
Toward the Introduction of the FIX Protocol in Japan

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Due to the advances being made in electronic securities trading, it has become essential to realize connectivity in systems and networks used by all the participants. Regarding this point, attention is focused on FIX Protocol (a protocol for message exchange), a system which has come into use in the US in recent years. This protocol is now also coming into use in Europe. At the joint conference of the US-Europe Steering Committee held in June 1998 it was decided to establish a global steering committee at some point in the near future. The establishment of a regional committee in Japan is also being considered, and the kickoff meeting is scheduled for October. Through the introduction of FIX to Japan, it is expected that STP will be promoted in Japan's securities markets.

1. An Explanation of FIX

1) The Background to the Establishment of FIX

FIX is an abbreviation of Financial Information eXchange. It is a message protocol to realize integrated specifications for electronic communications among those engaged in securities trading.

Regarding electronic securities trading, up to now there were diverse systems and networks of various types in use. For example, in the 1980's there was active provision of dedicated terminals facilitating electronic input of orders by the securities companies to the institutional investors. However, this results in the desks of institutional investors being occupied by the terminals of various different companies.

In view of this, a system emerged for placing orders with securities companies through portfolio management systems, order management systems or information vendor systems, all already in use by the institutional investors. In the 1990's, in particular, progress has been made in the shift to open networks for computers, and a system was introduced using standard PC terminals in which several institutional investors and several securities companies were able to engage in order placing, execution and confirmation of trades, etc.

However, in this case, too, if the systems and networks used by a certain institutional investor and the systems and networks used by the securities companies the firm traded with were different, it was impossible to effect two-way electronic trading. This problem has been greatly improved by all the systems existing using the same specifications. FIX was introduced with the aim of achiev-

ing a vendor neutral integrated specification allowing connectivity between the buy side and the sell side.

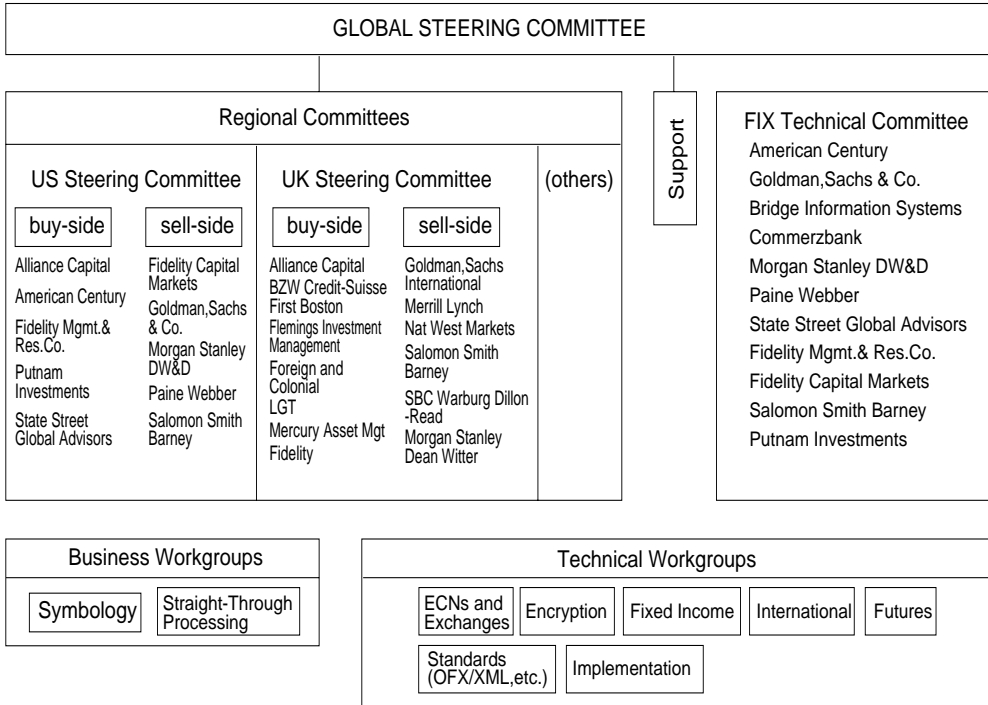
This experiment started in 1993 as a pilot project between Fidelity and Salomon. In June 1994 a FIX committee was set up, and integrated specifications were announced. The latest specifications were announced in April 1998, and this was the FIX 4.1 version. During the period, a FIX steering committee was also set up in London and the utilization of the system in Europe got underway.

