

TAIWAN FUTURES EXCHANGE

TCP/IP TMP Messaging Specifications

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- **Introduction**

- **TCP/IP TMP Network**

For the sake of improving the quality of the order placement process, TAIFEX has constructed a TCP/IP based system that adopts a TMP (Taifex Message Protocol) transmission protocol (called TMP message or TMP protocol from hereon), and TMP utilizes the asynchronous transmission method. In addition, to shorten the transmission time and expedite the processing time, data in the TCP/IP based system is binary coded.

Due to the asynchronous transmission, every TMP message must be numbered. The numbers of messages sent by FCMs (inbound for TAIFEX) and those of messages received from TAIFEX (outbound from TAIFEX) are discrete. Both sides must make sure the numbers of messages received and sent are sequential.

TAIFEX has also expanded the data input format. Previously, data input had to follow a fixed format. Now another format is allowed to improve system flexibility. For example, previously product ID could only be expressed by letters. Now there is an option of denoting product ID using numerals (refer to Product and Time Process Group Definition File (P08/PA8/XP08)).

- **TCP/IP TMP Network's Domain Name System Server (DNS System)**

TAIFEX has built a domain name system server (DNS System) for the TCP/IP TMP Network for connection purposes.

- **TCP/IP TMP Network's SFTP Server**

TAIFEX has built a SFTP server for the TCP/IP TMP Network for file transfer purposes. Two SFTP servers are provided for each production environment trading session (regular trading session: sftp1.taifex:22999, sftp2.taifex:22999; after-hour trading session: sftp1.taifex1:22999, sftp2.taifex1:22999).

For each trading session, the file contents of the two SFTP servers are identical, and the two servers are redundant for each other. One or two SFTP servers are provided for each testing environment (regular trading session: sftp1.test.taifex:22999, sftp2.test.taifex:22999; after-hour trading session: sftp1.test.taifex1:22999, sftp2.test.taifex1:22999).

The SFTP server sets a password and public key expiration of 90 days. The user needs to change the password and the public key periodically. The number of unique passwords or public key that must be used before a user can re-use old one is three. If a password expires, new password automate reset by server. If a public key expires, the user cannot log in to the SFTP server with the public key until the user update the public key. When making three unsuccessful login attempts within a period, the connection IP will lock for 15 minutes.

When the client connects to the SFTP server, if a "Host key verification failed error" message appears; the server host key recorded by the client may be different or changed. The user can delete the host key and record it again. The user need to solve this problem by themselves.

Note: There are many options, both free and paid applications, available on the open market. TAIFEX does not specifically recommend or support any third party SFTP client

software. Please check with your internal information security to determine an existing standard within your organization.

- **TCP/IP TMP Network's Order and Execution Report Line**

The order execution report line of the TCP/IP trading network enables order placement and reception of order and execution reports in both the regular trading system and the FLEX trading system. It also facilitates additional functionalities such as querying and reporting the trading system status, receiving bulletin notices, requesting files, and receiving notifications of file generation success.

- **TCP/IP TMP Network's Clearing Member Order and Execution Report Line**

The TCP/IP trading network's TMP protocol-based clearing member order execution report line allows the clearing members to receive information such as orders and execution reports from their downline FCMs in both the regular trading system and the FLEX trading system.

- **TCP/IP TMP Network's Drop Copy Service (TMPDC Session)**

The TCP/IP trading network's TMP protocol-based Drop Copy Service (TMPDC Session) allows the FCMs to receive copies of their own orders, trades, and error reports from the regular trading system and the FLEX trading system.

1. System Initiation Steps

TAIFEX TCP/IP TMP Network's DNS Server

TAIFEX will publish the IP address of the dedicated DNS System for the TMP Network. Prior to connecting to the TAIFEX connection server, FCMs should use the domain name of the target server (the naming rules will be described in subsequent sections) to inquire the IP address of the TAIFEX connection server obtained by the DNS System. As TAIFEX will decide on a daily basis the assignment of connection server based on the FCM lines and traffic, it is necessary for FCMs to inquire the IP address of the latest designated connection server obtained by the DNS System before each connection. The FCM should do the same each time after an episode of network disconnection, instead of using the IP address of the previous connection server, since TAIFEX might switch connection server dynamically when the existing connection server malfunctions.

Formal Environment

FCMs must set DNS according to two DNS Systems provided at the TAIFEX Production Site where DNS System 1 is the principal server, and DNS System 2 is the auxiliary server. When the TAIFEX Production Site is unable to function, FCMs should switch to the DR site DNS System as announced by TAIFEX.

Testing Environment

There is a dedicated test DNS server for the test environment with the connection server being changed to <the seven characters of FCM ID>.test.session<session_id>. <protocol>.<system_name>.taifex: <port> (the Domain Name naming rules are explained in the sections below)

TAIFEX provides the basic data of Connection Port Mapping File (P07), where each FCM will have their own P07 file which the FCM can download from TAIFEX file server before connecting every day (TAIFEX will announce more than one file server for downloads).

File example: P07 (see [File Transfer and Bulletin] for the naming of P07 file where connection_svr_name and port_no are separated by a comma and 0x0A is used as line delimiter). The following example assumes there are four session_id. The same principle applies if there are multiple session_id.

P07.20.F001

connection_svr_name	delimiter	port_no
f001000.session1.tmp.fut.taifex,		10016
f001000.session2.fix.fut.taifex,		10010
f001000.session3.tmpcm.fut.taifex,		10009
f001000.session3.tmpdc.fut.taifex,		10013

P07.10.F001

connection_svr_name	delimiter	port_no
f001000.session1.tmp. opt.taifex,		10001
f001000.session2.fix.opt.taifex,		10017
f001000.session3.tmpcm.opt.taifex,		10011
f001000.session3.tmpdc.opt.taifex,		10015

If a FCM applies for an order and execution report line, the FCM will receive a set consisting of host name and port number in the following format from TAIFEX for business connection:

<The seven characters of FCM ID >.session<session_id>.<protocol>. <system_name>.taifex: <port>, in which the protocol contains fix, tmp, tmpcm (for tmpcm connection, see the section on Clearing member order and execution report Line), tmpdc.

Connection example:

f001000.session2.fix.opt.taifex:10017

Description:

If FCM F001000 uses FIX format and likes to place a TXO order, and session_id=2, FCM learns from P07 file that TXO port_no=10017 for session2 FIX message. So the FCM will connect to “f001000.session2.fix.opt.taifex:10017”. Port_no is unique to allow the same FCM server to run multiple programs to connect simultaneously to different TAIFEX servers with different system_name and port_no.

After hour trading system has another DNS Server, and the after-hour session (night session) data is also available in regular trading dns. The night session file (P07/PA7/P12, etc.) of after-hours trading will update and reload the night session data of regular trading dns when the previous after-hours trading system stops.

The naming rule of production system of after hour trading system is:

<fcm_id(7 characters)>.session<session_id>.<protocol>.<system_name>.taifex1

The naming rule of testing environment is:

<fcm_id(7 characters)>.test.session<session_id>.<protocol>.<system_name>.taifex1

System Type

The TAIFEX trading system would use a system ID (system_type) to distinguish between different systems. When a FCM makes the connection, its system would be connected to a corresponding TAIFEX system based on the system_type indicated in the message. On the other hand, system_type could be used to distinguish data generated by different systems, ex. sftp file. System IDs (system_type) currently defined by TAIFEX include:

- 10: Options (the second digit is 0 during regular market hours)
- 20: Futures (the second digit is 0 during regular market hours)
- 11: Options (the second digit is 1 during after-market hours)
- 21: Futures (the second digit is 1 during after-market hours)

session_id (Connection ID):

session_id is a connection ID that a FCM could use for connection. If a FCM has two or more session_id, the FCM can connect from two or more hosts at the same time. ‘session_id’ is also used as connection ID. The Link Subsystem allows simultaneous logon by FCMs by identifying all session_id assigned to the FCM. That is, the number of simultaneous sessions for the FCM connection is fixed. The FCM may use any of the TAIFEX-assigned session_id for logon. But for simultaneous connection, different sessions cannot use the same session_id value.

2. Message Format

2.1 Common message format

Binary transmission mode

The TCP/IP based network transmits data in binary mode which saves bandwidth and increases the transmission speed. Binary byte follows the big-endian byte order. For example, the hexadecimal value of 12345 is 0x3039 with the first byte being 0x30 and the second byte being 0x39. When there is an error in the checksum of data, return to L10 to reconnect.

Principles for the naming of message type

- A message code that starts with the English letter L means link layer, a Link Subsystem message, which communicates in back-and-forth mode.
- A message code that starts with the English letter R means response layer, a Trading Subsystem message that can communicate in an asynchronous manner, meaning the next message can be sent without waiting for a response.
- If the definition of message field is the same as the FIX tag, the message is named using a mixture of upper case and lower case letters.
- The field names of other messages are compatible with C language (all in lower case).

