interfaces, and policy administration will enable accurate and timely

assessment, and risk-based investigations resulting in enhanced productivity and revenues.

**CBEC:** CBEC would be responsible for collecting CGST and IGST. Common file formats, interfaces, and policy administration will increase the productivity of CBEC. It will allow for accurate and timely assessment, risk-based investigations and facilitate IGST settlement by Centre at agreed time intervals.

**RBI:** The Reserve Bank of India will facilitate the interface with various banks to facilitate movement of states' and center's funds. The processes of funds settlements and documentary compliance are independent.

**Banks:** Banks will accept duty from the taxpayers and process challans. All tax collections (whether physical or electronic) will happen at bank branches, or through the banks' IT systems. Banks will route the tax collected to the concerned authorities through the RBI channel.

Other Stakeholders include CAG, GSTN, TRPs and facilitation agencies.

## 2.3 Workflows

The following three processes constitute the most important workflows of the GST administration and would be covered in the first phase:

**Registration:** A unique ID is necessary to identify each taxpayer. The PAN based ID should be common to both the states and the centre. A common PAN-based taxpayer registration has several benefits including a unified view of taxpayers for all tax authorities. A PAN based registration system has already been implemented in CBEC and several states are also capturing PAN data.

**Returns:** Both, the states and centre require taxpayers to file periodic returns to assess whether the taxpayers have computed, collected, and deposited their taxes correctly. ITC credit can also be verified on the basis of the returns filed and revenues reconciled against challan data from banks.

**Challans:** Challans are the payment instruments used by taxpayers to actually pay their taxes. Challans are deposited at collecting banks and are forwarded by them to the tax administrations.

**IGST:** Under GST, inter-state trade will be leviable to IGST. Under IGST, the tax paid by the selling dealer in the exporting state will be available as ITC to the purchasing dealer in the importing state. This requires verification of ITC claims and transfer of funds from one state to another. Further, in an interstate business to consumer transaction, tax collected in one state has to be transferred to another state as finalized by the business processes. Thus, periodic inter-state settlement is required.

In addition, there are several other workflows such as processing refunds, taxpayer audits, and appeals. It is reiterated that the **core services** envisaged through common portal are limited to registration, payments and returns in the first phase. Other value added services will be added subsequently based on the needs of the Stakeholders. The IT infrastructure should be designed taking into account all stakeholders (Figure 2), and all related workflows (Figure 3



**Figure 3: Workflows**

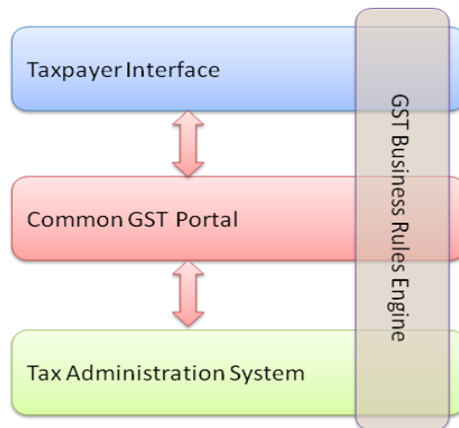
### 3. The solution architecture

#### 3.1 A common GST portal

The solution architecture should be designed to meet the design goals for GSTN, described in the previous section. For the purpose of simplicity for taxpayers, uniformity of tax administration, digitization of all documents, and automation of related processes, it is necessary to have:

1. Common PAN-based registration
2. Common standardized return for all taxes (with different account heads for CGST, SGST, IGST)
3. Common standardized challan for all taxes (with different account heads for CGST, SGST, IGST)

Figure 4 shows the solution architecture, the role of the common GST portal, and its connections with other systems.



**Figure 4: Solution Architecture**

A common GST portal, operated by GSTN, is the fastest and most cost-effective way to provide common PAN-based registration, common returns, and common challans for all stakeholders. It can marry the taxpayers standard interface with the varied systems of the tax administrations. Each tax authority will have full flexibility in using this data for in-house automation, integration, and enforcement.

### **3.2 Basic solution architecture**

Given the need for a common GST portal, the basic solution architecture is as follows:

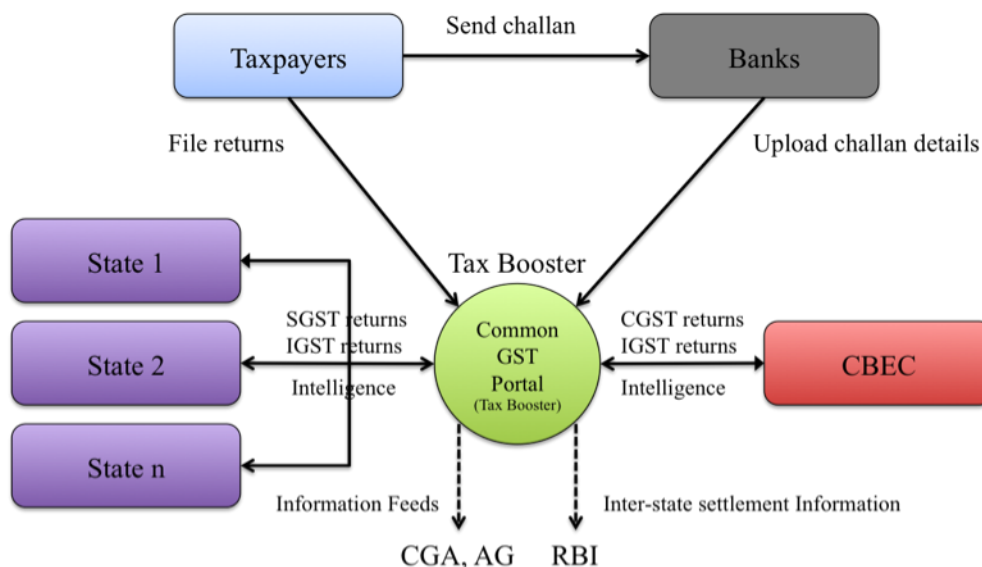
1. Taxpayer files through a standardized taxpayer interface.
2. States and CBEC implement tax administration systems for assessments, audits, and enforcement within their domain. This is desirable but not a pre-condition since the GSTN can provide support for states that do not have the necessary IT systems in place.
3. The taxpayer and tax authority systems are connected with a Common GST Portal, operated by GSTN.
4. Policy decisions are captured in GST Business Rules Engine that defines the tax rates, revenue sharing rules, and exceptions for all parties.

The Business Rules Engine is a component of the solution architecture that spans all entities. It codifies policies and business rules such as the rates of taxation, the revenue sharing between states and centre, a framework for exemption, and thresholds, among other things. All systems in the rest of the solution architecture will be designed so that they load business rules from the Business Rules Engine. This decoupling of the business rules from the rest of the solution architecture allows for a great deal of flexibility. At a later date, if rates are changed or new items are added to the list of taxable items, or if existing items are exempted; these changes can be reflected in the Business Rules Engine, without affecting the rest of the system. This also makes it possible to start the design and implementation of all IT systems, even while policies and rates are debated. Once the policies and rates are fixed, they can simply be reflected in the Business Rules Engine.

In addition to common registration, returns, and challans, the Common GST portal will provision for selected information needs of states.

### 3.3 Information Flow

**Information flows unmodified through Common GST Portal to states and CBEC**  
**Common GST Portal will also integrate with systems of CBDT, MCA, etc.**



**Figure 5: Information flow**

The information flows are shown in Figure 5 are designed keeping the constitutional autonomy of states in mind, while simultaneously building intelligence in the system to plug leakages. The common GST portal is simply a pass-through device. The taxpayer files the return with GSTN, which keeps a copy of the return for analysis, and forwards it in near real-time to the respective state and CBEC. The taxpayer pays the actual duty in the bank, which uploads only the challan details into the GSTN. Actual funds never pass through the GSTN.

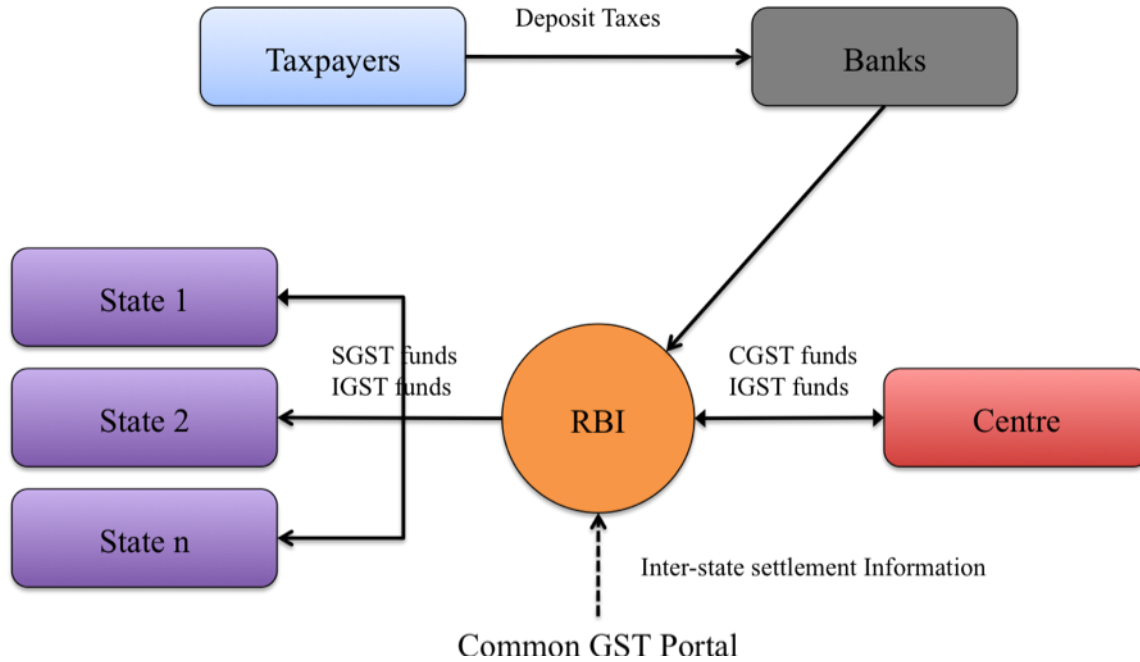
The common GST portal reconciles the returns and the challans. In addition to its pass-through role, the common GST portal also plays two other critical roles:

1. It acts as a tax booster, matching the input tax credits in the returns to detect tax evasion. It can also integrate with various other systems at MCA, CBDT for verification of PAN or other corporate information and perform data mining and pattern detection to detect tax fraud. It sends this information as alerts/ reports to the respective tax authorities.
2. It also computes inter-state settlement, netting IGST across states.