2) The Management of FIX and Scope of Coverage

Fig. 1 is a diagram of the organization mechanism for the promotion of the establishment and promotion of FIX. As will be mentioned later on, in June 1998, it was decided by a European-US joint committee to establish a global steering committee. This figure shows the mechanism reforms involved. The figure shows which participants are committed to FIX. Chart 1 shows the vendors who support FIX. You can see that major vendors are participating.

FIX is an open community centering on the buy side and sell side, and it does not reflect the interests of specific companies or organizations. The minutes of the committee, the presentation material and various inquiries are made public on the web, and the management is transparent.¹

Figure 1. The Mechanism of FIX



Source: www.fixprotocol.org

1 www.fixprotocol.org

Table 1. Vendors Supporting FIX

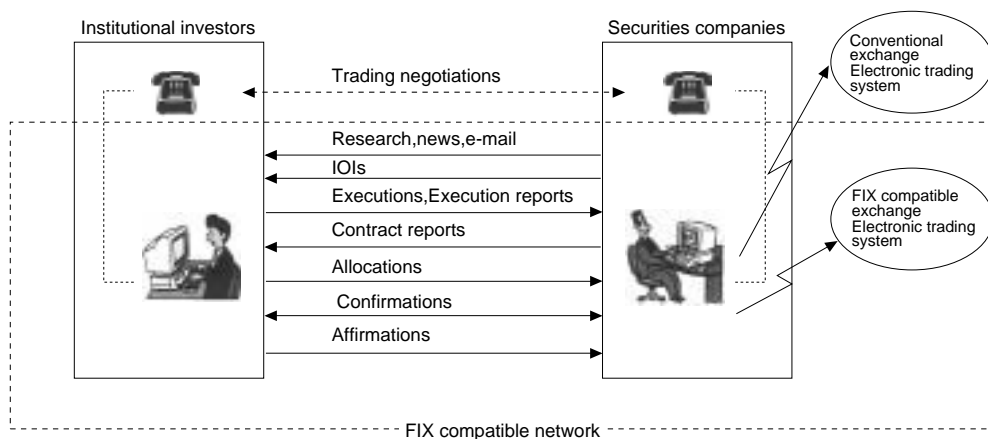
FIX Engine	Network	Software
CTP FIX Engine (Cambridge Technology Partners) Coppelia(Kledaras Comm & Design) EL*TRADER SUITE(InfoReach) FIX Transaction Server(Bridge) FIX2000 Toolkit(Tradeware) FIXtalk(Trinitech) HPNS(Davidge Data Systems) QuantNet FIX(QuantNet Investment Technologies) SSTFIX(Silicon Summit Technologies)	Bloomberg AutoEx and Tradebook (Bloomberg L.P.) Bridge VPN(Bridge Information Systems) DavNet(Davidge Data Systems) InterTrade Direct-DirectLinks(Liberty) Liquidity(IXNET) MINT(MINT Communication Systems) NYFIX(Trinitech Systems) TNS FastLink Data Service(Transaction Network Svcs) TradeRoute(The AutEx Group) VERSUS Network VPDN(ANS Communications)	AutEx+(The AutEx Group) COPERNICUS(VIE Systems, Inc.) EL*TARDER Suite(InfoReach) EasyFIX(Bridge) F.I.R.S.T.(Trinitech Systems) Fixlink(Tradeware) FlexTrader(FlexTade Systems, Inc.) FloorReport(Trinitech Sysystems) HPeX/Win(Davidge Data Systems) InterTrade Direct(Liberty) MarketCenter(Tradeware) Messenger(Braid Inc.) OptiMark Trading System(OptiMark) ROX(Interbizz Financial Systems) SSTFIX(Silicon Summit Technologies) TradeX(QuantNet Inverstment Technology) TRIAD(Bridge Information Systems) Zorba(Indigo Solutions)

Source: www.fixprotocol.org

In the background to the start of FIX can be found the awareness of the problem of electronic trading communication between the buy side and the sell side.

