



Tokyo Stock Exchange Specification for connecting to Data Feed Server

Version 2.1

July 7, 2008

Tokyo Stock Exchange, Inc.

This Specification will be applied on August 11,2008.

Contents

1. Purpose of this specification	1
2. Outline of DFS	2
2.1. File transfer protocol	2
2.2. Line of communication	2
3. Connection via FBAJ Protocol	3
3.1. Line of connection	3
3.2. Telecommunications equipment	3
3.3. Speed of connection	3
3.4. Configuration information	3
4. Connection via FTP	4
4.1. Line of connection	4
4.2. Telecommunications equipment	4
4.3. Information setup	4
4.4. Things to note when connected through the Internet	4
5. Dial-up setting in ISDN connection	5
5.1. ISDN connection and authentication method	5
5.2. IP address	5
6. File to be provided	7
6.1. Information on the file to be provided	7
6.2. File to be provided	7
6.3. Provision frequency and provision time	7
7. Operation at system failure	9
7.1. During system failure	9
7.2. Information error	9
7.3. File reacquisition	9
8. Contacts	10
9. Revision History	11

1. Purpose of this specification

This specification contains the necessary information in order to connect the user system to Data Feed Server (hereinafter referred to as “DFS”) operated by Tokyo Stock Exchange, Inc. (hereinafter referred to as “TSE”) when using the services below.

- 1) Information provision service provided by TSE
- 2) Information provision service provided by Japan Securities Clearing Corporation
- 3) Information provision service provided by Japan Securities Depository Center, Inc. for balance of foreign stocks.

DFS undertakes the operation to provide information concerning the above 1)~3) services. Regardless of the service you are using, system connection is made in accordance with this specification.

In addition, for details on provision frequency, provision time, file format, items on record, and such in each information provision service, please refer to the file specifications (file instructions) of each information provision service separately.

2. Outline of DFS

Information provision is carried out by file transfer from the DFS to the user system.

2.1. File transfer protocol

The following two protocols are available as transfer protocol between the DFS and the user system. In either protocol, the user system becomes the terminal side (primary station in the FBAJ Protocol and a client in FTP connection).

- 1) File transfer through the communication procedure (hereinafter referred to as “ the FBAJ Protocol”) established by the Federation of Bankers’ Associations of Japan (hereinafter referred to as “FBAJ”)
 - ”FBAJ standard communication protocol/Basic Protocol” (hereinafter referred to as “ the FBAJ Basic Protocol”)
 - ”FBAJ standard communication protocol/TCP/IP Protocol” (hereinafter referred to as “the FBAJ TCP/IP Protocol”)
- 2) File transfer through FTP

2.2. Line of communication

In the case of the FBAJ Basic Protocol or FBAJ TCP/IP Protocol, ISDN is used as the communication line.

In the case of FTP, ISDN or the Internet is used as the communication line.

Table below shows the combination of available protocols and lines.

	FBAJ Basic	FBAJ TCP/IP	FTP
ISDN	○	○	○
Internet	-	-	○

Depending on the files to be provided, available communication protocols and communication lines may be limited in some cases (statement on this is found in the file specifications). Please contact us for details.

3. Connection via FBAJ Protocol

3.1. Line of connection

Integrated Service Digital Network (ISDN) (“INS Net 64” or “INS Net 1500”) provided by NTT East Japan is used for connecting lines between the DFS and the user system.

Regular telephone lines (analog lines) or leased lines cannot be used.

3.2. Telecommunications equipment

When using the FBAJ Basic Protocol, ISDN Digital Service Unit (DSU) and a terminal adapter that supports the FBAJ Basic Protocol are required for the user system.

When using the FBAJ TCP/IP Protocol, ISDN Digital Service Unit (DSU) and dial-up router/terminal adapter are necessary for the user system.

3.3. Speed of connection

(1) “FBAJ Basic Protocol”

ISDN (64kbps) is used for lines, but due to the FBAJ Protocol, the actual communication speed is 9600bps.