Field data type

Data type	Length	Remark
char	1	Bit mode data
char[8]	8	8-bit data
uint8	1	Positive integer, range 0~255
int8	1	Integer, range -128~127
uint16	2	Positive integer, range 0~65535
int16	2	Integer, range -32768~32767
uint32	4	Positive integer, range 0~4294967295
int32	4	Integer, range -2147483648 ~ 2147483647
int64	8	Integer, range -9223372036854775808 ~ 9223372036854775807

TMP time format (msg_time)

No.	Field	Data Type	Field Name	Remark
1	epoch_s	int32	Seconds since the epoch	Seconds since the epoch(00:00:00 UTC 1970/1/1), refer to Time Format
2	ms	uint16	One thousandth of a second	Unit: 1/1000 sec

TMP Expanded Time Format (msg_time_x)

No.	Field	Data Type	Field Name	Remark
1	epoch_s	uint32	Seconds since the epoch	Seconds since the epoch(00:00:00 UTC 1970/1/1), refer to Time Format
2	nanosecond	uint32	One billionth of a second.	Unit: 1/10 ⁹ sec

2.1.1 TMP Common message header (hdr)

No.	Field	Data Type	Field Name	Remark
1	msg_length	uint16	Message length	The value is the total number of bytes behind the msg_length field up to before the CheckSum field.
2	MsgSeqNum	uint32	Message sequence	As explained below.
3	Msg_time	msg_time	Message time	Refer to: Time Format
4	MessageType	uint8	Message code	
5	Fcm_id	uint16	FCM ID	ref: P06(set by FCM itself on line application)
6	session_id	uint16	TCP connection session number	session_id (set by FCM itself on line application)

Each and every new order, cancels or changes order of R01/R31 or R02/R32 or R03 or R22 or R09/R39 message will be assigned a message sequence number ((MsgSeqNum) as a unique identification code(R03 message would be enter 0 in the field of MsgSeqNum when status_code is 1 or 99). The MsgSeqNum for the connecting parties are independent of each other. The connecting parties are each responsible for maintaining the sequence of messages they send (TAIFEX send new order, cancels or changes order of R02/R32,R03 and R22. FCM send new order, cancels or changes order of R01/R31 and R09/R39), and monitoring the sequence of messages received (TAIFEX receive new order, cancels or changes order of R01/R31 and R09/R39. FCM receive new order, cancels or changes order of R02/R32, R03 and R22) to ensure message accuracy. In the initial connection process, the default MsgSeqNum starts with 1, which continues to increment throughout the order or report process until the entire process ends. By monitoring the continuity of MsgSeqNum, the FCM and TAIFEX can know whether any order or report message is missing. If the message sequence is not as expected, the system will send a “return to logon” message to make sure the transmission of data between the parties is accurate.

The method to check the integrity of MsgSeqNum is session based. For example, if the first protocol message which required with non-zero MsgSeqNum is 10. (FCM send to Taifex), then the following MsgSeqNum should be 11, 12,..., 100.

Then, the communication is broken. We suggest set the first MsgSeqNum starting from 101. Even starting from 90 is appropriate (Taifex won't verify it), but the following number should be 91, 92,... in this situation.

2.1.2 TMP Expanded Message Header (sub_hdr_ext)

No.	Field	Data Type	Field Name	Remark
1	MsgTypeExt	uint8	Expanded MessageType	By defining additional subcategories for MessageType, different functionalities can be assigned based on each specific definition. Default: 0
2	preserve	uint8	Preserve	
3	msg_time_ns	uint32	nanosecond-level timing details for	Unit: 1/10 ⁹ sec; Currently, only data at the microsecond level is available.

No.	Field	Data Type	Field Name	Remark
			the "msg_time" field in the hdr.	

2.1.3 Order numbering

No.	Field	Data Type	Field Name	Remark
1	order_no	char [5]	Order number	The format of order No. (All 5 characters can be alphanumeric.)
2	ord_id	uint32	Order sheet serial number	Enter order sheet serial number

Changes of order No. under different protocol:

Protocol	TMP		FIX			
Field	order_no	ord_id	ClOrdID(12 digits) when sending supplemental file		OrigClOrdID(12digits)	
			order_no	ord_id	order_no	ord_id
Order input 5 lot	abc45	0000001	abc45	0000001		
1. decrease 1 lot	abc45	0000002	abc45	0000002	abc45	0000001
2. decrease 1 lot	abc45	0000003	abc45	0000003	abc45	0000002
3. decrease 1 lot	abc45	0000004	abc45	0000004	abc45	0000003
Query	abc45	0000004	abc45	0000004		
Order deletion	abc45	0000005	abc45	0000005	abc45	0000004

If a FCM places a cross-protocol (TMP, FIX) order, it is suggested that the FCM uses only the order cancel and request functions.

Order No. can be duplicated for regular trading and FLEX trading within each group, and they are independent. (See Section 3.6 Partition ID Definition.)

2.1.4 Use of Product ID

The trading message will allow numeric product ID in addition to text product ID. The text product ID is in the form of an ASCII character string, ex.: TXO09200C8. In addition, TAIFEX will assign a unique number to all tradable products in each session, which is the numeric ID of the product. In TCP/IP transaction message, the numeric product ID has unit16 data type.

FCMs can obtain the definitions of text product ID and numeric product ID in "Product and Time Flow Group Definition File (P08/PA8)." The FCM should download the file every day from the TAIFEX file server before connecting.

Example:

P08/PA8 contains a set of product data as follows:

prod_id_s	pseq	flow_group
TXO09200C8	200	1

It means the numeric product ID of TXO09200C8 is 200.

In the trading message format, the field should carry TXO09200C8 in case of text product ID (symbol), and unit 16 value of 200 in case of numeric product ID.

2.1.4.1 Numeric product ID (symbol_num)

No.	Field	Data Type	Field Name	Remark
1	pseq1	uint16	First leg product ID	Minimum value 1, refer to Product ID and Multi-leg Order
2	pseq2	uint16	Second leg product ID	0 means single order
3	leg_side	uint8 [2]	Buy/sell code of both legs	1: Buy, 2: Sell
4	comb_op	uint8	ID of multi-leg order	0: Single order; 1: Price spread (/), 2: Time spread (/), 3: Straddle (:); 4: Strangle (:); 5: Conversion (-) & Reversals (-).
5	filler	uint8 [13]	Make up field length	

2.1.4.2 Text product ID (symbol_text)

No.	Field	Data Type	Field Name	Remark
1	symbol	char [20]	Text product ID	

2.1.4.3 Numeric product ID (long_symbol_num)

No.	Field	Data Type	Field Name	Remark
1	pseq1	uint16	First leg product ID	Minimum value 1, refer to: Product ID and Multi-leg Order
2	pseq2	uint16	Second leg product ID	0 means single order
3	leg_side	uint8 [2]	Buy/sell code of both legs	1: Buy, 2: Sell
4	comb_op	uint8	ID of multi-leg order	0: Single order; 1: Price spread (/), 2: Time spread (/), 3: Straddle (:); 4: Strangle (:); 5: Conversion (-) & Reversals (-).
5	filler	uint8 [33]	Make up field length	

2.1.4.4 Text product ID (long_symbol_text)

No.	Field	Data Type	Field Name	Remark
1	symbol	char [40]	Text product ID	

2.1.5 FLEX Product Symbol

In FLEX trading, the product symbol can be either numeric product serial numbers(pseq) or textual product symbols(prod_id). However, their format differs from the regular original product symbols. FCMs can obtain the definitions of numeric product serial numbers and textual product symbols through the "Product and Time Flow Group Definition File (XP08)."

Please note that the numeric product serial numbers from the previous day may not necessarily be carried over. Therefore, it is recommended to download the file from the exchange's server before establishing a connection each day.

For numeric product serial numbers, TAIFEX allocates a unique number for each tradable product. This number represents the numeric product serial number for that specific product. In TCP/IP TMP Message protocol, the numeric product serial numbers used in FLEX are represented as uint32 data type.

Here is an example to illustrate (Please note that the listed products are for explanatory purposes only, and the launch of any related products would still require approval from the regulatory authorities):

In XP08.10, there is a record of product data as follows:

prod_id	pseq
TXOOX221209P1080000	1677721601

Indeed, the numeric product serial number for "TXOOX221209P1080000" in the options flex day session is 1677721601.

In XP08.11, there is a record of product data as follows:

prod_id	pseq
TXOOX221209P1080000	1694498817

Indeed, the numeric product serial number for "TXOOX221209P1080000" in the options flex night session is 1694498817.

2.1.5.1 FLEX Numeric Single Product Serial number (symbol_num_x)

No	Field	Data Type	Field Name	Remark
1	pseq	uint32	numeric product serial number	Please refer to the product serial number in XP08

2.1.5.2 FLEX Textual Single Product Symbol (symbol_txt_x)

No	Field	Data Type	Field Name	Remark
1	prod_id	char[20]	Textual Product Symbol	Please refer to the product symbol in XP08

2.2 Link Subsystem

For FCMs to connect to the TAIFEX system, the time out between Link Subsystem messages is 10 seconds. The general transfer flow is as follows:

✓ Regular trading

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call

FCM	Direction	TAIFEX	Remark
...	<-	L10	Wake up call
L20 (version=0)	->	...	Wake up call confirmed
...	<-	L30	Logon notice
L40	->	...	Request logon
...	<-	L41	Resend report message
L42	->	...	Resend report message confirmed
...	<-	L50	Activate application system
L60	->	...	Activate application system confirmed
...	<->	...	All kinds of order (Rxx) or transaction (Cxx) messages
L70	->	...	Logout Message
...	<-	L80	Logout Confirmed Message

✓ Regular trading and **FLEX** trading

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20 (version=1)	->	...	Wake up call confirmed
Send LX30 message			
	<-	LX30 * N	(LX30 messages sent for all groups.)
The LX30 messages for each group have been sent			
...	<-	L30	Logon notice
L40	->	...	Request logon
...	<-	L41	Resend report message

FCM	Direction	TAIFEX	Remark
L42	->	...	Resend report message confirmed
...	<-	L50	Activate application system
L60	->	...	Activate application system confirmed
...	<->	...	Regular Order and Report Messages (Rxx) and FLEX Order and Report Messages (RXxx)
L70	->	...	Logout Message
...	<-	L80	Logout Confirmed Message