Thus, FIX adequately encompasses front office operation specifications such as IOI (Indications of Interest), quote inquiries, placing of orders, execution, execution reports, the sending of research notes, news and electronic mail, etc. However, in the latest version of FIX, the 4.1 version, allocation, trading confirmation and trading affirmation² are defined, and it has become possible to use FIX in the middle office, too. (Fig. 2)

Figure 2. Buy Side and Sell Side Connectivity Using FIX



Source: Nomura Research Institute

² As management companies handle many accounts, in many cases they place a large lump-sum order. Consequently, after the contract has been concluded, it is necessary to divide up and allocate the trades to each individual account. This is called allocation. Conventionally, this operation has been undertaken by telephone or fax. However, in the 1990's, electronic systems to carry out this work have come into use such as OASYS of Thompson. Confirmation is sent by the securities firms to the management firms to confirm the final trade by account on receipt of this allocation. The management firms send affirmation to the securities firms to affirm the trade.

In addition, recently, there is an awareness of the existence of FIX in the systems used in stock exchanges. Trade Point, a British electronic trading system recognized as the US exempt stock exchange in July 1998, became the first exchange in the US compatible with FIX. TradeBook, an electronic trading system of Bloomberg, and OptiMark, a new trading system to be introduced in the Pacific Securities Exchange are also compatible with FIX. In addition, the new trading system of Osaka Exchange, J-Net, is also compatible with FIX.

The FIX working group is made up of the ECNs (Electronic Communication Networks: an electronic trading system) and various exchanges. The main exchanges such as the NYSE and NASDAQ and other main electronic trading systems also participate, and so the introduction of FIX in the trading markets will become a major reality. In addition, the US DTC (the Depository Trust Company) is also indicating that it will participate in FIX.

3) The Actual Status of Utilization

Thus, the actual use of FIX is becoming more extensive. However, the actual situation is that FIX is most extensively used in IOIs. IOI is a system in which the participant expresses interest in making a trade on an electronic notice board, and seeks someone to trade with. For example, in order for a securities firm to attract the orders of institutional investors, the firm will display the price they want to trade at and the number of stocks for a certain issue. In some cases, the name of the interested issue is displayed alone and buying and selling are not displayed. Inversely, they can display firm orders for buying and selling and so make a market. Depending on the system, it is possible for the securities firm to control the situation and decide which institutional investors can access the information. On the institutional investors side, they can filter IOIs from various securities firms, and arrange so that only the messages they are interested in arrive on the terminal of the manager.

When the management firm side is considering trading in a certain issue, it appears that communications using FIX are frequently utilized with the object of obtaining quotes simultaneously from several securities firms. Thus, by using FIX, not only is it possible to achieve effective implementation of placing orders and execution electronically, the management firm is able to smoothly undertake communications simultaneously and in real-time with several securities firms. As a result, it appears that the trading strategies of the management firm become more sophisticated.

In many cases, the IOI is received electronically, but the actual trading negotiations are done by phone. However, regarding the writing of the trading tickets, etc., it is possible for the investor to click on the offer of the other party. A ticket is then displayed, and this ticket is filled in and electronically sent, and the confirmation is received.

In the US, this form of electronic trading has not yet come into general use, and in most cases, the phone is used. FIX is expected to contribute to the improvement of this situation.

According to the survey of the institutional investors by Greenwich Associates which was announced in April 1998, the number of major institutional investors using FIX increased from 12% a year ago to 21% this year.

Putnam is a management firm which actively uses FIX, and this firm has announced that it will

suspend trading with securities firms that cannot use FIX for trading by the summer of 1998. Consequently, many securities companies are thought to be rushing to introduce FIX.³

The major management firm, American Century, is also an active user of FIX. This firm is engaged in communications with over 50 securities companies worldwide on a 24-hour a day basis using FIX in the areas of IOIs, execution reports, allocations, and affirmations. The network mainly used domestically in the US is the Internet, and only some firms have dedicated lines. In the area of international trading, in many cases, Bloomberg is used.

In reality, the degree to which FIX is used differs depending on the players. Some use FIX for IOIs, but in other areas many do not use it. There are many versions of FIX in existence. However, people using different versions of FIX cannot communicate. This is a problem which has been highlighted.

In Europe, recently there has been great interest in FIX in the UK, but the actual utilization is limited. In continental Europe, there is still insufficient interest.

In the case of the problems such as version incompatibility and the lack of use in Europe, recently countermeasures are being considered.

2. FIX and Global STP

1) Relations with Other Protocols and Networks

FIX plays an important role in STP (straight through processing) in stock trading. This is a method of reducing the degree of human intervention and achieving integrated electronic trading from the decision to invest to settlement.

