Instructions for Configuring File Gateway of New Generation Trading System of Shenzhen Stock Exchange

Contents

1   Environment description

The new generation system of the Shenzhen Stock Exchange involves multiple operation and test environments. The IP addresses, Shenzhen gateway numbers, and configuration rules of each environment are different, which causes trouble for users to configure file gateways. This document details the configuration of file gateway in various environments.

Shenzhen Stock Exchange file gateway has three environments: **software environment, network test environment, and option real test environment**. Details are as follows:

Software environment: software system, currently Shenzhen Stock Exchange file gateway numbers include F000000X0001, F000000X0002 (the gateway of point-to-point service rules with different business rules for fund net value uploading, margin balance reporting, and credit default data reception, etc.) and F000000X0003 that is used for releasing transaction summary files.

Network test environment: Networked test system provides test environment every day (Monday to Sunday), Shenzhen Stock Exchange file gateway numbers include N000000X0001 (transaction reference information), N000000X0002 (the gateway of point-to-point service rules with different business rules for fund net value uploading, margin balance reporting, and credit default data reception, etc.) and N000000X0003 that is newly added for releasing the Fifth Edition transaction summary documents.

Options real test environment: Independent of the new generation networked and whole-network test system, services are provided every working day (Monday to Friday), Shenzhen Stock Exchange file gateway numbers include W000000X0001 (transaction reference information) and W000000X0002 (point-to-point service), and W000000X0002 that is used to submit qualified investors by users.

2   Environment preparation

The above three environments are prepared in the same way, namely, get user parameters, download software, and install software. However, the configuration after software installation is slightly different, which is detailed in the parameter configuration in Part III.

2.1 Get user parameters

The following 3 steps are included:

1) Users' local gateway number (UserId), user password, Ekey certificate, certificate password (Ekey is required by the whole-network test environment, options real test environment) are applied in writing;

2) IP address and port of the server connected to different test environments (refer to the parameter configuration section);

3) Business parameters at Shenzhen Stock Exchange: Shenzhen Stock Exchange gateway number (UserId), business rules (refer to the parameter configuration section);

The above three parameters can be obtained from the method provided in the test guide.

2.2 Software download

The file gateway program can be installed on 32-bit or 64-bit Windows 7/Windows 2008. Since the file gateway is green software, users can download the compressed file and decompress it to any directory on the hard disk.

The latest version of Shenzhen Stock Exchange's file gateway is 20170327 and the **release date** is 20170327. Users are recommended to use the latest version since the old version will no longer be supported in the future.

Download the file gateway software of Shenzhen Stock Exchange from:

https://biz.sscc.com-->"Business Guidelines"->"Guidelines for Transaction Settlement Business"-> "Program Download"-> "File Gateway"

2.3 Software installation

The file gateway program consists of two parts: the background process FxClient and the foreground interface process FxTerm. Users may choose to download the appropriate client software according to their operating system version as follows:

    □ Win32 platform win32_20170327_SZSE.rar

    □ Win64 platform win64_20170327_SZSE.rar

    □ Linux platform Linux_20170327_SZSE.rar

After decompressing, run fxclient / fxclient.exe, and then run fxterm / fxterm.exe.

3   Parameter configuration

3.1 Production environment configuration

1) Software installation and environment configuration

It is green software that doesn't require installation. After decompression, save the file to any directory on the local hard disk.

2) Network address configuration

Configure the FxClient->ini-> fxapi.ini file, and fill in according to the rule "Address before mapping: Port = Address after mapping: Port". If the network does not perform address mapping, the address before and after mapping is the same in the configuration, specifically as follows:

(The following network address configuration is for Level 1 users' reference)

```
[IpPortMap]
//commandlinkip"172.27.0.51:7015"="17
2.27.0.51:7015"
"172.27.0.52:7015"="172.27.0.52:7015"
"172.27.128.51:7015"="172.27.128.51:7015"
"172.27.128.52:7015"="172.27.128.52:7015"
//data link
ip"172.27.0.51:7016"="172.27.0.51:7016"
"172.27.0.52:7016"="172.27.0.52:7016"
"172.27.128.51:7016"="172.27.128.51:7016"
 "172.27.128.52:7016"="172.27.128.52:7016"
```