Activate wakeup call message (initiated by FCM)

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call

If TIMEOUT is over and TAIFEX has not responded to L10

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...		No response	It could be: (1) TAIFEX hasn't turned on the system; (2) malfunction on the part of TAIFEX; (3) Internet failure; or (4) TAIFEX did not receive the last message
L10	->	...	FCM resends wakeup call

If TIMEOUT is over and FCM has not responded to L10

FCM	Direction	TAIFEX	Remark
...	<-	L10	TAIFEX resends Wakeup call
No response			It could be: (1) malfunction on the part of FCM; (2) Internet failure; or (3) FCM did not receive the last message

FCM	Direction	TAIFEX	Remark
...	<-	L10	TAIFEX resends Wakeup call

FCM sends “wakeup call confirmed” message

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed

If TIMEOUT is over and FCM has not sent “wake up call confirmed” message L020

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
No response			It could be: (1) malfunction on the part of FCM; (2) Internet failure; or (3) FCM did not receive the last message
...	<-	L10	TAIFEX resends wakeup call

TAIFEX sends “logon notice” message

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice

If TIMEOUT is over and TAIFEX has not sent “logon notice” message L30

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...		No response	It could be: (1) malfunction on the part of TAIFEX; (2) Internet failure; or (3) TAIFEX did not receive the last message
L10	->	...	FCM resends wakeup call

FCM sends “request logon” message

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice
L40	->	...	Request logon

If TIMEOUT is over and FCM has not sent “request logon” message L40

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice

FCM	Direction	TAIFEX	Remark
No response			It could be: (1) malfunction on the part of FCM; (2) Internet failure; or (3) FCM did not receive the last message
...	<-	L10	TAIFEX resends wakeup call

TAIFEX sends “Resend report” message

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice
L40	->	...	Request logon
...	<-	L41	Resend report message

If TIMEOUT is over and TAIFEX has not responded with resend report message L41

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice
L40	->	...	Request logon

FCM	Direction	TAIFEX	Remark
...		No response	It could be: (1) malfunction on the part of TAIFEX; (2) Internet failure; or (3) TAIFEX did not receive the last message
L10	->	...	FCM resends wakeup call

FCM sends “Resend report message confirmed” message

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice
L40	->	...	Request logon
...	<-	L41	Resend report message
L42	->	...	Resend report message confirmed

If TIMEOUT is over and FCM has not sent “Resend report message confirmed” message L042.

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice
L40	->	...	Request logon

FCM	Direction	TAIFEX	Remark
...	<-	L41	Resend report message
No response			It could be: (1) malfunction on the part of FCM; (2) Internet failure; or (3) FCM did not receive the last message
...	<-	L10	TAIFEX resends wakeup call

TAIFEX sends “activate application system” message

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice
L40	->	...	Request logon
...	<-	L41	Resend report message
L42	->	...	Resend report message confirmed
...	<-	L50	Activate application system

If TIMEOUT is over and TAIFEX has not sent “activate application system” message L050

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)

FCM	Direction	TAIFEX	Remark
...	<-	L30	Logon notice
L40	->	...	Request logon
...	<-	L41	Resend report message
L42	->	...	Resend report message confirmed
...		No response	It could be: (1) malfunction on the part of TAIFEX; (2) Internet failure; or (3) TAIFEX did not receive the last message
L10	->	...	FCM resends wakeup call

FCM sends “activate application system confirmed” message

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice
L40	->	...	Request logon
...	<-	L41	Resend report message
L42	->	...	Resend report message confirmed
...	<-	L50	Activate application system
L60	->	...	Activate application system confirmed

If TIMEOUT is over and FCM has not sent “activate application system confirmed” message L060

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call

FCM	Direction	TAIFEX	Remark
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice
L40	->	...	Request logon
...	<-	L41	Resend report message
L42	->	...	Resend report message confirmed
...	<-	L50	Activate application system
No response			It could be: (1) malfunction on the part of FCM; (2) Internet failure; or (3) FCM did not receive the last message
...	<-	L10	TAIFEX resends wakeup call

Send all kinds of order or transaction messages

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice
L40	->	...	Request logon
...	<-	L41	Resend report message
L42	->	...	Resend report message confirmed

FCM	Direction	TAIFEX	Remark
...	<-	L50	Activate application system
L60	->	...	Activate application system confirmed
...	<->	...	All kinds of order (Rxx) or FLEX Order and Report Messages (RXxx) (L20 version=1)

TAIFEX sends “end application system” message

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice
L40	->	...	Request logon
...	<-	L41	Resend report message
L42	->	...	Resend report message confirmed
...	<-	L50	Activate application system
L60	->	...	Activate application system confirmed
...	<->	...	All kinds of order (Rxx) or FLEX Order and Report Messages (RXxx) (L20 version=1)
L70	->	...	Logout Message
...	<-	L80	Logout Confirmed Message

FCM sends “end application system confirmed” message

FCM	Direction	TAIFEX	Remark
L10	->	...	Wake up call
...	<-	L10	Wake up call
L20	->	...	Wake up call confirmed
...	<-	LX30 * N	Sending the final sequential number for each group (L20 version=1)
...	<-	L30	Logon notice
L40	->	...	Request logon
...	<-	L41	Resend report message
L42	->	...	Resend report message confirmed
...	<-	L50	Activate application system
L60	->	...	Activate application system confirmed
...	<->	...	All kinds of order (Rxx) or FLEX Order and Report Messages (RXxx) (L20 version=1)
L70	->	...	Logout Message
...	<-	L80	Logout Confirmed Message

2.2.1 Wake up call message (L10)

In the logon phase of the Link Subsystem, both TAIFEX and the FCM can initiate a L10 wakeup call message. When Taifex received the wrong L10 message, will response L10 with error status_code, then hang up for wait for a period time (currently setting as 0.1 second).

Message ID: 010

Description: Wake up call message, TAIFEX <-> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:010 enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Tables
3	start_in_bound_num	uint32	Order message start No.	assign zero
4	Checksum	uint8	Check sum	Checksum is the remainder of the sum of binary values of all characters starting from the front-end field up to the field right before the CheckSum field divided by 256; when any message shows CheckSum error, the system would return to L10.

2.2.2 Wake up call confirmed message (L20)

Message ID: 020

Description: Wake up call confirmed message, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:020 enter 0 for message sequence No. (MsgSeqNum)
2	version	uint8	Version	The field "status_code" will be renamed to "version," indicating the message version, with 1 denoting the use of the new FLEX message.
3	Checksum	uint8	Check sum	

2.2.3 Logon notice message (L30)

When TAIFEX is ready to send L30 logon notice message, TAIFEX system will calculate the sequence No. of the last message (end_out_bound_num) sent by TAIFEX to the FCM in the session and include it in the L30 message to the FCM.

Message ID: 030

Description: Logon notice message, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:030 enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Table
3	append_no	uint16	Appended check value	This is a three-digit random number included in the logon notice message to FCM, and the FCM is asked to include it in its logon message sent to TAIFEX to the calculation of KEY-VALUE
4	end_out_bound_num	uint32	The last end message No.	The number of the last valid response message TAIFEX sent FCM (no action in “clearing member order and execution report line” and “TMPDC Session”)
5	system_type	uint8	System type	10: Options (the second digit is 0 during regular market hours) 20: Futures (the second digit is 0 during regular market hours) 11: Options (the second digit is 1 during after-market hours) 21: Futures (the second digit is 1 during after-market hours)
6	EncryptMethod	uint8	Encryption method	0 if unencrypted
7	Checksum	uint8	Check sum	

2.2.4 Final Sequential Number Notification Message for Group (LX30)

When TAIFEX is preparing to send a notification registration message LX30 to the FCM, it will calculate the end_out_bound_num, which represents the last group end message sequence number sent by TAIFEX during the previous connection with the FCM. Through LX30, TAIFEX will transmit the group's last report sequence number (rpt_seq) to the FCM. If the L20 version is 0, LX30 won't transmit any report; otherwise, it will send the Last end message number of part_id, which may be 0 for end_out_bound_num in the connection.

Message ID: 230

Description: Final Sequential Number Notification Message for Group, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:230 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded message header	
3	status_code	uint16	Status code	Refer to Error Message Table
4	part_id	uint8	Partition ID	Please refer to Section 3.6
5	end_out_bound_num	uint32	Last end message No. of group with ID part_id.	no action in “clearing member order and execution report line” and “TMPDC Session”)
6	filler	uint8[8]	Reserved	
7	Checksum	uint8	Check sum	

2.2.5 Request logon (L40)

TCP/IP connection resend mechanism (end_out_bound_num & request_start_seq)

After receiving L30, if the FCM determines that the range of messages need to be resent by TAIFEX based on the end_out_bound_num received prior to disconnection, the FCM can send a L40 request logon message containing a request_start_seq, which represents the start sequence of messages requested from TAIFEX (that is, FCM sends a request_start_seq+1 and end_out_bound_num message to request resend from TAIFEX).

If the client sends incorrect L40 three times (for example, with an incorrect key_value or due to a timeout), TAIFEX will lock the session.