FIX is more a movement to standardize the front office section of this series of processes. However, in the area of back office communications such as settlement instructions, S.W.I.F.T. is a system which has become more or less the standard for the sector in terms of messages and providing networks. S.W.I.F.T. (the Society for Worldwide Interbank Financial Telecommunications) is an organization that was originally created to effect message exchange in the area of money transfers and currency exchange trades etc. among international banks. However, in recent years, it is placing emphasis on the area of message exchange for the securities sector. S.W.I.F.T. is traditionally strong in the back office area of banking. Regarding the handling of securities messages, there is a great amount of settlement instruction message traffic between securities firms and banks as well as between management firms and custodians. But message codes for front office transactions have also been made available and so it is able to handle the entire series of securities transaction processes.

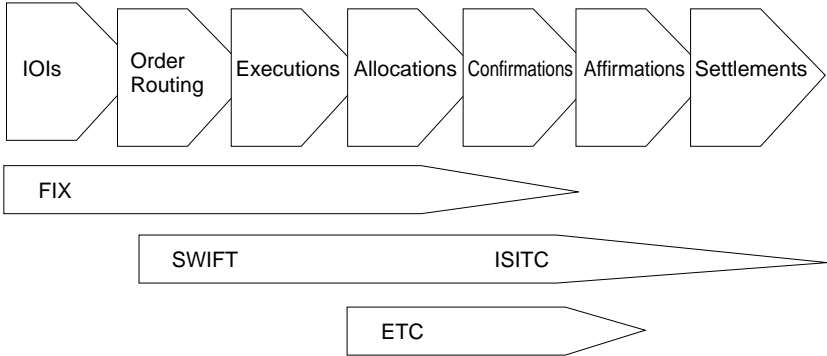
Regarding the middle office section positioned between front and back offices, that is the section handling allocation, trade confirmation and affirmation, various systems are used such as Thompson's OASIS and OASIS Global as well as various electronic trade confirmation systems (ETC: electronic trade confirmations). Thompson's system has a broad spectrum of participants

3 *Global Investment Technology*, June 8, 1998

and this is close to being a standard in itself. On the other hand, the major ETC providers apart from Thompson have become partial participants in the S.W.I.F.T. network from 1996. As a result, these ETC users have become able to communicate with other ETC users and S.W.I.F.T. participants through the S.W.I.F.T. message standard and its networks. However, in this middle office sector, the latest version of FIX has a protocol available for this.

Thus, at the present stage, it does not have a protocol or network which covers everything from the start to finish of STP and which is the de facto standard. It has various systems, networks and protocols which are used in their respective areas, and there is segregation of functions. (Fig. 3)

Figure 3. STP and Various Standardization Forms



Source:Salomon Smith Barney

2) Towards Global STP

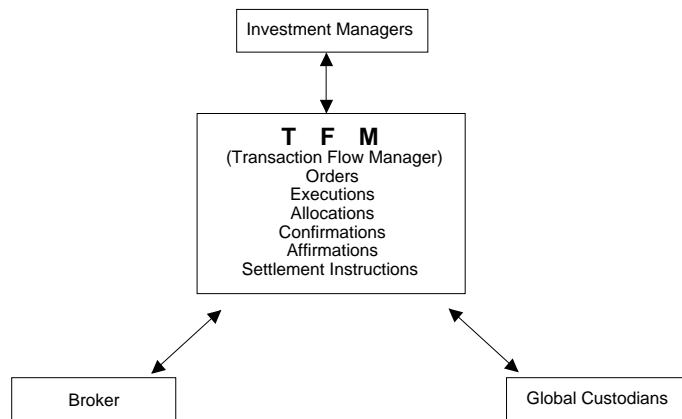
In terms of predicting if these elements will in some way be converged, the movement of STP in global securities trading is attracting attention. In global securities trading, the shift to electronics has just started, and at the present stage, in all sectors a de facto standard for protocols, systems and networks has not yet emerged. However, in the future, STP in this sector will have to show rapid advances, and attention is fixed on what kind of protocols, networks and systems will emerge. The following are background factors to the emphasis expected to be placed on global STP. First, the settlement of cash and currencies is carried out in real-time. In response to this, by the beginning of the 21st century, the time for securities settlements will be shortened globally by T+1 or less. As the amount of global securities trading increases sharply, failures occur frequently and the cost of these cannot be ignored. Thus, it is considered that the establishment of global STP is essential.