(2) “FBAJ TCP/IP Protocol”

ISDN (64kbps) is used for lines.

If the communication method simultaneously utilizing B channels of ISDN (multiple channels) is selected, 128 kbps can be achieved. In that case, dial-up router supporting multiple channels is required. (Terminal adapter can not be used for the connection, in the case of multiple channels.)

3.4. Configuration information

With respect to the various items necessary for connections as outlined below, TSE will prepare “Configuration Sheet” for each user.

Item	Item
Telephone number	Record size/block size
Center confirmation code (on the user side)	Frequency management
Center confirmation code (on the center side)	Multiple files transfer
Password	Data compression
File name (file ID)	Recovery method
File access key	TTC control character (PC/standard)*

In addition, when using the FBAJ TCP/IP Protocol, the IP address setting is required. Please refer to “5. Dial-up setting in ISDN connection”.

5020 is used for connection port when using the FBAJ TCP/IP Protocol.

*TSE will provide the Center confirmation code (on the user side) and the TTC control character. However, these may be changed depending on the user side system specification.

4. Connection via FTP

4.1. Line of connection

Integrated Service Digital Network (ISDN) (“INS Net 64”) provided by NTT East Japan or the Internet is used for connecting lines between the DFS and the user system.

Dial-up connection to the DFS cannot be used through the regular telephone lines (analog lines) or leased lines.

4.2. Telecommunications equipment

When using FTP through ISDN dial-up, ISDN Digital Service Unit (DSU) and dial-up router/terminal adapter are necessary.

ISDN (64kbps) is used for lines.

If the communication method simultaneously utilizing B channels of ISDN (multiple channels) is selected, 128 kbps can be achieved. In that case, dial-up router supporting multiple channels is required. (Terminal adapter can not be used for the connection, in the case of multiple channels.)

When using FTP through Internet, the device necessary for access to the internet is necessary.

4.3. Configuration information

With respect to the various items necessary for connections as outlined below, TSE will prepare “Configuration Sheet” for each user.

Item	Item
Telephone number when dialing-up	File name
Host name when connecting to the Internet	Transfer mode (text/binary)
User ID/Password	

In addition to this, the IP address setting is required when using ISDN lines. Please refer to “5. Dial-up setting in ISDN connection”.

In FTP, an active mode and passive mode can be used.
Standard 20, 21 are used for FTP port.

4.4. Things to note when connected through the Internet

Communications are not encrypted in FTP. Please acknowledge in advance the possibility of information leakage to a third party through Internet path.

When connecting to the Internet, please inform us of the global IP address of the connection point where the user system is connected to the Internet. DFS identifies the user with this IP address. For this reason, a fixed global IP address must be assigned from a Internet Service Provider. (If you would like to connect to DFS from multiple connection points for backup purpose, please inform us of the global IP address for all of those connecting points.)

Please use a host name (domain name) when connecting to DFS. TSE may change the global IP address of DFS without prior notice.

If main DFS server fails due to system troubles and files can not be obtained, please change the host name to that of back-up server for connection. But please connect to main server in usual cases.
(Host name)

Main server	Back-up server
ftp1.tmi.tse.or.jp	ftp2.tmi.tse.or.jp

5. Dial-up setting in ISDN connection

5.1. ISDN connection and authentication method

Regarding FBAJ TCP/IP connection or the FTP connection through ISDN, PPP (Point to Point Protocol) is used for a dial-up.

Further, CHAP (Challenge Handshake Authentication Protocol) is used for dial-up authentication and the authentication of single direction is adapted in CHAP.

With respect to telephone number of the access point and CHAP authentication information (ID/password), TSE will prepare "Configuration Sheet" for each user.

In this connection, CCP compression setting can not be used.

In the case of multiple channels, channel addition has to be set by way of line utilization monitoring.