Message ID: 040

Description: Request logon, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:040 enter 0 for message sequence No. (MsgSeqNum)

No.	Field	Data Type	Field Name	Remark
2	status_code	uint8	Status code	Refer to Error Message Table
3	append_no	uint16	Appended check value	This is a three-digit random number included in the logon notice message to FCM, and the FCM is asked to include it in its logon message sent to TAIFEX to the calculation of KEY-VALUE
4	fcm_id	uint16	FCM ID	ref: P06
5	session_id	uint16	TCP connection session number	fcm_id + session_id – connection to trading system is allowed only if fcm_id and session_id are provided together
6	system_type	uint8	System type	10: Options (the second digit is 0 during regular market hours) 20: Futures (the second digit is 0 during regular market hours) 11: Options (the second digit is 1 during after-market hours) 21: Futures (the second digit is 1 during after-market hours)
7	ap_code	uint8	Application system code	4: FCM order/transaction, 8: Clearing member order/transaction report 6: FCM condensed version order/transaction 7:TMPDC Session
8	key_value	uint8	Key value	Key-value is a two-digit number at the thousandth and hundredth place of (append_no* password) (PASSWORD is set by FCM itself on line application).
9	request_start_seq	uint32	The start message No. this time	Refer to TCP/IP connection resend mechanism (end_out_bound_num & request_start_seq). (Enter 0 for “Clearing member order and execution report Line” and “TMPDC Session”)

No.	Field	Data Type	Field Name	Remark
10	cancel_order_sec	uint8	(TMP)Reject order second (TMPCM/TMPDC) reply datas pre second (unit: 100)	<p>0: whatever the order is delay, the request will be accepted.</p> <p>>= 1: TAIFEX will base on the value to reject delay order request; if the order is delay, TAIFEX will return status code 242.</p> <p>TMPCM/TMPDC session: 0:taifex doesn't flow control for reply data</p> <p>Please consider that the client processing speed (ex: bandwidth or socket buffer setting) when taifex send out mass data fail in moment, we must disconnection.</p> <p>1~255:taifex send reply data by by cancel_order_sec*100</p> <p>Ex: value=1, client can get 100 reply data in one second. value=5, client can get 500 reply data in one second value=10, client can get 1000 reply data in one second</p> <p>It is normal case that it is different between actual getting numbers of reply data and theoretical situation (uint8 range:0~255)</p>
11	CheckSum	uint8	Check sum	

2.2.6 Resend report message (L41)

If request_start_seq+1 is bigger than or equal to end_out_bound_num, TAIFEX does not need to resend any message, but sends directly L50 activate application system message to FCM and waits for L60 activate application system confirmed message from FCM to complete the activation of application system under the Link Subsystem. All messages in Link Subsystem are transmitted asynchronously. If

there is any mistake in the send/receive sequence, the Link Subsystem will go back to L10 send/receive mode. If request_start_seq is smaller than end_out_bound_num, TAIFEX will include the data to be resent (messages in the interval between request_start_seq+1 and end_out_bound_num) in L41 data field. In the case of transfer data larger than maximum size of one transmission, Taifex will transfer first L41 block, wait response L42 of FCM, then send the following L41 block.

Message ID: 041

Description: Resend report message, TAIFEX -> FCM

No	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:041 enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Table
3	is_eof	uint8	End-of-file symbol	0:No, 1: End of file
4	file_size	uint32	Total length of file sent	
5	data	uint8 [hdr.msg_length-15-6]	Data	Data contain all message between request_start_seq+1 and end_out_bound_num (unless if the message sequence No. is 0) If L40 ap_code=4, using R02/R32 for order/transaction If L40 ap_code=6, using R22 for order/transaction
6	Checksum	uint8	Check sum	

2.2.7 Resend report message confirmed (L42)

Message ID: 042

Description: Resend report message confirmed, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:042 enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Table
3	Checksum	uint8	Check sum	

2.2.8 Activate application system (L50)

Message ID: 050

Description: Activate application system, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:050 enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Table
3	HeartBtInt	uint8	Seconds in synchronization	default: 30
4	max_flow_ct rl_cnt	uint16	Maximum flow per second	Inform FCM the limit of input per second in this session (no action in “clearing member order and execution report line” and “TMPDC Session”)
5	CheckSum	uint8	Check sum	

2.2.9 Activate application system confirmed (L60)

Message ID: 060

Description: Activate application system confirmed, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:060 enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Table
3	CheckSum	uint8	Check sum	

Taifex trading system will calculate the round trip time from sending L50 message to receiving L60 message to determine the maximum peak flow per second. The time value used for calculation will be millisecond precision.

2.2.10 Logout Message(L70)

Message ID: 070

Description: Logout message, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:070 Enter 0 for message sequence No. (MsgSeqNum)
2	CheckSum	uint8	CheckSum	

2.2.11 Logout Confirmed Message(L80)

Message ID: 080

Description: Logout confirmed message, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:080 Enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Table
3	Checksum	uint8	Checksum	

2.2.12 Example of Link Subsystem Resend Mechanism

Example using R02/R32 :

Time	FCM	Direction	TAIFEX
1.	Send L10 MsgSeqNum=0, Start_in_bound_num=0	->	
2.		<-	Send L10 MsgSeqNum=0, Start_in_bound_num=0
3.	Send L20 MsgSeqNum=0	->	
4.		<-	Send L30 MsgSeqNum=0, end_out_bound_num=697
5.	Send L40 MsgSeqNum=0, request_start_seq=698	->	
6.		<-	Because don't require to resend, send L50 MsgSeqNum=0
7.	Send L60 MsgSeqNum=0	->	
8.	Send R01/R31 MsgSeqNum=253, order_no=A0253	->	
9.	Send R01/R31 MsgSeqNum=254, order_no=A0254	->	
10.	Send R01/R31 MsgSeqNum=255, order_no=A0255	->	
11.		<-	Send R02/R32 MsgSeqNum=698, order_no=A0253
12.	Send R09/R39 MsgSeqNum=256, order_no=A0256	->	
13.		<-	Send R02/R32 MsgSeqNum=699, order_no=A0254
14.	Received failed caused by connection broken	<-	Send R02/R32 MsgSeqNum=700, order_no=A0255

15.	Received failed caused by connection broken	<-	Send R02/R32 MsgSeqNum=701, order_no=A0256,Side=1
16.	Received failed caused by connection broken	<-	Send R02/R32 MsgSeqNum=702, order_no=A0256,Side=2
17.	Send R01/R31 MsgSeqNum=257, order_no=A0257	->	Received failed caused by connection broken
18.	Send R01/R31 MsgSeqNum=258, order_no=A0258	->	Received failed caused by connection broken
19.	FCM decide to re-connect after connection broken.		
20.	Send L10 MsgSeqNum=0, Start_in_bound_num=0	->	
21.		<-	Send L10 MsgSeqNum=0 start_in_bound_num =0
22.	Send L20 MsgSeqNum=0	->	
23.		<-	Send L30 MsgSeqNum=0 end_out_bound_num =702
24.	Send L40 MsgSeqNum=0 request_start_seq=699	->	
25.		<-	Send L41 MsgSeqNum=0 data=(original MsgSeqNum 700 to 702 message LOG); see description of L41 Data Field
26.	Send L42 MsgSeqNum=0	->	
27.		<-	Send L50 MsgSeqNum=0
28.	Send L60 MsgSeqNum=0	->	
29.	Send R01/R31 MsgSeqNum=260, order_no=A0257	->	

30.		<-	Send R02/R32 MsgSeqNum=703, order_no=A0257
31.	Send R01/R31 MsgSeqNum=261, order_no=A0258	->	
32.		<-	Send L10 MsgSeqNum=0, status_code=207 because the MsgSeqNum discontinued on the message which required fill MsgSeqNum. (MsgSeqNum should be 260)

Description of L41 Data Field

The data are included in the L41 data field because TAIFEX has received a L40 message from the FCM request_start_seq=699 requesting resend (that is, TAIFEX puts the original MsgSeqNum 700 –702 messages in the data).

2.2.13 Example of Link Subsystem Resend Mechanism after FLEX Trading Integration

Example using **RX02**:

Time	FCM	Direction	TAIFEX
1	Send L10 MsgSeqNum=0, start_in_bound_num=0	->	
2		<-	Send L10, MsgSeqNum=0, start_in_bound_num=0
3	Send L20 MsgSeqNum=0, version=1	->	
4		<-	Send LX30 MsgSeqNum=0, part_id =1, end_out_bound_num=345
5		<-	Send LX30 MsgSeqNum=0, part_id =6, end_out_bound_num=123
6		<-	Send L30 MsgSeqNum=0, end_out_bound_num=345
7	Send L40 MsgSeqNum=0, request_start_seq=345	->	
8		<-	Because don't require to resend, send L50 MsgSeqNum=0

Time	FCM	Direction	TAIFEX
9	Send L60 MsgSeqNum=0	->	
10	Send RX40 MsgSeqNum=0, part_id=101, request_start_seq=346	->	
11		<-	Because don't require to resend, send RX41 MsgSeqNum=0, part_id=101, is_eof=1 , file_size=0
12	Send RX40 MsgSeqNum=0, part_id=106, request_start_seq=100	->	
13		<-	Send RX41 MsgSeqNum=0, part_id=106, is_eof=0, data: (original MsgSeqNum 101 to 110 message LOG);see description of RX41 Data Field
14	Send RX42 MsgSeqNum=0, part_id=106	->	Pause the replay of reports for part_id=106 upon receiving the message.
15	Send RX40 MsgSeqNum=0, part_id=106, request_start_seq=110	->	
16		<-	Send RX41 MsgSeqNum=0, part_id=106, is_eof=0, data: (original MsgSeqNum 111 to 120 message LOG);see description of RX41 Data Field
17		<-	Send RX41 MsgSeqNum=0, part_id=106, is_eof=1, data: (original MsgSeqNum 121 to 123 message LOG);see description of RX41 Data Field
18	Send R01/R31 MsgSeqNum=253, order_no=X0123	->	
19	Send R01/R31 MsgSeqNum=254, order_no=X0124	->	
20		<-	Send R02/R32 MsgSeqNum=346, order_no=X0123
21		<-	Send R02/R32 MsgSeqNum=347, order_no=X0124
22		<-	Send RX02 MsgSeqNum=0, part_id=101, order_no=X0122, rpt_seq=346