Reflecting this heightening in awareness of the problem, in the period from 1997 to 1998, the following put forward proposals regarding global STP: S.W.I.F.T., IOA (International Operations Association), ISITC (Industry Standardization for Institutional Trade Communications), DTC (the Depository Trust Company), IDC (the International Depository and Clearing Company), and GSTPC (Global Straight Through Processing Committee). GSTPC was formed by major buy side, sell side and custodian firms.

The Global STP concept created by GSTPC in November 1997 has attracted particular attention. The main features of the Global STP concept is in the establishment of a Transaction Flow Manager engine (TFM: also called Transaction Flow Monitor).

This is an integrated engine run by third parties. The plan calls for all the communications of the management firms, the securities firms and the custodian firms to flow through this engine. (Fig.4) In the management of this concept, the use of S.W.I.F.T. is envisioned. In the ETC section, it is expected to use ETC providers including Thompson. If this is realized, it will cover the entire securities trading process from front to back office through a framework providing engines traversing the sector.

Figure 4. GSTPC Plan



Source:GSTPC

If things proceed in this direction, the problem will be the relationship between the protocol provided by FIX and the global STP environment provided by GSTPC. Regarding this, FIX is a protocol, not a network, not software and not hardware. Thus, whatever kind of network is created, if the protocol has gained many users, there is a possibility that it will be the protocol selected to be used on the network. For example, in the IOI section, FIX is popular. Thus, FIX may be used in the IOI section of GSTPC's STP.

Of course, there is also the approach of making a new integrated network and an integrated message standard throughout the entire process. However, in as much as one protocol in one process has gained users, rather than covering each process with a single protocol, it would be more realistic to respond by agreement on data mapping and the use of middleware among protocols.

Thus, if FIX comes into general use, not only in the USA but also in overseas markets such as Europe as a mainly front office oriented protocol, FIX will contribute to the realization of global STP by augmenting the strong protocols in other trading processes. In order to achieve this, FIX must strengthen its international operations further. As we will see later in this report, the first steps have already been taken.

3. The Future Outlook for FIX

On the 1st and 2nd of June 1998, those involved in FIX on the buy side and sell side from the US and the UK gathered and held an offsite meeting. At this meeting, the discussions focused on the future of FIX in terms of confirming its mission, its objectives, the method to achieve the

objectives and the time schedule.

The mission was defined as; “To improve the global trading process by defining, managing, and promoting an open protocol for real-time, electronic communication between industry participants, while complementing industry standards.”

In terms of the future strategy and direction of FIX, it was confirmed that it is necessary to increase the number of participants, reduce the cost of the introduction of the protocol, actively engage in marketing, stabilize the current version, establish an official process for the introduction of a new version, introduce a certification for vendors and place emphasis on equity products.

The reason for stressing the creation of an official introduction process for a new version and the official recognition (approval) of vendors can be seen in the fact that over the past few years FIX has shown rapid growth, and many forms of software compatible with FIX have emerged. However, the interpretation of what is FIX-compliant is very diverse in nature as is the interpretation of what FIX protocol itself is.

The reason for placing emphasis on equity products can be seen in the background of FIX’s strength in this sector as it started from trading in stocks. There are discussions on the subject of introducing FIX in the bond and foreign exchange sectors. Thus, the thinking is to push forward this movement while further strengthening its position in the field of stocks.

At this meeting, methods were proposed for the establishment of a global steering committee. It was decided that studies were needed on whether it would be better to create a totally new corporate entity or enter into a tie-up with currently existing entities. The global steering committee entity is seen as being held half by the buy side and half by the sell side and operated as a non-profit making entity.

Based on this meeting, on June 23rd, 1998, a joint meeting participated in by the FIX steering committees of the USA and Europe was held in the form of a video conference using the offices of Merrill Lynch in New York and London. At this meeting it was unanimously decided to establish a global FIX steering committee. The global FIX steering committee will be made up of a standing committee head (chairman). Under him will be regional representative joint committee heads (one from each side of the buy and sell sides of each region), a technical joint committee head and support and general affairs staff. The regional representative joint committee heads have been decided, and they are; Mr. James Leman of Salomon Smith Barney, the US sell side, Mr. Mike Cormack of American Century, the US buy side, Mr. Tim Wildenberg of SBC Warburg of the European sell side and Mr. Alan Line of Foreign & Colonial of the European buy side.