### 3.4 Funds flow

**State funds flow directly from taxpayers to the states**  
**Centre funds flow directly from taxpayers to centre**



**Figure 6: Funds flows**

Just like the information flows, the funds flows (Figure 6) are also designed keeping the constitutional autonomy of states in mind. The design ensures smooth and timely availability of funds as soon as they are deposited. The SGST funds that are intended for the states directly go from the taxpayer to the state treasuries. Similarly, the CGST funds go directly to the centre. With the help of information from GSTN, IGST will be settled between states and centre by RBI.

## 4. Tax Booster

### 4.1 Tax computation and accounting



Figure 7: Levels of granularity for returns

The tax returns can be filed at various levels of granularity, as shown in Figure 7.

1. **Aggregate level:** A taxpayer aggregates all his sales and purchases made across all the customers/ vendors and files one return.
2. **Dealer level:** A taxpayer aggregates all his sales and purchases made across all the customers/ vendors and files one return along with the transactions consolidated customer/ vendor wise.
3. **Invoice level:** A taxpayer aggregates all his sales and purchases made across all the customers/ vendors and files one return along with the transactions details provided invoice wise.
4. **Line item level:** A taxpayer aggregates all his sales and purchases made across all the customers/ vendors and files one return along with the invoice wise transactions capturing item wise details as well.

Invoice level detail is necessary for the reconciliation of tax deposits, and the end-to-end reconciliation of ITC. An effective IGST implementation may also require invoice-level details. A number of states are capturing invoice details even in the existing VAT systems. It is proposed to follow a two-pronged approach with Dealer level granularity of returns in the first phase followed by invoice level in the next phase. This issue is currently being discussed in the IT sub-

working group for evolving consensus.

There has been some concern around reconciliation of ITC at invoice-level detail due to the sheer volume of data. However, this scale is no different than what organizations such as NSE, NSDL, RBI, and banks handle on a daily basis. Experience at states that have implemented this also shows that match quality is low initially, but improves significantly over time.

## 4.2 Tax booster

Type of fraud	Common GST Portal: Intelligence based deterrence
Fraudulent bills	Matching
Improper Input Tax Credit	Matching
Fraudulent use of 'exempt' rules	Electronic returns
False payment proofs	Electronic challans
Unrecorded sales	Data mining
Misuse of composition method	Data mining
Wrongful application of lower tax	Data mining
Under-invoicing	Data mining
Non-existent dealers	Data mining

**Figure 8: Types of frauds**

As taxpayers start filing invoice level returns, the common GST portal can start analysing the data for tax evasion and fraud. Common formats for returns and payments, combined with electronic filing and electronic payments, and a standardized PAN-based registration makes the data consistent, and amenable to mining.

Some of the common frauds, and how they may be combated are shown in Figure 8. Assuming VAT collections of Rs.1,50,000 crores across all states, and a potential for a 20% increase in collections, the common GST portal can lead to additional revenues of up to Rs.30,000 crores.

## 5. Implementation plan

Owner	Component
Taxpayer	User registration (PAN-based) File returns Tax payments
GSTN	User registration (PAN-based) Acceptance and Consolidation of returns Challan reconciliation Matching of Input Tax Credit Dashboard and MIS Helpdesk and facilitation centres
Tax Authorities	Assessment, audits, and enforcement Refunds Dispute resolution Helpdesk and facilitation centres
Banks and RBI	Tax payments and reconciliation
Accounting Authorities	Reconciliation

**Figure 9: Owners of various components**

The GST IT implementation requires various stakeholders to implement new IT systems, or modify existing systems. All these stakeholders are on the critical path for GST readiness in April 2011. Implementation plans for various stakeholders, and interfaces between stakeholders should be frozen, and agreed to by all before implementation can commence. Figure 9 lists the components to be implemented by various stakeholders to go live in April 2011.

## 6. Current Status of GSTN implementation

The Ministry of Finance, with the concurrence of the Empowered Committee of State Finance Ministers, has set up an *Empowered Group on IT Infrastructure for GST* with, inter alia, the mandate of approving the Solution architecture of the Common GST portal to be set up, Suggesting the modalities for setting up of a National Information Utility (NIU / SPV) and evaluating the suitability of the existing NIUs namely NSDL & NPCL for incubating the NIU/SPV for GST portal.

The 'Empowered Group on IT Infrastructure for GST' in its first meeting evaluated the feasibility of incubating the NIU, called GSTN, in NSDL and came to the conclusion that NSDL is well suited for this purpose. The scope of the project and implementation strategy is being worked out with the NSDL.