Time	FCM	Direction	TAIFEX
23	Send R09/R39 MsgSeqNum=255, order_no=X0125	->	
24		<-	Send R02/R32 MsgSeqNum=348, order_no=X0125, Side=1
25		<-	Send R02/R32 MsgSeqNum=349, order_no=X0125, Side=2
26	Send RX01 MsgSeqNum=0, order_no=X0123 (if part_id=101)	->	
27	Send RX01 MsgSeqNum=0, order_no=X0124 (if part_id=101)	->	
28	Received failed caused by connection broken	<-	Send RX02 MsgSeqNum=0, part_id=101, order_no=X0123, rpt_seq=347
29	Received failed caused by connection broken	<-	Send RX02 MsgSeqNum=0, part_id=101, order_no=X0124, rpt_seq=348
30	After a disconnection, the FCM reconnects to the trading system.		
31	Send L10 MsgSeqNum=0, start_in_bound_num =0	->	
32		<-	Send L10 MsgSeqNum=0, start_in_bound_num =0
33	Send L20 MsgSeqNum=0, version=1	->	
34		<-	Send LX30 MsgSeqNum=0, part_id =101, end_out_bound_num=348
35		<-	Send LX30 MsgSeqNum=0, part_id =106, end_out_bound_num=123
36		<-	Send L30 MsgSeqNum=0, end_out_bound_num =349
37	Send L40 MsgSeqNum=0, request_start_seq=349	->	
38		<-	Because don't require to resend, send L50 MsgSeqNum=0

Time	FCM	Direction	TAIFEX
39	Send L60 MsgSeqNum=0	->	
40	Send RX40 MsgSeqNum=0, part_id=101, request_start_seq=346	->	
41		<-	Send RX41 MsgSeqNum=0, part_id=101, is_eof=1, data: (original MsgSeqNum 347 to 348 message LOG);see description of RX41 Data Field
42	Send RX01 MsgSeqNum=0, order_no=X0125 (if part_id=101)	->	
43		<-	Send RX02 MsgSeqNum=0, part_id=101, order_no=X0125, rpt_seq=349
44	Send RX01 MsgSeqNum=0, order_no=X0123 (if part_id=106)	->	
45		<-	Send RX02 MsgSeqNum=0, part_id=106, order_no=X0123, rpt_seq=124
46	Send R01/R31 MsgSeqNum=258, order_no=X0216	->	
47		<-	Send L10 MsgSeqNum=0, status_code=207 because the MsgSeqNum discontinued on the message which required fill MsgSeqNum. (MsgSeqNum should be 256)

Description of RX41 Data Field

<p>The data is included in the RX41 data field as TAIFEX received an RX40 message from FCM with request_start_seq=100, requesting a resend.</p> <p>(if part_id=106)</p>	<p>TAIFEX puts the original FLEX group 106 messages with MsgSeqNum 100-123 into the data.</p>
<p>The data is included in the RX41 data field as TAIFEX received an RX40 message from FCM with request_start_seq=110, requesting a resend.</p> <p>(if part_id=106)</p>	<p>TAIFEX puts the original FLEX group 106 messages with MsgSeqNum 110-123 into the data.</p>
<p>The data is included in the RX41 data field as TAIFEX received an RX40 message from FCM with</p>	<p>TAIFEX puts the original FLEX group 101 messages with MsgSeqNum 347-348 into the data.</p>

request_start_seq=346, requesting a resend. (if part_id=101)	
---	--

2.3 Maintenance of Connection State during Order Processing

2.3.1 Confirm connection message (R04)

During the message exchange idle periods, the connecting parties will regularly generate confirm connection and connection confirmed messages to monitor the state of communication. The interval between a confirm connection message and the response to such a message will be determined by TAIFEX in the L50 activate application system, and the connecting parties will use the same interval. That is, if either party finds that there is no new message from the other party after the number of seconds as set in the field of HeartBtIntField in L50 has elapsed, the party should send a “confirmed connection (R04)” message to the other party, and the other party should respond a “connection confirmed (R05)” message. At this time, the trading system will check the FCM and TAIFEX connection time error. If the error is significant (greater than 0.5 second), the system will send an error message 200 (significant system time error) but continue to operate. If either party send a “confirmed connection (R04)” message to the other party, and the other party didn’t respond a “connection confirmed (R05)” message exceeding 5 seconds. It definitely does need to be disconnected.

L50 HeartBtInt field default value is 30 seconds. If the client does not response in 30 seconds , TAIFEX will send R04 to the client. If the client does not response the R04 in 5 seconds, TAIFEX will disconnect the client.

FCM	Direction	TAIFEX	Remark
R04	->	...	FCM sends R04
...	<-	R05	TAIFEX responds R05
...	<-	...	Other operations
...	<-	R04	TAIFEX sends R04
R05	->	...	FCM responds R05

Message ID: 104

Description: Confirm connection message, TAIFEX <-> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:104, enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Table
3	Checksum	uint8	Check sum	

2.3.2 Connection confirmed message (R05)

Message ID: 105

Description: Connection confirmed message, TAIFEX <-> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:105, enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Table
3	CheckSum	uint8	Check sum	

2.3.3 Trade session status request (R11)

Message ID: 111

Description: Trade session status request, FCM -> TAIFEX

After a FCM has sent a “activate application system confirmed (L60)” message, the FCM can send a “trade session status request (R11)” to make query, and TAIFEX will respond with a “trade session status report (R12)”, based on which the FCM can determine whether the trading system is halted.

FCM can make query of trade session status via R11 message. When it is SubscriptionRequestTyp=0 in R11, it means the FCM is inquiring the current session status, for example:

FCM	Direction	TAIFEX	Remark
R11	->	...	FCM subscribes to trade session status (SubscriptionRequestTyp=0)
...	<-	R12	TAIFEX responds the current trade session status

When SubscriptionRequestTyp=1, it means the FCM is inquiring the current session status and subscribing to subsequent changes of status, ex.:

FCM	Direction	TAIFEX	Remark
R11	->	...	FCM subscribes to trade session status (SubscriptionRequestTyp=1)
...	<-	R12	TAIFEX responds to FCM each time the system changes
...	
...	<-	R12	TAIFEX responds to FCM each time the system changes

When SubscriptionRequestTyp=2, it means the FCM cancels the status change subscription, ex.:

FCM	Direction	TAIFEX	Remark
R11	->	...	FCM subscribes to trade session status (SubscriptionRequestTyp=2)
...	<-	R12	Successful subscription cancellation

When there is an error:

FCM	Direction	TAIFEX	Remark
R11	->	...	FCM subscribes to trade session status
...	<-	R12	Error occurs and check R12 status_code

Message ID: 111

Description: Trade session status request, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:111 enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Table
3	TradeReqID	uint16	Status request No.	Correspond to R12 TradeReqID
4	flow_group_no	uint8	Flow group No.	For flow group No. requested, FCM can obtain information from P08/PA8 file (Product and Flow Group Definition File)
5	SubscriptionRequestType	uint8	Status subscription type	0: current status, 1: current + subsequent changes, 2: cancel status subscription
6	Checksum	uint8	Check sum	

2.3.4 Trade session status report (R12)

Message ID: 112

Description: Trade session status report, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:112 enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Table
3	TradeReqID	uint16	Status request No.	Correspond to R11TradeReqID
4	flow_group_no	uint8	Flow group No.	For flow group No. requested, FCM can obtain information from P08/PA8 file (Product and Flow Group Definition File)
5	TradeStatus	uint8	Trade status	0: unknown, 1: halted, 2: open, 3: closed, 4: pre-open, 5: Non-Cancel Period Refer to: <u>Trade Session Status</u>
6	Checksum	uint8	Check sum	

2.4 Order Input

FCM	Direction	TAIFEX	Remark
R01/R31	->	...	Order input
...	<-	R02/R32 or R22 (order input)	To FCM: Order status report
...	<-	R02/R32 (order input)	To clearing member: Clearing member Order status report
...	Order immediately or subsequently filled, if any
...	<-	R02/R32 or R22 (order execution)	To FCM: order execution report
...	<-	R02/R32 (order execution)	To clearing member: order execution report
R01/R31	->	...	Order input
...	<-	R03 (error)	Error report
R01/R31	->	...	Order input request
...	<-	R02/R32 or R22	Order status report
R01/R31	->	...	Order input request

FCM	Direction	TAIFEX	Remark
...	<-	R03 (error)	Error report
R07/R37	->	...	Price inquiry input
...	<-	R08/R38	Price inquiry reply
R07/R37	->	...	Price inquiry input
...	<-	R03 (error)	Error report
R09/R39	->	...	Quote input
...	<-	R02/R32 or R22 (new report)*2	To FCM: Price input report
...	<-	R02/R32 (clearing member)*2	To clearing member: Clearing member Order status report
...	Order immediately or subsequently filled, if any
...	<-	R02/R32 or R22 (order execution report)	To FCM: order execution report
...	<-	R02/R32 (clearing member order execution report)	To clearing member: order execution report
R09/R39	->	...	Quote input
...	<-	R03 (error)	Error report
...	<-	R03 (error)	Error report
R09/R39	->	...	Quote request
...	<-	R02/R32 or R22 (buy request reply)	Quote input report
...	<-	R02/R32 or R22 (sell request reply)	Quote input report
R09/R39	->	...	Quote request
...	<-	R03 (error)	Error report
...	<-	R03 (error)	Error report