The committee members making up the regional steering committee have the task of meeting the following requirements:

- The committee members are to be limited to the buy side and sell side firms.
- Meeting attendance.
- Demonstrated use of FIX.
- Resources commitment.
- Funds commitment.
- Marketing commitment.
- Able to act as the representative of each company.

The committee heads shall be selected by vote.

Based on these decisions, work will be carried out to undertake funding and employment of staff to operate the organization for the establishment of this corporate entity. Through this, systems will be put in place for the global utilization of FIX. It is expected that advances will be made in the preparation for the establishment of a FIX steering committee in Japan.

4. Points to Be Considered in the Introduction of FIX to Japan

1) The Necessity for the Introduction of FIX to Japan

As a result of Japan's Big Bang, in Japan's securities market it is certain that more use will be made of electronic devices. In particular, it will become possible to introduce off-floor trading and electronic trading systems. Thus, the existing exchanges are rushing to form system-based responses able to deal with the competing execution points. Examples of this are the introduction of ToSTNet on Tokyo Stock Exchange and J-Net on the Osaka Exchange. For securities firms and institutional investors, as competition becomes more intensive in terms of thoroughgoing rationalization and risk management, a system-based response is essential to ensure their continued existence. Being able to accurately access and effect rapid trade processing through the various sources of liquidity emerging such as Tokyo Stock Exchange systems, Osaka Stock Exchange systems, securities firms off-floor trading and electronic trading systems will become of great importance.

In particular, in December 1998, the ban on off-floor trading will be lifted. Consequently, it is thought that attention will be fixed on trading based on IOIs between the securities firms and the institutional investors in Japan.

To respond to this increase in needs, already the vendors are building various electronic trading networks. However, for many users, even if they consider introducing the system of a specific vendor, they fear that in the future it will only be available for one part of the sector or connectivity will be limited. Thus, many firms are thought to be taking a wait-and-see stance for the present. At the moment it is not possible to foresee which systems will become the de facto standard. In this sense, it is desirable that the users don't have to worry about connectivity and are able to deploy their future system strategies while focusing on the basis functions of each system. This can be achieved by each system introducing common specifications such as FIX.

The various players in Japan have arrived at the point in time when they should start the creation of new systems. The reasons for this are, in addition to the need to rapidly create systems to respond to Big Bang, there is also the year 2000 problem looming, the response to EMU, and a response to the introduction of RTGS.

Thus, if they have to create a new system anyway, they no doubt think that the new system must have connectivity. From this viewpoint, too, the time has come for those concerned to seriously discuss the introduction of FIX.

This awareness is also held by the US FIX steering committee. At the committee meeting held in March 1998, it was agreed to establish a FIX steering committee in the Asia-Pacific region. It was also decided to focus on Japan for the time being. In order to hold a kickoff meeting in Japan in October, it was decided to try to attract the Japanese firms interested in this.

Based on this, at the beginning of June 1998, Mr. James Leman (Managing Director, Salomon Smith Barney) who was recently appointed to the position of the US representative joint head of the global steering committee visited Japan. He held meetings with major buy side, sell side and vendors. He reported on this trip to the US-Europe joint committee meeting held on June 22nd, 1998. At this committee meeting the decision was made to establish a global committee. If a FIX committee is established in Japan, it will function as a sub-organization of this global committee.

The kickoff meeting in Japan is scheduled for October 1998. It is expected that there will be major advances towards the introduction of FIX in Japan.

Of course, the movement towards standardization of STP will not stop at FIX, and various forms of standardization can be envisioned. It is difficult to forecast what kind of STP mechanism will emerge globally. However, at least for the time being, FIX is expected to be used because it augments other protocols. In addition, when we take into account the fact that in the Japanese market, a large share of the trading in Japanese stocks by the main overseas institutional investors is centered on the US, and there is extensive increased activity in the setting up of operations in Japan by overseas securities firms and management firms, although the very long term is unsure, in the short to medium term, we expect to see an increase in the need for FIX.

2) A Need for a New Framework for Coordinated Cooperation in the Sector in This Age of Competitiveness

Regarding the introduction of FIX to Japan, there are two approaches. One is to introduce the FIX protocol used in the USA and Europe as it is. For example, when bringing out an improved version, it would be compatible with the overseas versions. Another approach is to adopt a protocol based on the actual situation and the customs of the Japanese market and make this compatible with FIX. In order to discuss these points, expectation is placed on the establishment of the Japanese FIX committee with the participation of the major users.