(The following network address configuration is for Level 2 users' reference)

```
[IpPortMap]
//commandlinkip
"172.27.0.51:7015"="172.27.1.51:7015"
"172.27.0.52:7015"="172.27.1.52:7015"

"172.27.128.51:7015"="172.27.129.51:7015"

"172.27.128.52:7015"="172.27.129.52:7015"

//data link

ip"172.27.0.51:7016"="172.27.1.51:7016"

"172.27.0.52:7016"="172.27.1.52:7016"

"172.27.128.51:7016"="172.27.129.51:7016"

 "172.27.128.52:7016"="172.27.129.52:7016"
```

3) Authentication information configuration

User authentication in software environment includes Ekey authentication and electronic certificate authentication. Ekey authentication requires the installation of Ekey hardware. If users intend to use electronic certificate, they need to complete configuration as follows:

a. When a user downloads the electronic certificate from the member section, the user will be prompted to enter a 6-digit password for the electronic certificate. If the 6-digit password you entered is 111111, then EkeyPwd in the fxclient.ini file is111111;

b. Name the downloaded electronic certificate as file gateway number + # 0 (for example, F888888X0001 # 0.pfx) and save it to the cert directory of the gateway program Fxlcient, modify the fxclient.ini file, and change the electronic certificate name in the "Ekey" field, and correctly configure certificate password, and UserID, fxclient.ini only needs to configure the following items:

```
[Config]

"UserID"="FUser"       // File gateway number

"UserPwd"="FUser"    //The password for the user to log in the hub. The
password is the same as the file gateway number.

"Ekey"="F888888X0001#0.pfx"         //Ekey name (same as file gateway
number)

"EkeyPwd"="111111"           //Password to log in Ekey

"ListenIP"="127.0.0.1"      //Ip of peer terminal FxTerm

"ListenPort"="3001"    //Port of peer terminal FxTerm
```

After saving the configuration, click fxclient.exe to start the client background process;

4) Monitor terminal configuration

Enter the FxTerm directory, click FxTerm.exe to start the client program, enter IP: 127.0.0.1, port: 3001; username and password: admin/123456, you can manage and monitor the background process, FxTerm users and user names and server port can be configured in the FxClient.ini file.

5) Add a contact

Log in the FxTerm interface->left "Menu Navigation"->Configuration Menu->Peer Contact Configuration, and depending on the different functions, add the Shenzhen Stock Exchange file gateway number: F000000X0001 or F000000X0002 or F000000X0003 as a contact.

6) Configure transmission rules

A. Group sending:

Send transaction reference information. In the FxTerm interface->left "Menu Navigation"-> Configuration Menu-> Transmission Rule Configuration, click "Add" to add a new transmission rule type "Business Type Rule", and the name of transmission rule is "szse_marketdata", the transmission rule is described as "Production Environment User", and the user number F000000X0001 of Shenzhen Stock Exchange is selected as a contact, and the file receiving and sending path can be set.

B. Point-to-point service

Two point-to-point services are available, including (1) upload fund net value/upload ETF PCF file/receive end-of-day online voting report. The name of the transmission rule is szse_trading_ <nnnnnn>, where nnnnnn refers to a 6-bit member code, Shenzhen Stock Exchange user number is F000000X0002; (2) Report margin balance, receive credit default data, the name of the transmission rule is szse_riskcontrol_ <nnnnnn>, where nnnnnn refers to the 6-digit member code), and the Shenzhen Stock Exchange user number is F000000X0002;

For users without member code, such as information system providers, developers, etc., the transmission rule is "A Company Abbreviation_ <Business Category> _B Company Abbreviation", such as szse_trading_abcd, where szse is the abbreviation of Shenzhen Stock Exchange, and abcd is the abbreviation of the company.