5.2. IP address

(1) Providing IP address

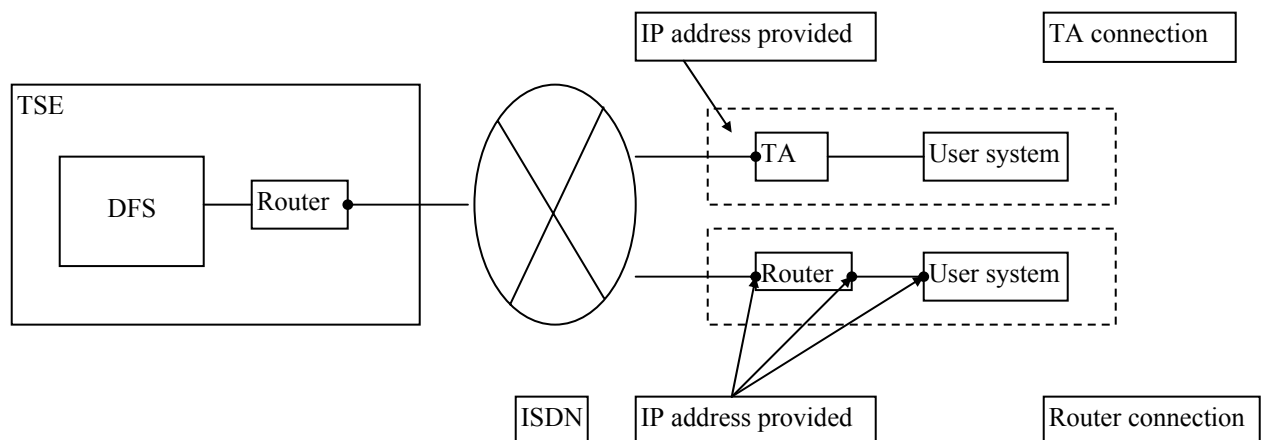
When connecting through ISDN by using the FBAJ TCP/IP Protocol or FTP, the user system must set up the IP address provided by TSE. TSE offers the following two methods in providing the IP address.

1. TA method

TSE provides the IP address of the connecting system.

2. Router method

In addition to the IP address of the connecting system, TSE provides the IP address on the router LAN side and WAN side.

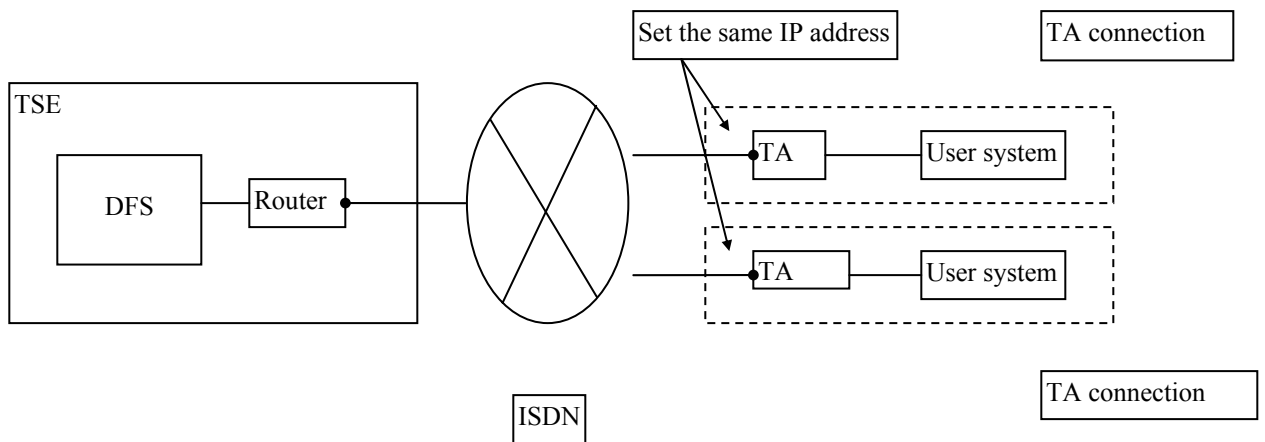


(2) Backup of the user system

Even in the case where there are multiple access points (TA or router) from the user system to DFS as measures against failures, TSE provides one set of IP address in principle.