2.4.1 Order input (R01/R31)

Message ID: 101/131

Description: Order input, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data, enter 0 or text 0				
					New	Decrease	Cancel	Modify Price	Query
1	hdr	hdr	Common message header	R01 Message ID:101 R31 Message ID:131 When the trading system adds query order, it will enter 0 for message sequence No. (MsgSeqNum)					
2	ExecType	char	Execution type	0: New, 4: Cancel, 5:Decrease, M or m:Modify Price, I: Query	Y	Y	Y	Y	Y
3	cm_id	uint16	Clearing member ID	Enter clearing member ID ref: P06	Y	Y	Y	Y	N
4	fcm_id	uint16	FCM ID	ref: P06	Y	Y	Y	Y	Y
5	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)	Y	Y	Y	Y	Y
6	ord_id	uint32	Order serial No.	Enter the serial No. of order (maximally 7-digit number)	Y	Y	Y	Y	Y
7	user_define	char [8]	FCM defined variable	When the trading system adds new order, deletes or changes order, it will automatically update this value in the order status	Y	Y	Y	Y	Y
8	symbol_type	uint8	Product ID format	R01(1: num, 2: text) R31(3: num, 4: text)	Y	Y	Y	Y	Y
9	sym	R01:symbol_x R31:long_symbol_x	Part product ID	The x part may be replaced by num or text	Y	Y	Y	Y	Y

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data, enter 0 or text 0				
10	Price	int32	Order price	Refer to Order Price	Y	N	N	Y	N
11	qty	uint16	Order quantity		Y	Y	N	N	N
12	investor_acno	uint32	Investor account No.		Y	N	N	N	N
13	investor_flag	char	Investor ID code		Y	N	N	N	N
14	Side	uint8	Buy/sell code	1:Buy, 2: Sell	Y	Y	Y	Y	Y
15	OrdType	uint8	Order type	1:Market, 2:Limit, 3:Market with Protection(MWP)	Y	Y	N	Y	N
16	TimeInForce	uint8	Order condition	FOK:4 IOC:3 ROD:0	Y	N	N	Y	N
17	PositionEffect	char	Open/offset code	open:O (uppercase), close:C, daytrade:D open & specified position offsets:A(Options Only) Offset by FCM:7	Y	N	N	N	Y
18	order_source	char	Order Source	“D” means Leased Line or VPN or Closed private network, “A” means Application program interface (API), “M” means Mobile device, “W” means Web site, “P” means Personal computer, “V” means Voice, “G” means in writing or by telephone or telegram.	Y	Y	Y	Y	Y
19	info_source	char [3]	Market data source	Vendor Code means From Vendor, “999” means From	Y	Y	Y	Y	Y

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data, enter 0 or text 0				
				FCM.(The Vendor Code published on TAIFEX website (Home > Market Data > Information Vendors))					
20	Checksum	uint8	Check sum		Y	Y	Y	Y	Y

The investor_acno field check method

Multiply the second digit of the fcm_no by 1, the third digit by 3, the fourth digit by 7, the seventh digit by 1, and the first digit of investor_acno (seven digits, less than seven digits must be preceded by 0) by 1, the second digit by 3, the third digit by 7, the fourth digit by 1, the fifth digit by 3, and the sixth digit by 7. Add the digit in ones place of all of the above numbers, divide the sum by 10 and take the remainder, then subtract the number by 10 to get the check code.

For example, if fcm_no is F123456 and investor_acno without check code is 123456, then the calculation process is as follows:

f1=the second digit of the fcm_no multiplied by 1=1*1=1

f2=the third digit of the fcm_no multiplied by 3=2*3=6

f3=the fourth digit of the fcm_no multiplied by 7=3*7=21, the digit in ones place is 1

f4=the seventh digit of the fcm_no multiplied by 1=6*1=6

a1=the first digit of the investor_acno multiplied by 1=1*1=1

a2=the second digit of the investor_acno multiplied by 3=2*3=6

a3=the third digit of the investor_acno multiplied by 7 = 3*7 = 21, the digit in ones place is 1

a4=the fourth digit of the investor_acno multiplied by 1=4*1=4

a5=the fifth digit of the investor_acno multiplied by 3=5*3=15, the digit in ones place is 5

a6=the sixth digit of the investor_acno multiplied by 7 = 6*7 = 42, the digit in ones place is 2

f1+f2+f3+f4+a1+a2+a3+a4+a5+a6=1+6+1+6+1+6+1+4+5+2=33, the digit in ones place is 3

So the check code is (10-3)=7, and the full investor_acno is 1234567.

Execution Reply after Modifying Price (ExecType=M or m)

ExecType=M: The order reply message and follow-up execution reply messages will be sent to the line where price-modification order is placed. The original line where new order is placed will never receive any execution reply message.

ExecType=m: The order reply message will be sent to the line where price-modification order is placed, but follow-up execution reply messages will be sent to the original line where new order is placed.

Example(one order):

FCM		
Time	Input	Input line

TAIFEX		
Reply line	ExecType=M	ExecType=m

T	New	lineA	====→	New reply	line A	lineA
T+1	Decrease	lineB	====→	Decrease reply	lineB	lineB
T+2	Query	lineC	====→	Query reply	lineC	lineC
T+3			Execution quity 1:	<u>Execution reply before Modifying price</u>	lineA	lineA
T+4	Modify Price	lineD	====→	Modify Price reply	lineD	lineD
T+5			Execution quity 1:	<u>Execution reply after Modifying price</u>	<u>lineD</u>	<u>lineA</u>
T+6	Delete	lineE	====→	Delete reply	lineE	lineE

In order to avoid confusion, FCM should use one type of ExecType field(ExecType = M or m) for modifying price.

FCM defined variable (user_define) field

When the trading system succeeds in deleting or changing the order, the value of the user_define field in the execution report will be automatically updated in the order status as shown below:

FCM inputs				TAIFEX replies	
Time	Input	Order No.	user_define field at the time of order input	Reply	user_define field in reply
T	Order input 5 lot	abc45	U1	Order status report	U1
T+1	Decrease 1 lot	abc45	U2	Decrease succeeds report	U2(the value is updated because decrease is successful)
T+2	Order input (duplicate order)	abc45	U3	Duplicate order error report	U3
T+3	Query	abc45	U4	Query reply	U4
T+4				Order execution report	U2 (the same status value as that when decrease succeeded)
T+5	Modify price	abc45	U5	Modify succeeds report	U5(the value is updated because modify price is successful)

Executed 3lot:

T+6	Query	abc45	U6
T+7			

Executed
1 lot:

Query reply	U6
Order execution report	U5 (the same status value as that when modify price succeeded)

Open & specified position offsets define: (Optional)

Position Effect new value defines: A (open & specified position offsets), the order type A, is for adding new positions of options and specified position offsets. After the order is matched, except omnibus accounts, the clearing system will carry out specified position offsets according to the order execution report and in respect of open positions.

2.4.2 Order status report (R02/R32)

If L40 ap_code=4, using R02/R32 for order/transaction

Message ID: 102/132

Description: Order status report, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data						
					New	Decrease	Cancel	Modify Price	Query	Execution-single	Execution-multi-leg
1	hdr	hdr	Common message header	R02 Message ID:102 R32 Message ID:132 When the trading system adds query order, it will enter 0 for message sequence No. (MsgSeqNum)							
2	status_code	uint8	Status code	Enter 0 if normal	Y	Y	Y	Y	Y	Y	Y
3	ExecType	char	Execution type	0:New, 4:Cancel, 5:Decrease, F: Execution report, M or m:Modify Price, I: Request 6: New and Execution report	Y	Y	Y	Y	Y	Y	Y
4	cm_id	uint16	Clearing member ID	Enter clearing member ID ref: P06	Y	Y	Y	Y	Y	Y	Y
5	fcm_id	uint16	FCM ID	ref: P06	Y	Y	Y	Y	Y	Y	Y

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data						
					Y	Y	Y	Y	Y	Y	Y
6	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)	Y	Y	Y	Y	Y	Y	Y
7	ord_id	uint32	Order serial No.	Enter order serial No.	Y	Y	Y	Y	Y	Y	Y
8	user_define	char [8]	FCM defined variable	When the trading system adds new order, cancels or changes order, it will automatically update this value in the order status	Y	Y	Y	Y	Y	Y	Y
9	symbol_type	uint8	Product ID format	R02(1: num, 2: text) R32(3: num, 4: text)	Y	Y	Y	Y	Y	Y	Y
10	sym	R02:symbol_x R32:long_symbol_x	Part product ID	The x part may be replaced by num or text	Y	Y	Y	Y	Y	Y	Y
11	Price	int32	Order price	Refer to Order Price(For MWP, it is the price assigned by Matching Engine) (When status_code 48 for orders other than multi-leg options, it will be the upper or lower limit price of the product for dynamic price banding mechanism)	Y	Y	Y	Y	Y	Y	Y
12	qty	uint16	Order quantity		Y	Y	Y	Y	Y	Y	Y
13	investor_acno	uint32	Investor account No.		Y	Y	Y	Y	Y	Y	Y
14	investor_flag	char	Investor ID code		Y	Y	Y	Y	Y	Y	Y