C. Subscription of transaction summary documents

Subscribe the transaction summary documents. The peer gateway number of Shenzhen Stock Exchange is F000000X0003. To use the file gateway to receive transaction summary documents, the new version of file gateway program 20170327 is required, which can be downloaded from the official website of Shenzhen Stock Exchange.

a) Log in FxTerm terminal and go to "Menu Navigation"-> "Configuration Menu"->"Subscription Configuration", view the topics published by Shenzhen Stock Exchange,

the publisher is F000000X0003.

b) Double-click and select topics, configure the receiving path in "Transfer Path", and click "OK", view the subscribed topics in "Subscribed Topics".

c) If the test user does not subscribe any topic, the data will not be sent to the user. To receive it occasionally, go to "Menu Navigation"-> "Task Operation"-> "Download File", enter the query conditions (publisher F000000X0003), and choose Manual Download.

7) View status

In the FxTerm interface->Left "File Task Management" inbox, view the online status of Shenzhen Stock Exchange F000000X0001/F000000X0002/ F000000X0003;

3.2 Network test environment configuration

1) Software installation and environment configuration

It is green software and no installation is required. After decompression, save it to any directory on the local hard disk.

2) Network address configuration

Configure the FxClient->ini-> fxapi.ini file, and fill in according to the rule "Address before mapping: Port = Address after mapping: Port". If the network does not perform address mapping, the address before and after mapping is the same in the configuration, specifically as follows:

(The following network address configuration is for Level 1 users' reference)

```
[IpPortMap]

//command link ip"172.31.0.51:7015"="172. 31.0.51:7015"

"172.31.0.52:7015"="172. 31.0.52:7015"

//data link ip

"172. 31.0.51:7016"="172. 31.0.51:7016"
```

```
"172.31.0.52:7016"="172.31.0.52:7016"
```

(The following network address configuration is for Level 2 users' reference)

```
[IpPortMap]
//command link ip
"172.31.0.51:7015"="172.31.1.51:7015"
"172.31.0.52:7015"="172.31.1.52:7015"

//data link ip

"172.31.0.51:7016"="172.31.1.51:7016"

"172.31.0.52:7016"="172.31.1.52:7016"
```

3) Authentication information configuration

Networked test environment users with soft encryption are not required to apply for an Ekey or electronic certificate, and no configuration is required in the software.

4) Modify the local USERID and the fxclient.ini file

```
[Config]
"UserID"="Ntest" // File gateway number
"UserPwd"="Ntest" // The password for the user to log in the hub. The
password is the same as the file gateway number
"Ekey"="Ntest" //Ekey Ekey name (same as file gateway number)
"EkeyPwd"="111111" // Password to log in Ekey
"ListenIP"="127.0.0.1" // Ip of peer terminal FxTerm
"ListenPort"="3001" // Port of peer terminal FxTerm
```

Modify the FxClient->ini-> fxclient.ini file. The user is only required to configure the following six items:

After saving the configuration, click fxclient.exe to start the client background process;

5) Monitor terminal configuration

Go to the FxTerm directory, click FxTerm.exe to start the client program, enter IP: 127.0.0.1, port: 3001; username and password: admin/123456. Users can manage and monitor the background process, FxTerm users and user names and server port can be configured in the FxClient.ini file.

6) Add a contact

Log in the FxTerm interface->left "Menu Navigation"-> Configuration Menu-> Peer Contact Configuration, and add the Shenzhen Stock Exchange file gateway number: N000000X0001 as a contact.

7) Configure transmission rules

A. Group sending:

Send transaction reference information. In the FxTerm interface->left "Menu Navigation"-> Configuration Menu-> Transmission Rule Configuration, click "Add" to add a new transmission rule type "Business Type Rule", and the name of transmission rule is "szse_marketdata", the transmission rule is described as "Networked Test Environment User", and the user number N000000X0001 of Shenzhen Stock Exchange is selected as a contact, and the file receiving and sending path can be set.

B. Point-to-point service

Two point-to-point services are available, including (1) upload fund net value/upload ETF PCF file/receive end-of-day online voting report. The name of the transmission rule is szse_trading_ <nnnnnn>, where nnnnnn refers to a 6-bit member code, Shenzhen Stock Exchange user number is N000000X0002; (2) Report margin balance, receive credit default data, the name of the transmission rule is szse_riskcontrol_ <nnnnnn>, where nnnnnn refers to the 6-digit member code), and the Shenzhen Stock Exchange user number is N000000X0002;

For users without member code, such as information system providers, developers, etc., the transmission rule is "A Company Abbreviation_ <Business Category> _B Company Abbreviation", such as szse_trading_abcd, where szse is the abbreviation of Shenzhen Stock Exchange, and abcd is the abbreviation of the company.