In reality, there is already a movement building up in Japan to introduce FIX. For example, at the Osaka Stock Exchange, the new system, J-Net, incorporates FIX. Some of the securities firms are reported to be building new networks with their group subsidiary securities firms based on FIX. In the Tokyo Stock Exchange, there is a desire for the introduction of FIX by some users. When considering that the start of FIX in the US began with a pilot project between one buy side and one sell side company and the present reality is that the increase in the use of FIX centers on IOIs, in Japan, if FIX is introduced, and from the start the stock exchanges become the nucleus users, there is the possibility of more thoroughgoing utilization than in the US.

In the case of the US, many vendors are providing electronic stock trading services to a considerable extent. Consequently, a vendor-free protocol is required. However, in Japan, as it starts from a position of having almost no electronic trading, from the beginning the users can aim for a high level of electronic trading implementation, and if vendors design their systems taking FIX into account, the spread of the use of the protocol will be given impetus.

However, as they all have an elevated concept of electronic trading, this also presents the danger of the installation of FIX being overly emphasized as a method of gaining a competitive edge over rivals, and each player might introduce systems with their own original FIX specifications for

trading with prime firms for them, without the agreement of other major potential users. FIX is, of essence, a protocol which aims to enhance connectivity. If individual FIX specifications emerge here and there, the basic aim of FIX will be lost.

In this sense, it is desirable that the Japan FIX committee should be formed as soon as possible and thorough discussions on the introduction of FIX should be held with the participation of the major buy side and sell side people. Of course, in this case, in addition to the participation of Japanese firms, the participation of the prime foreign buy and sell sides active in Japan is essential. The reason is, there is a demand for global STP and a need to utilize the know-how and experience in the area of FIX in the USA and Europe. The transparent and open approach seen in the management of the US FIX committee and its web site is also desirable in Japan.

As a result of Japan's Big Bang, competition is expected to become very active in the securities market in this country. However, through cooperation of the participants, the overall efficiency and convenience of the market is expected to be enhanced in some areas. One area of this nature is the standardization of specifications. Up to now in Japan, things which affected the overall market were thought to be the area of the Ministry of Finance and the various SROs. However, looking at the US, etc. rather than being directed by the government administration, the major firms involved cooperate together and show positive initiative in systems to improve settlements and other standardization movements such as FIX. If each player deploys his basic competitiveness, it will result in management resources being concentrated in areas where differentiation is really needed. Thus, in areas where standardization is more desirable than differentiation, it is natural that a mood of mutual cooperation should emerge.

Cooperation does not mean the concept of everybody in the sector conforming to the same pattern. In the case of global STP, it is essential that the leading players who undertake vast amounts of international transactions should spontaneously assemble and actively tackle problems common to their individual operational sectors. This does not mean that if firms A and B enter, then firms C and D should automatically follow suit. It is also important that a situation should not occur in which if firm A, a leading player, enters, then the competitor firm B, also a leading player, would not want to enter. It is also very undesirable that the existing unified convoy system way of thinking in the sector, where everyone follows the leader should prevail, and the formation of narrow restricted groups of companies is also contraindicated.

Consequently, if the attitude toward the establishment of a Japanese FIX committee by the main players of each sector is not sufficiently active and spontaneous, this would be proof of the fact that each player is not yet fully exerting full potential competitiveness. There is, of course, also the possibility of a firm not selecting the FIX protocol. However, in such a case, it will have to search for some other alternative standard. If the firm does not select some standard, it will be late in entering the global STP movement.

The introduction of FIX to Japan is expected to contribute to the promotion of the use of electronic systems in the front office transactions. However, it will not lead to an immediate solution to the delay in adopting electronic systems in the back office. In regard to this point, the movement for the establishment of an ISITC committee in Japan is worth watching. The establishment of this committee initially faced unexpected difficulty in preparations due to the reservations of various companies. However, it has finally got on track, and it is said that by this autumn it will be realized.

It is expected that in the future an age will come to Japan when the firms involved will themselves search out positive coordinated cooperation in various sectors implemented by groups of professionals cutting across the entire sector, unlike the age of the unified convoy system. Moreover, this coordinated cooperation should be one aspect of the basic deployment of their competitive strategies. It is desirable that, as a result of this process, an environment conducive to global STP should be formed by the firms involved which is easy-to-use for Japan's major participants.