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data						
15	Side	uint8	Buy/sell code	1: Buy, 2: Sell	Y	Y	Y	Y	Y	Y	Y
16	OrdType	uint8	Order type	1:Market, 2:Limit, 3:MWP	Y	Y	Y	Y	Y	Y	Y
17	TimeInForce	uint8	Order condition	FOK:4 IOC:3 ROD:0 Quote automatically cancelled after a period of time:8	Y	Y	Y	Y	Y	Y	Y
18	PositionEffect	char	Open/ offset	open: O, close: C, daytrade: D, Quote:9 open & specified position offsets: A (Options Only) Offset by FCM:7	Y	Y	Y	Y	Y	Y	Y
19	LastPx	int32	Last execution price	Last execution price for execution report 0 for cancel/decrease order /modify price order	N	N	N	N	Y	Y	Y
20	LastQty	uint16	Last quantity executed	Last execution quantity for execution report 0 for cancel/decrease order /modify price order	N	N	N	N	Y	Y	Y
21	px_subtotal	int64	Cumulative weighted execution price	px_subtotal divided by CumQty is the average price per contract	Y	Y	Y	Y	Y	Y	Y
22	CumQty	uint16	Total quantity executed		Y	Y	Y	Y	Y	Y	Y
23	LeavesQty	uint16	Remaining quantity		Y	Y	Y	Y	Y	Y	Y

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data						
24	before_qty	uint16	Remaining order quantity before match		Y	Y	Y	Y	Y	Y	Y
25	leg_side	uint8 [2]	Buy/sell code for both legs	0: Single order,1: Buy, 2: Sell	N	N	N	N	N	N	Y
26	leg_px	int32 [2]	Execution price for both legs	Refer to Order Price (When status_code 48 for multi-leg options orders, it will be the upper or lower limit price of the corresponding leg product for dynamic price banding mechanism)	N	N	N	N	N	N	Y
27	leg_qty	uint16 [2]	Quantity executed for both legs		N	N	N	N	N	N	Y
28	org_trans_time	msg_time	Original time of order input		Y	Y	Y	Y	Y	Y	Y
29	TransactTime	msg_time	Final time of change	Refer to: Time Format	Y	Y	Y	Y	Y	Y	Y
30	target_id	uint8	Target ID	FCM: 4 Clearing member Order status report:8 or 18 Clearing member order execution report:9 or 19 Execution report including head office and branch offices:3 or 13	Y	Y	Y	Y	Y	Y	Y

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data						
					Y	Y	Y	Y	Y	Y	Y
31	uniq_id	uint32	Unique ID	When target_id=4, it is a system unique No. (OrderID); When target_id=8,9,18,19, it is the report sequence No. (cm_sub_seq)	Y	Y	Y	Y	Y	Y	Y
32	rpt_seq	uint32	Report sequence No.	When target_id=4, it is session_seq; when target_id=8 or 9 or 18 or 19, it is cm_seq	Y	Y	Y	Y	Y	Y	Y
33	protocol_type	uint8	Source of new order data	0: Reserved 1: TMP 2: FIX,	Y	Y	Y	Y	Y	Y	Y
34	Checksum	uint8	Check sum		Y	Y	Y	Y	Y	Y	Y

When the value of leg_side[0] is 0, it means single order, and leg_qty and leg_px fields will not contain any value.

Price field and status_code field

When the simulated matched price above(below) the upper(lower) limit of Taifex's dynamic price banding, status_code in the last R02/R22/R32 report will be filled in 47. Status 47 means the leaves quantity was rejected due to the simulated matched price reached the upper(lower) limit of the dynamic price banding. In order to disclose the upper or lower limit price of dynamic price banding, an additional status_code 48 R02/R22/R32 report is provided after the status_code 47 R02/ R22/R32 report. For multi-leg options order status 48 report, one of the leg_px fields is not zero and discloses the upper or lower limit price of the corresponding leg. Otherwise the Price field in the status 48 report discloses the upper or lower limit price of the product. Other price or quantity fields will be 0. Status 47 and Status 48 may not be consecutive message.

Example:

(1) New order (not matched)

Order Input R01		TAIFEX execution report R02						
ExecType	TimeInForce	ExecType	status_code	Price	qty	LastQty	LeavesQty	before_qty
0 (New)	ROD	6	47	Order Price	10	0	0	10
	IOC FOK	F	48	upper or lower limit price	0	0	0	0

(2) Modify price order (not matched)

Order Input R01		TAIFEX execution report R02						
ExecType	TimeInForce	ExecType	status_code	Price	qty	LastQty	LeavesQty	before_qty
M/m (Modify)	ROD	M/m	0	Order Price	10	0	10	10
	IOC	F	47	Order Price	10	0	0	10
	FOK	F	48	upper or lower limit price	0	0	0	0

(3) New order (partial matched)

Order Input R01		TAIFEX execution report R02						
ExecType	TimeInForce	ExecType	status_code	Price	Qty	LastQty	LeavesQty	before_qty
0 (New)	ROD	6	0	Order Price	10	1	9	10
	IOC	F	0	Order Price	10	2	7	9
		F	47	Order Price	10	3	0	7
		F	48	upper or lower limit price	0	0	0	0

(4) Modify price order (partial matched)

Order Input R01		TAIFEX execution report R02						
ExecType	TimeInForce	ExecType	status_code	Price	qty	LastQty	LeavesQty	before_qty
M/m (Modify)	ROD	M/m	0	Order Price	10	0	10	10
	IOC	F	0	Order Price	10	1	9	10
		F	0	Order Price	10	2	7	9
		F	47	Order Price	10	3	0	7
		F	48	upper or lower limit price	0	0	0	0

(5) Status 48 reports for orders other than multi-leg options

TAIFEX execution report			
status_code	Price	leg_px[0]	leg_px[1]
48	Upper or lower limit price of the product	0	0

(6) Status 48 reports for multi-leg options orders

TAIFEX execution report			
status_code	Price	leg_px[0]	leg_px[1]
48	0	Upper or lower limit price of the 1 st leg product	Upper or lower limit price of the 2 nd leg product

Unique id(uniq_id)field

The trading system will assign a unique sequence number in the uniq_id field in order reply of each order. When the trading system succeeds in modifying the price of the order, the value of the uniq_id field in the execution report will be automatically updated in the order status as shown below:

FCM inputs			TAIFEX replies(target_id=4)	
Time	Input	Order No.	Reply	uniq_id in reply
T	Order input 5 lot	abc45	Order status report	U1
T+1	Decrease 1 lot	abc45	Decrease succeeds report	U2
T+2	Query	abc45	Query reply	U3
T+3			Order execution report	U1 (the same status value as that when order input)
T+4	Modify price	abc45	Modify succeeds report	U4(the value is updated because modify price is successful)
T+5			Order execution report	U4 (the same status value as that when order modify)
T+6	Decrease 1 lot	abc45	Decrease succeeds report	U5
T+7			Order execution report	U4 (the same status value as that when order modify)

The protocol_type field is used to distinguish the source of data source. FCM **must ensure sequential order input and use the same protocol type for placing orders in the same session.**

Examples of scenarios where there are different sources of data:

Time	Condition	Connection type	order_no	protocol_type	LeavesQty	Remark
T	Order input -5 lots	tmp.session1	abc45	TMP	5	
T+1	Decrease 1 lot	FIX.session1	abc45	FIX	4	
T+2	Check order	FIX.session2	abc45	FIX	4	
T+3	1 lot executed	tmp.session1	abc45	TMP	3	

T+4	tmp.session1 line is unstable, 1 lot is decreased via tmp.session2	tmp.session2	abc45	TMP	2	This approach is not recommended; original session 1 for connection is recommended
T+5	Restore tmp.session1 to check order status	tmp.session1	abc45	TMP	2	Restore session1 connection via different physical line

2.4.3 Error report (R03)

Message ID: 103

Description: Error report, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:103 When the trading system adds query order, it will enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Table
3	ExecType	char	Execution type	0:New, 4:Cancel, 5:Decrease, M or m:Modify price, F: Execution report, I: Request
4	fcm_id	uint16	FCM ID	
5	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)
6	ord_id	uint32	Order serial No.	
7	user_define	char [8]	FCM defined variable	
8	rpt_seq	uint32	Report sequence No.	Session serial No. (session_seq)
9	Side	uint8	Buy/sell code	1: Buy, 2: Sell
10	Checksum	uint8	Check sum	

2.4.4 Price inquiry input (numeric or text product ID)(R07/R37)

Message ID: 107/137

Description: Price inquiry input, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	R07 Message ID:107 R37 Message ID:137 enter 0 for message sequence No. (MsgSeqNum)

No .	Field	Data Type	Field Name	Remark
2	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)
3	ord_id	uint32	Order serial No.	Enter order serial No.
4	fcm_id	uint16	FCM ID	
5	symbol_type	uint8	Product ID format	R07(1: num, 2: text) R37(3: num, 4: text)
6	sym	R07:symbol_x R37:long_symbol_x	Part product ID	The x part may be replaced by num or text
7	order_source	char	Order Source	“D” means Leased Line or VPN or Closed private network, “A” means Application program interface (API), “M” means Mobile device, “W” means Web site, “P” means Personal computer, “V” means Voice, “G” means in writing or by telephone or telegram.
8	info_source	char [3]	Market data source	Vendor Code means From Vendor, “999” means From FCM.(The Vendor Code published on TAIFEX website (Home > Market Data > Information Vendors))
9	Checksum	uint8	Check sum	

2.4.5 Price inquiry reply (R08/R38)

Message ID: 108

Description: Price inquiry reply

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	R08 Message ID:108 R38 Message ID:138 enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Enter 0 for normal status
3	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)
4	ord_id	uint32	Order serial No.	Enter order serial No.
5	fcm_id	uint16	FCM ID	
6	symbol_type	uint8	Product ID format	R08(1: num, 2: text) R38(3: num, 4: text)
7	sym	R08:symbol_x R38:long_symbol_x	Part product ID	The x part may be replaced by num or text