C. Subscription of transaction summary documents

Subscribe the transaction summary documents. gateway number of Shenzhen Stock Exchange is N000000X0003. To use the file gateway to receive transaction summary documents, the new version of file gateway program 20170327 is required, which can be downloaded from the official website of Shenzhen Stock Exchange.

a) Log in FxTerm terminal and go to "Menu Navigation"-> "Configuration Menu"-> "Subscription Configuration", view the topics information published by Shenzhen Stock Exchange, the publisher is N000000X0003.

b) Double-click and select topics, configure the corresponding receiving file path in "Transfer Path", and click "OK", view the subscribed topics in "Subscribed Topics".

c) If the test user does not subscribe to any topic, the data will not be sent to the user. To receive it occasionally, use "Menu Navigation"-> "Task Operation"-> "Download File", enter the query conditions (publisher N000000X0003), and choose Manual Download.

8) View status

In the FxTerm interface->Left "File Task Management" inbox, view the online status of

Shenzhen Stock Exchange N000000X0001 or N000000X0002 and N000000X0003;

3.3 Option real test environment configuration

1) Software installation and environment configuration

It is green software and no installation is required. After decompression, save it to any directory on the local hard disk.

2) Network address configuration

Configure and modify the FxClient->ini-> fxapi.ini file, and fill in according to the rule "Address before mapping: Port = Address after mapping: Port". If the network does not perform address mapping, the address before and after mapping is the same in the configuration, specifically as follows:

```
[IpPortMap]

//command linkip

"172.33.0.51:7015"="172.33.0.51:7015"

"172.33.0.52:7015"="172.33.0.52:7015"

//data link ip

"172.33.0.51:7016"="172.33.0.51:7016"
"172.33.0.52:7016"="172.33.0.52:7016"
```

3) Authentication information configuration

Options real environment users with soft encryption are not required to apply for an Ekey or electronic certificate, and no configuration is required in the software.

4) Modify the local USERID and the fxclient.ini file

Modify the FxClient->ini-> fxclient.ini file. The user is only required to configure the following six items:

```
[Config]
"UserID"="Wtest"          //File gateway number
"UserPwd"="Wtest"         //The password for the user to log in the hub.
The password is the same as the file gateway number.
"Ekey"="Wtest"            //Ekey name (same as file gateway number)
"EkeyPwd"="111111"        //Password to log in Ekey
"ListenIP"="127.0.0.1"    //Ip of peer terminal FxTerm
"ListenPort"="3001"        //Port of peer terminal FxTerm
```

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After saving the configuration, click fxclient.exe to start the client background process;

5) Monitor terminal configuration

Go to the FxTerm directory, click FxTerm.exe to start the client program, enter IP: 127.0.0.1, port: 3001; username and password: admin/123456. Users can manage and monitor the background process.

6) Add a contact

Log in the FxTerm interface->left "Menu Navigation"-> Configuration Menu-> Peer Contact Configuration, and add the Shenzhen Stock Exchange file gateway number: W000000X0001 and W000000X0002 as a contact.

7) Configure transmission rules

Group sending: In the FxTerm interface->left "Menu Navigation"-> Configuration Menu-> Transmission Rule Configuration, click "Add" to add a new transmission rule type "Business Type Rule", and the name of transmission rule is "szse_marketdata", the transmission rule is described as "Shenzhen Stock Exchange Transaction Reference Information", and the user number W000000X0001 of Shenzhen Stock Exchange is selected as a contact, and the file receiving and sending path can be set.

Point-to-point service: qualified investor data reporting configuration method for users.

In the FxTerm interface->Left "menu navigation"->configuration menu-> transmission rule configuration, click "Add" to add a new transmission rule type "Business Type Rule", the transmission rule name is "szse_riskcontrol_ <nnnnnn>", where nnnnnn refers to a 6-digit member code), the Shenzhen Stock Exchange user number is W000000X0002, and the transmission rule is described as "Qualified Investor Data Reporting". The Shenzhen Stock Exchange user number W000000X0002 is selected as a contact, and the path for receiving and sending files is set.