Therefore, it is necessary to set the same IP address to all access points (TA or router).
(In this case, concurrent access from multiple access points is not possible).

If you need multiple IPs due to the circumstances of the user system, TSE will provide them with an additional charge. For details, please consult with TSE.



6. File to be provided

6.1. Information on the file to be provided

For information provided through DFS, please refer to the file specifications of each information provision service.

6.2. File to be provided

(1) File format

File format is subject to each information provision service.
Please refer to the file specifications of each information provision service.

(2) Character code

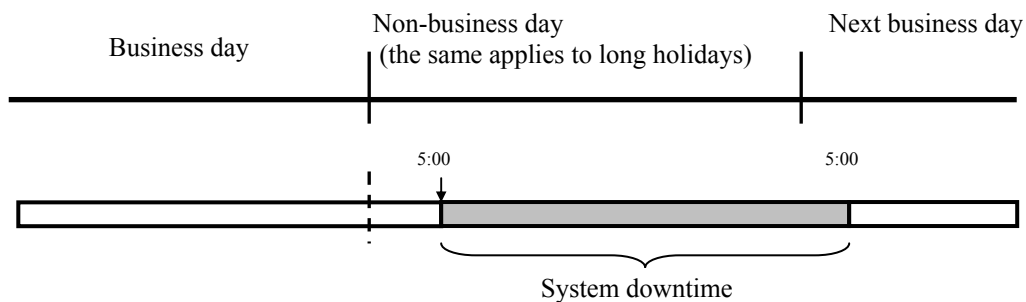
In principle, the FBAJ Basic Protocol provides the EBCDIK code (if 2 byte character is included, then it is KEIS code) file and the FBAJ TCP/IP Protocol and FTP procedure provide the shift JIS code file. For more information, please refer to the file specifications of each information provision service.

6.3. Provision frequency and provision time

(1) Operating time of DFS

The following hours are outside of the system operating time.

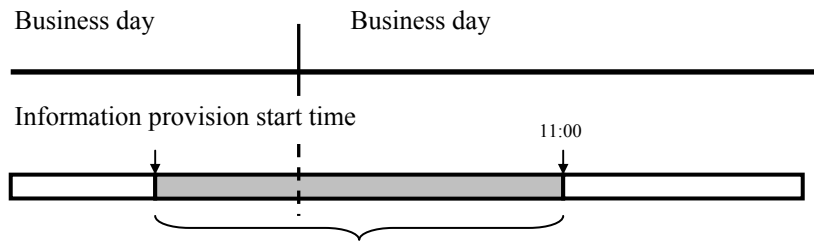
- From 5:00am on a non-business day (following a business day) to 5:00am on a business day (following a non-business day).



(2) Available time for accessing files

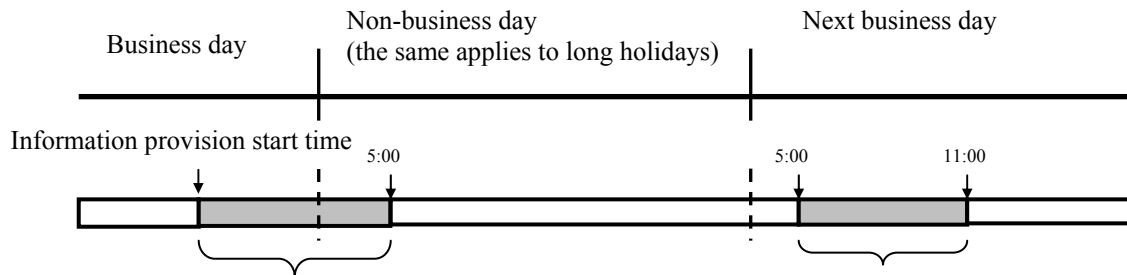
The provision frequency of each information (e.g. daily/weekly) and provision time are subject to the information (file) provided. For this information, please refer to the file specifications of each information provision service.

