

FREQUENTLY ASKED QUESTIONS ON
STRAIGHT THROUGH PROCESSING

1 What is STP?

Straight-through Processing ("STP") is a mechanism that automates the end-to-end processing of transactions of the financial instruments. It involves use of a single system to process or control all elements of the work-flow of a financial transaction, including what is commonly known as the Front, Middle, and Back office, and General Ledger. In other words, STP can be defined as electronically capturing and processing transactions in one pass, from the point of first 'deal' to final settlement.

2 What is the advantage of using STP over the traditional method?

In the traditional method, each and every transaction involves costly multiple data re-entry from paper documents and other sources which are susceptible to errors, discrepancies, delays and possible fraud. Further, the traditional means and methods of capturing and processing of information such as phone, fax, email etc. requires human intervention which slows the entire cycle, introduces errors and delays settlement. Usage of STP enables orders to be processed, confirmed, cleared and settled in a shorter time period, more cost effectively and with fewer errors. Apart from compressing the clearing and settlement time, STP also provides a flexible, cost-effective infrastructure, which enables e-business expansion through real-time processing and access to enterprise data. STP also streamlines back-office activities, leading to fewer failures, lower risks and drastically reduces costs per transaction. It embraces a set of applications, business processes and standards, which are set to revolutionize the settlement and processing standards within the capital markets industry.

3 What is the status of STP usage in the international scenario?

Internationally, STP can be found in use at the organization level or at the most at the closed group level. However, none of the markets in the world have adopted STP at broader level i.e. STP across the market including participation across the majority of the market participants. As such, no standards for messaging or for interoperability although attempted have been implemented that could be used for adopting STP across the market. The organizations using STP in their own organizational functions are using different messaging standards. Moreover there is STP but only within clients who are networked with one Service Provider. The issue of inter-operability between STP Service Providers has not been resolved. However Internationally it has been accepted that whether it is viewed as an obligation or an opportunity, markets will have no choice but to adopt the system; they will have to spend money to stay in business.

4 What is the current settlement cycle in India?

There has been a move from account settlement period to rolling settlement system. The settlement cycle has been gradually brought down from 15 days to just 2 days thus putting the Indian capital market in the elite group of advanced markets of the world.

5 What are the benefits of adopting STP in India?

1. Facilitates shortening of the settlement cycle.
2. Increases transparency.

3. Avoids costly duplication of work and manual intervention.
4. Reduction in Risks and errors.
5. Faster data capturing, processing and report generation.
6. Increases the overall efficiencies.
7. Makes the market cost effective.
8. Better regulation by systematic audit trial.

6 What is the genesis of STP in India?

The need for STP or any other mean to achieve a quicker, safer, economical and automated system in the Indian capital market was actually felt with the shortening of the settlement cycle, increase in the number of products traded and number of players who participated in the market. Coupled with the technical advancements taking place, the various limitations arising out of the traditional system of trading and settlement, compelled the industry to revisit the viability and feasibility of the systems they had been adopting. Sensing the need of the market, SEBI set up the Committee on 19-February-2002, to assess the feasibility and suitability of introducing STP in Indian markets. The committee was formed to propose a scheme of STP and undertaking a cost-benefit analysis of implementing STP in India. The SEBI Committee for implementation of STP in Indian markets approached the matter under reference through the following steps:

1. Identification of components of the current life-cycle of a trade that involves manual intervention.
2. Identifying and establishing messaging standards for information communication.
3. Identifying options for establishment of a communications backbone that will enable data transfer across participants in a secure and efficient manner.

The committee made a comparison of the various processes involved in the trade cycle (both domestic and international) and identified the following areas which were needed to be automated on a priority basis:

1. Post Trade activities like contract note transfer from broker-dealer to sub-custodian and the mutual fund/FII
2. Pre-match advice to the broker-dealer
3. Domestic Mutual Funds' trade data flow to/from the sub-custodian

In order to implement STP in Indian market, the committee set up by SEBI recommended the following:

1. On-line Connectivity between the depositories to permit easier settlement.
2. Recognition of electronic contract notes as a legal document as an alternative to paper based contract notes.
3. Adoption of ISO 15022 standards for financial messaging with Digital Signature using PKI (Public Key Infrastructure).
4. Encourage multiple STP Service Providers to set-up infrastructure to provide STP to bring in competition for higher efficiency and economy.
5. Amendment to the legal framework (laws / regulations / bye-laws etc.) to provide for recognition of paperless form of data and records. The Committee identified and made a list of bye-laws / regulations etc. that needed to be changed in order to move to a paperless environment.