Notes on the options environment point-to-point service: separate application for change is not required for this service. By default, the first file gateway of the securities company or futures company activates this service. For example, the xx securities company has two file gateways W000123X0001 and W000123X0002, and by default, W000123X0001 activates the point-to-point service. Users can report service data by configuring transmission rules on the local file gateway.

8) View status

In the FxTerm interface->Left "File Task Management" inbox, we can view the online status of Shenzhen Stock Exchange W000000X0001/W000000X0002.

4   FAQ

1) How do users upgrade the file gateway to version 20170327?

Download the latest version 20170327 from our website. After decompressing the file,

replace fxapi.dll and fxclient.exe for the Windows operating system, and replace fxclient and libfxapi.so for the Linux operating system. Download the program from the following:

https://biz.sscc.com-->"Business Guidelines"->"Guidelines for Transaction Settlement Business"-> "Program Download"-> "File Gateway"

2) How many file gateways should a user apply for?

Factors include bandwidth, primary and standby equipment rooms, multiple centers, etc. need to be considered. Files can be shared after receipt. It is recommended to keep the number of file gateway in the range of 1-5, not more than 5. The file gateway applied for is recommended to be enabled on working days, otherwise the bandwidth for market data will be used during trading hours;

3) How much bandwidth should be appropriate?

Since the same connection is used for trading and market data gateway, the default bandwidth of the hub is now 512Kbit/s. Shenzhen Stock Exchange sends files concurrently and if multiple file gateways are enabled, a large amount of bandwidth will be used; as the size of transaction summary file is relatively large, users are recommended to apply for a 2m bandwidth or above for the file gateway that sends transaction summary files to have a better user experience.

4) How do users configure the electronic certificate?

The configuration of new client (version 20170327) only requires changing the electronic certificate name to "Ekey" of the fxclient.ini file.

Name the downloaded electronic certificate as file gateway number +#0 (for example, F888888X0001 # 0.pfx) and save it to the cert directory of the gateway program Fxlcient, modify the fxclient.ini file;

```
[Config]

"UserID"="test"      //File gateway number

"UserPwd"="test"    //The password for the user to log in the hub. The
password is the same as the file gateway number.
"Ekey"="F888888X0001#0.pfx"       //Ekey name (same as file gateway
number)

"EkeyPwd"="111111"           //Password for login
Ekey"ListenIP"="127.0.0.1"      //Ip of peer terminal FxTerm

"ListenPort"="3001"        //Port of peer terminal FxTerm
```

5) How does the file gateway monitor?

a) Provide FxTerm program with interface;

b) The monitoring interface that outputs text can be easily integrated into the third-party monitoring program. Enable the fxclient.ini monitoring option: "StartMonitor" = "1", then send and receive system status and file tasks to the text monitoring interface. For the format of text monitoring interface, refer to the user manual.

6) Does the file gateway support line backup?

Yes, multiple lines can be connected to the router and perform NAT. In the [IpPortMap] field of fxapi.ini, multiple sets of mappings can be performed:

7) Do the file gateway and Shenzhen Securities Communication value-added service use the same program?

> [IpPortMap]
>
> "172.27.0.51:7015"="Telecom:7015"
>
> "172.27.0.51:7016"="Telecom:7016"
>
> "172.27.0.52:7015"="Unicom:7015
>
> "172.27.0.52:7016"="Unicom7016"
>
> "172.27.128.51:7015"="Telecom:7015"
>
> "172.27.128.51:7016"="Telecom:7016"
>
> "172.27.128.52:7015" = "Unicom:7015
>
> "172.27.128.52:7016" = "Unicom7016"

No, they differ in the central server and IP addresses connected to users. This program is deployed on the transaction network, different from the other for the value-added service?? of Shenzhen Securities Communication Co., Ltd., and the latter is deployed on the value-added service network, both cannot be used together.

5. Contact information

Computer Room of Shenzhen Securities Communication Co., Ltd. (0755-83182222)