When the following day is a business day, then a file can be accessed until 11:00 am of that day.



Timeslot for accessing files

In case the following day is a non-business day, it is possible to access files until 5:00am of the following day, and also from 5:00am of the following business day to 11:00 am.



Timeslot accessing files

Timeslot for accessing files

Please note that for files provided on a weekly and monthly basis, timeslot for accessing files is until 11:00am of the following business day of the date information is provided (Files cannot be accessed after 11:00am of the following business day).

The file can be accessed as many times as possible if it is within timeslot for accessing files. However, please leave at least one minute interval when the same file is being accessed sequentially. Also it is necessary to set "Re Access(*)" in the second times. (The file can't be accessed in "Access" in the second times.)

(*)"Re Access" is the condition which requires the transmission of a message.

7. Operation at system failure

7.1. During system failure

When a failure(s) occur in DFS, it will be informed via facsimile or e-mail.

The recovery of a failure will also be informed via facsimile or e-mail. Please obtain the file then.

If using internet, changing the connecting point to back-up server makes quick obtaining of the file possible

7.2. Information error

When there is an error in the information provided, it is informed with the corrected information via facsimile or e-mail.

TSE will create a file containing the correct information and inform users when it is ready. Please obtain the file upon the notification.

7.3. File reacquisition

When the timeslot for accessing files is passed without being able to obtain the file due to circumstances, such as system failure, or when the obtained file has been lost (e.g. mistakenly deleted and such), TSE will provide the file again.

In this case, TSE will provide the file either by means of email or media (e.g. DAT/CD-R/MO) in principle.

In addition, DFS stores files up to the past 5 business days. Please acknowledge that we may not be able to provide the files after that period.

8. Contacts

- (1) Enquiries on this specification

Information Products, Tokyo Stock Exchange, Inc.
Telephone: +81-3-3665-1749
Email: mains@tse.or.jp
(Office hours: Business days 8:45~16:45 (JST))

- (2) Enquiries on system operations/system failure, file reacquisition and such

Officer of System Operation, Tosho System Service Co., Ltd.
Telephone:+81-50-3772-0061,+81-50-3772-0062
(Office hours: Operating time: as defined in 6.3 (1))

9. Revision

Date	Version	Details
May 24, 2005	1.0	First edition
April 3, 2006	1.1	“8. Contacts” phone number was modified.
June 7, 2006	1.2	<ul style="list-style-type: none"> >Adding Information provision service of account balance of foreign stocks. >Adding items that can be adjusted with users in “3.4 Configuration Information.” >Adding that passive mode can be used in “4. Connection via FTP.” >Adding e-mail service for urgent notice from TSE in “7.1 During System Failure.”
October 1, 2007	1.3	“8.Contacts” for system operation/system failure was updated.
May 26, 2008	2.0	<ul style="list-style-type: none"> >At 3.3. Speed of connection and 4.2. Telecommunications equipment, adding that “If the communication method simultaneously utilizing B channels of ISDN (multiple channels) is selected, 128 kbps can be achieved . Terminal adapter can not be used for the connection, in the case of multiple channels.” > At 5.1. ISDN connection and authentication method,adding that “In this connection, CCP compression setting can not be used. In the case of multiple channels, channel addition has to be set by way of line utilization monitoring.” > At 6.3. Provision frequency and provision time,deleting that “The following hours are outside of the system operating time. 11:00am – 12:00pm (noon) on weekdays (Japan Standard Time; same for the followings.) >At 8. Contacts, phone number was modified.”
July 7, 2008	2.1	<ul style="list-style-type: none"> >At 5.1. ISDN connection and authentication method, adding that “and the authentication of single direction is adapted in CHAP.” “ > At 6.3. Provision frequency and provision time, adding at the bottom that Also it is necessary to set “Re Access(*)” in the second times. (The file can’t be accessed in “Access” in the second times.) (*)”Re Access” is the condition which requires the transmission of a message.