6. There were certain issues relating to the payment system that needed to be addressed on a priority basis. However, these did not fall under the purview of SEBI and the matter had to be referred to RBI for action at their end. The Committee recommended a strong need to implement Real Time Gross

Settlement system. The RBI has already indicated that the RTGS system would be in place by June 2003 (which has later been revised to mid 2004). This would help in creating better synergy between settlement of funds and securities at the same time and true Delivery v/s Payment system can be achieved. Meanwhile, in the interim period, Electronic Funds Transfer (EFT) facility of the RBI was also proposed to be increased in terms of its coverage and the value so that payments may be made faster.

The STP committee also set out the viability and the road map for STP including the following key dependencies / comments:

1. The carrier must be able to deliver a consistent communications platform that meets the security criteria recommended, and offers connectivity to all participants.
2. The carrier must be cost-efficient
3. While there is no constraint on the number of carriers, each carrier must, before launch, establish continuous connectivity with other carriers, so that a participant needs only to sign up to one carrier.

7 What are the circulars regarding STP issued by SEBI?

1

17-Mar-98

L C Gupta Committee on Derivatives

2

30-Jul-98

VARMA COMMITTEE REPORT on risk containment in the derivatives market

3

September-02

SEBI Advisory Committee on Derivatives Report on Development and Regulation of Derivative Markets in India

4

5-Feb-03

Report of the K.R. Ramamoorthy Committee on Participation by Securities Brokers in Commodity Futures Markets

5

5-Oct-04

Market Integrity Related Disclosures

8 On what lines was STP mandated?

SEBI vide letter dated October 03, 2002[1] (Ref: FITTC/FII/19320/2002) mandated introduction of STP for electronic trade processing with a common messaging standard with effect from December 02, 2002 on the following lines:

1. Adoption of ISO 15022 messaging standards by the market participants.
2. Electronic delivery of Contract Notes
3. Connectivity among the market participants and implementation of STP.

9 When was STP first introduced in India?

STP was launched in India on a voluntary basis on November 30, 2002.

10 What were the issues due to which the system could not initially flourish?

1. Lack of Inter-operability between all the STP Service Providers.

1a. Message Handshake Protocols.

1b. Lack of Common Authentication of Digital Signatures across the STP Service Providers.

1c. Lack of end to end compliance to ISO messaging formats from sender to the recipient and absence of standardisation of file formats for client's back office development.

1d. Technological Issues.

2. Absence of a common agreement among the STP Service Providers.

3. Lack of Service Legal Agreement between the STP Service Providers to guarantee delivery of the entire message in a secure and confidential manner.

4. High inter-connectivity charges to interconnect different STP Service Providers.

5. Commercial considerations – bearing of the additional cost of developing and maintaining such interfaces.

11 How was the issue of inter-operability addressed?

To address the issue of inter-operability, a committee consisting of the 4 existing STP Service Providers was formed with NSDL as the convener. The Committee had various deliberations and raised issues of regulatory non-clarity of the issue of electronic contract notes, issues relating to payment of consolidated stamp duty, technological issues, absence of inter-operability between the STP Service Providers due to non-verification of the digital signature of one STP Service Provider (obtained from one Certifying Authority) by another STP Service Provider (who has obtained digital signature from another Certifying Authority), legal and operational issues subsequent to finalization of the operational issues.

NSDL on behalf of the Committee on July 4, 2003, forwarded a consolidated document highlighting the communication protocol & message structure standards / discussions which in their opinion would suit the inter-connectivity between the STP Service Providers through a centralized hub. However one of the STP Service Provider, Financial Technologies had their reservations in adapting the specified customized protocol to suit the inter-operability needs. They preferred adopting the readymade standard messaging platforms.

12 Why was ISP chosen over CUG by the STP Centralised Hub?

There were two options available for the STP centralised hub, one to set it up as a CUG or as an Internet Service Provider (ISP). It was informed that in the current scenario, registering the STP centralised hub as a CUG would necessitate a special permission to waive the inter-connection charges between the STP Service Providers and the STP centralised hub. According to them, the waiver of interconnection charges would take more time. Further, under the existing scenario, CUG networks do not have the flexibility to interconnect to other networks. Compared to this, ISP license

has the required flexibility & the following advantages:

- 1) The STP centralised hub set up as an ISP can be connected by an existing CUG network as a client.
- 2) The centralized hub could also be connected through a leased line connection or through dial-up connections. However it had been opined that a leased line connection would be a more secure form of connection and the dial-up connectivity should be used as a back-up form of communication.
- 3) Interconnection to other ISP or any other network including CUG network does not attract any interconnect charges based on the directive issued by TRAI. Only leased line charges based on bandwidth and distance shall be applicable. As such, connectivity of STP centralised hub with any other CUG networks can be achieved without any licensing issues. It has also been confirmed that the STP centralised hub as an ISP would have the flexibility of connecting with any other CUG network like RBI's INFINET CUG network (to facilitate STP for funds).
- 4) International connectivity is permitted.
- 5) IP/VPN connection is permitted.
- 6) Present ISP's license charges applicable are Rs. 1 per annum.
- 7) No major roll-out obligations. Even one customer with an ISP is regarded as the same having gone live considering the requirement of roll-out within 18 months as per the license requirements.
- 8) The STP centralised hub as an ISP could also be used for other allied services like a standard communication platform for various exchanges, depositories, and market participants and the STP centralised hub could be made scaleable to include STP among retail clients also.

13 What is the constitution of the STP Centralised Hub?

The STP centralised hub was registered as an Internet Service Provider (ISP) with TRAI. The next issue was the mechanism in which the STP centralised hub would be constituted and owned. After various deliberations, it was agreed that since the exchanges are the originators of trade and the trade gets finally settled with the Clearing Corporation / house associated with the exchange, the exchange and its Clearing Corporation is the focal point for all post trade, pre-settlement and post settlement activities. Hence it would be desirable for the exchanges to constitute the STP centralised hub to bring in the inherent synergies and efficiencies to make the whole framework economically viable. NSE and BSE had shown interest in setting up the STP centralised hub. However setting up two centralized hubs would not solve the issue of inter-operability and would complicate the issue further. BSE endorsed the proposal but desired that the centralized hub be set up as a joint venture between BSE and NSE. NSE also agreed with the proposition of setting up the centralized hub as a joint venture. However NSE recommended implementing the proposed plan in two phases. In Phase I NSE would setup the centralized hub by earmarking some of its existing infrastructure to implement STP for institutional trades where the number of trades is not very large. In Phase II BSE and NSE could jointly develop a project to set up an independent STP centralised hub with an independent system architecture and infrastructure. This plan was accepted by both the exchanges.

It was also confirmed that an ISP license taken up by NSE in Phase I could be later reconstituted to enable joint ownership by BSE and NSE in Phase II. Accordingly, NSE made an application for the ISP (for the STP centralised hub) with Department of Telecommunication (DoT) and has procured the necessary registration of the STP centralised hub as an ISP.

14 How was the issue of Electronic Contract Note operationalised by SEBI?

In order to operationalise the issue of an electronic contract note, SEBI had issued a circular no. SMDRP/POLICY/Cir-15/00 dated December 15, 2000 and a clarification vide letter dated SEBI/SMD/SE/15/2003/29/04 dated April 29, 2003 whereby SEBI had permitted the issue of electronic contract notes with digital signature obtained from a valid Certifying Authority provided under the Information Technology Act, 2000 (IT Act). The exchanges were directed to make the

necessary amendments to the bye-laws, rules and regulations for the implementation of the same.

15 What was the format prescribed by SEBI in order to streamline the issuance of electronic contract notes as a legal document like the physical contract note?

In order to streamline the issuance of electronic contract notes as a legal document like the physical contract note, SEBI prescribed a format for the electronic contract note and advised the exchanges to implement the following vide SEBI circular no. DNPDCir-9/04 dated February 3, 2004:

- 1) The exchanges would prescribe a standard format for the electronic contract note (based on the prescribed model format prescribed in Annexure A) in its bye-laws, rules and regulations.
- 2) The exchange bye-laws, rules and regulations for issuance of electronic contract note were amended to include all the standard pre-printed terms and conditions in the physical contract note. The electronic contract note would mention the relevant bye-laws / rules / regulations of the exchange subject to which the said contract note is being issued.
- 3) The exchanges were also advised to modify / amend other relevant bye-laws, rules and regulations with respect to signing of the electronic contract note with a digital signature so as to make the modified format of the electronic contract note a valid legal document like the physical contract note.
- 4) The exchanges were asked to prescribe the mechanism of record keeping of electronic contract notes in a soft non-tamperable form in compliance with the provisions of the IT Act, 2000.

16 When did the mandatory use of STP come into existence?

SEBI decided vide circular no. DNPDCir- 22 /04 dated April 1, 2004 that all the institutional trades executed on the stock exchanges would be mandatorily processed through the STP System w. e. f. July 01, 2004.

17 What was the system flow of transactions in the STP framework as prescribed by SEBI?

In order bring in standardisation and objectivity, SEBI vide circular no. DNPDCir- 23/04 dated April 27, 2004[1] prescribed the following system flow of transactions in the STP framework:

- a) A STP user intending to send an instruction would send the message to his STP service provider after digitally signing the same.
- b) The STP service provider would verify the signature of the STP user and forward it to the:
 - i) recipient STP user, if the recipient STP user is availing services of the same STP service provider; or the
 - ii) STP centralised hub if the recipient STP user is not with the same STP service provider. In such a case the STP service provider would be required to prepare a message as per the STP centralised hub prescribed message format, enclose the user's message, digitally sign the message and then send it to the STP Centralised Hub.
- c) On receipt of the message by the STP centralised hub, the STP Centralised Hub would:
 - i) verify the signature of the sending STP service provider only.
 - ii) send an acknowledgment to the sending STP service provider.
- d) The STP centralised hub would forward the message to the recipient STP service provider after digitally signing on the message.
- e) The recipient STP service provider on receipt of the message from the STP centralised hub, shall verify the signature of the STP centralised hub, verify if the recipient STP user is associated with itself and send an appropriate acknowledgment with digital signature to the STP centralised hub. The STP

centralised hub would in turn forward the acknowledgment (received from the recipient STP service provider) duly signed to the sending STP service provider.

f) The recipient STP service provider shall forward the message to the recipient STP user. The recipient STP user would receive the message and verify the signature of the recipient STP service provider and sending STP user.

2) To enable inter-operation, the STP centralised hub would provide a utility / client software to the STP service provider. The STP service provider's point of interface with the STP centralised hub would be through this utility / client software. The PKI (Public key infrastructure) system for the interface shall be implemented at a later stage.

The transaction work flow for the STP system as provided by SEBI circular no. DNPD/Cir-25/04 dated June 10, 2004 is as follows:

1. A contract note in electronic form in the prescribed format (IFN 515 messaging format) shall be issued by the broker & sent to the custodian and / or the institutional investor.

2. In case the contract note is processed directly by the institutional investor, the institutional investor shall send the trade confirmation of acceptance or rejection of the contract note to the broker by using the IFN 598 messaging format. The custodian shall also send the confirmation of acceptance or rejection of such contract note to the broker using the messaging standard IFN 548.

3. In case the contract note is processed by the custodian on behalf of the institutional investor, the custodian shall send the confirmation of acceptance or rejection of the contract note to the broker by using the IFN 548 messaging format.

4. The institutional investor shall send settlement instructions to its custodian in IFN 540 to IFN 543 messaging formats to the custodian for the following trade types:

a. IFN 540: settlement instruction for a clearing house buy trade

b. IFN 541: settlement instruction for a delivery-v/s-payment (DVP) buy trade

c. IFN 542: settlement instruction for a clearing house sell trade

d. IFN 543: settlement instruction for a delivery-v/s-payment (DVP) sell trade

5. The custodian shall confirm / reject the execution of the settlement instructions to the institutional investor in IFN 544 to IFN 547 messaging formats in the following manner:

a. IFN 544: confirmation / rejection of an instruction received in messaging format IFN 540

b. IFN 54+D3585: confirmation / rejection of an instruction received in messaging format IFN 541

c. IFN 546: confirmation / rejection of an instruction received in messaging format IFN 542

d. IFN 547: confirmation / rejection of an instruction received in messaging format IFN 543

6. It was clarified that if a message (for the activities mentioned above) is sent using the STP centralised hub framework from one user to another user, then the confirmation / rejection for such a message shall also be sent using the STP centralised hub framework.

In order to bring in clarity and better understanding SEBI in consultation with the STP centralised hub, STP service providers and the STP users had also prescribed the messaging standards for IFN 515, IFN 540 to 547, IFN 548 and IFN 598.

18 What are the identification codes as prescribed by SEBI?

1. Brokers: SEBI registration number (until MAPIN ID is available for every broker)

2. Mutual Funds and schemes of Mutual Funds: SEBI registration number for Mutual Funds and Unique client code issued by the exchanges for schemes (until MAPIN ID is available for each scheme of a mutual fund)

3. FIIs and sub-accounts: SEBI registration number for FII and Unique client code issued by the exchanges for sub-account (until MAPIN ID is available for each FII and their sub-accounts)
4. Custodians: SEBI registration number (until MAPIN ID is available for every custodian)
5. STP service providers and STP centralised hub: MAPIN ID
6. Depositories and exchanges / clearing house / clearing corporation: MAPIN ID.
7. Other Institutional Investors like financial institutions, banks etc.: Unique client code issued by the exchanges (until MAPIN ID is available for each Institutional Investor)

19 Which are the four STP Service Providers currently recognized to execute STP in India?

1. BSE 2. NSE.IT 3. NSDL 4. FTIL