No.	Field	Data Type	Field Name	Remark
8	Checksum	uint8	Check sum	

2.4.6 Quote input (R09/R39)

Message ID: 109/139

Description: Quote input, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data				
					New	Decrease	SSQM	Cancel	Request
1	hdr	hdr	Common message header	R09 Message ID:109 R39 Message ID:139 When the trading system adds query order, it will enter 0 for message sequence No. (MsgSeqNum)					
2	ExecType	char	Execution type	0: New, 4: Cancel, 5: Decrease, I: Query, M or m: Modify Price	Y	Y	Y	Y	Y
3	cm_id	uint16	Clearing member ID	Enter clearing member ID ref: P06	Y	Y	Y	Y	Y
4	fcm_id	uint16	FCM ID	ref: P06	Y	Y	Y	Y	Y
5	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)	Y	Y	Y	Y	Y
6	ord_id	uint32	Order serial No.	Enter order serial No.	Y	Y	Y	Y	Y
7	user_define	char [8]	FCM defined variable	When the trading system adds new order, or cancels or changes order, it will automatically update this value in order status	Y	Y	Y	Y	Y
8	symbol_type	uint8	Product ID format	R09(1: num, 2: text) R39(3: num, 4: text)	Y	Y	Y	Y	Y
9	sym	R09:symbol_x R39: long_symbol_x	Part product ID	The x part may be replaced by num or text	Y	Y	Y	Y	Y
10	BidPx	int32	Buy order price	Refer to Order Price	Y	N	Y	N	N

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data				
					Y	N	Y	N	N
11	OfferPx	int32	Sell order price	Refer to Order Price	Y	N	Y	N	N
12	BidSize	uint16	Buy quantity		Y	Y	N	N	N
13	OfferSize	uint16	Sell quantity		Y	Y	N	N	N
14	investor_acno	uint32	Investor account No.		Y	N	N	N	N
15	investor_flag	char	Investor ID code		Y	N	N	N	N
16	TimeInForce	uint8	Order condition	Order automatically deleted after a period of time: 8 Quote ROD:0	Y	N	N	N	N
17	PositionEffect	char	Open/offset	9: Market maker quote	Y	N	N	N	N
18	order_source	char	Order Source	“D” means Leased Line or VPN or Closed private network, “A” means Application program interface (API), “M” means Mobile device, “W” means Web site, “P” means Personal computer, “V” means Voice, “G” means in writing or by telephone or telegram.	Y	Y	Y	Y	Y
19	info_source	char [3]	Market data source	Vendor Code means From Vendor, “999” means From FCM.(The Vendor Code published on TAIFEX website (Home > Market Data > Information Vendors))	Y	Y	Y	Y	Y
20	CheckSum	uint8	Check sum		Y	Y	Y	Y	Y

Single-side quote order modification (SSQM) function (ExecType=M or m)

When modifying the price for one side of the quote, the client must fill in the price for the side to be modified and fill in zero for the other side.

ExecType=M: The order reply message and following reply messages will be sent to the line where price-modification order is placed. The original line where new order is placed will never receive any execution reply message.

ExecType=m: The order reply message will be sent to the line where price-modification order is placed, but following reply messages will be sent to the original line where new order is placed.

ExecType=M, m only affects the reply messages on the modified side, the following reply messages of unmodified side still be sent to the original line.

Example of single-side quote order modification:

FCM			TAIFEX			
Time	Input	Input line		Reply line	ExecType=M	ExecType=m
T	New	line A	====>	New reply	line A	line A
T+1	Query	line C	====>	Query reply	line C	line C
T+2			Execution quity 1:	Execution reply before Modifying price	line A	line A
T+3	Modify Price	line D	====>	Modify Price reply	line D	line D
T+4			Execution quity 1:	<u>Execution reply after Modifying price</u>	<u>line D</u>	<u>line A</u>
T+5	Delete	line E	====>	Delete reply	line E	line E

In order to avoid confusion, FCM should use one type of ExecType field(ExecType = M or m) for single-side quote order modification.

2.4.7 Quote status report

The quote status report format is identical to that of the order status report (R02/R32) which can be distinguished by the PositionEffect field. When TAIFEX responds to a new quote, quote cancel, decrease or request and must send a quote status report message, TAIFEX will respond successively with two messages for bid and offer respectively. That is, one quote input will receive two quote status report messages. TAIFEX will respond to a quote input using the same format as the order status report. When the quote has been executed, the report format will be the same as a regular order execution report, but the report will only be on any actually executed bid or offer.

2.4.8 Condensed version order status report (R22)

If L40 ap_code=6, using R22 for order/transaction

Message ID: 122

Description: Order status report, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data						
					New	Decrease	Cancel	Modify Price	Query	Execution-single	Execution-multi-leg
1	hdr	hdr	Common message header	Message ID:122 When the trading system adds query order, it will enter 0 for message sequence No. (MsgSeqNum)							
2	status_code	uint8	Status code	Enter 0 if normal	Y	Y	Y	Y	Y	Y	Y
3	ExecType	char	Execution type	0:New, 4:Cancel, 5:Decrease, M or m: Modify Price, F: Execution report, I: Request 6: New and Execution report	Y	Y	Y	Y	Y	Y	Y
4	fcm_id	uint16	FCM ID	ref: P06	Y	Y	Y	Y	Y	Y	Y
5	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)	Y	Y	Y	Y	Y	Y	Y
6	ord_id	uint32	Order serial No.	Enter order serial No.	Y	Y	Y	Y	Y	Y	Y
7	user_define	char [8]	FCM defined variable	When the trading system adds new order, cancels or changes order, it will automatically update this value in the order status	Y	Y	Y	Y	Y	Y	Y
8	Side	uint8	Buy/sell code	1: Buy, 2: Sell	Y	Y	Y	Y	Y	Y	Y
9	PositionEffect	char	Open/ offset	open:O, close:C, daytrade:D,	Y	Y	Y	Y	Y	Y	Y

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data							
				Quote:9 open & specified position offsets:A(Options Only) Offset by FCM:7								
10	LeavesQty	uint16	Remaining quantity		Y	Y	Y	Y	Y	Y	Y	Y
11	before_qty	uint16	Remaining order quantity before match		Y	Y	Y	Y	Y	Y	Y	Y
12	leg_px	int32 [2]	Execution price for both legs	Refer to Order Price If Single order, leg_px[0] is execution price, leg_px[1]=0 If multi-leg order, price for both legs (When status_code 48 for multi-leg options orders, it will be the upper or lower limit price of the corresponding leg product for dynamic price banding mechanism)	Y	Y	Y	Y	Y	Y	Y	Y
13	leg_qty	uint16 [2]	Quantity executed	If Single order, leg_px[0] is execution qty, leg_px[1]=0 If multi-leg order, Quantity executed for both legs	Y	Y	Y	Y	Y	Y	Y	Y
14	TransactTime	msg_time	Final time of change	Refer to: Time Format	Y	Y	Y	Y	Y	Y	Y	Y
15	uniq_id	uint32	Unique ID	it is a system unique No. (OrderID);	Y	Y	Y	Y	Y	Y	Y	Y

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data						
16	rpt_seq	uint32	Report sequence No.	it is session_seq;	Y	Y	Y	Y	Y	Y	Y
17	protocol_type	uint8	Source of new order data	0: Reserved 1: TMP 2: FIX,	Y	Y	Y	Y	Y	Y	Y
18	Price	int32	Order price	Refer to Order Price(For MWP, it is the price assigned by Matching Engine) (When status_code 48 for orders other than multi-leg options, it will be the upper or lower limit price of the product for dynamic price banding mechanism)	Y	Y	Y	Y	Y	Y	Y
19	Checksum	uint8	Check sum		Y	Y	Y	Y	Y	Y	Y

Price field and status_code field

Refer to document “R02/R32 Price field and status_code field”

2.4.9 Execution report including head office and branch offices (R06)

R06 and R02 formats are similar, the only difference is in the rpt_session_id field.

Message ID: 106

Description: Execution report, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data						
					New	Decrease	Cancel	Modify Price	Query	Execution-single	Execution-multi-leg
1	hdr	hdr	Common message header	R06 Message ID:106 When the trading system adds query order, it will enter 0 for message sequence No. (MsgSeqNum)							
2	status_code	uint8	Status code	Enter 0 if normal	Y	Y	Y	Y	Y	Y	Y

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data						
3	ExecType	char	Execution type	0:New, 4:Cancel, 5:Decrease, F: Execution report, M or m:Modify Price, I: Request 6: New and Execution report	Y	Y	Y	Y	Y	Y	Y
4	cm_id	uint16	Clearing member ID	Enter clearing member ID ref: P06	Y	Y	Y	Y	Y	Y	Y
5	fcm_id	uint16	FCM ID	ref: P06	Y	Y	Y	Y	Y	Y	Y
6	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)	Y	Y	Y	Y	Y	Y	Y
7	ord_id	uint32	Order serial No.	Enter order serial No.	Y	Y	Y	Y	Y	Y	Y
8	user_define	char [8]	FCM defined variable	When the trading system adds new order, cancels or changes order, it will automatically update this value in the order status	Y	Y	Y	Y	Y	Y	Y
9	symbol_type	uint8	Product ID format	1: num, 2: text	Y	Y	Y	Y	Y	Y	Y
10	sym	symbol_x	Part product ID	The x part may be replaced by num or text	Y	Y	Y	Y	Y	Y	Y
11	Price	int32	Order price	Refer to Order Price(For MWP, it is the price assigned by Matching Engine) (When status_code 48 for orders other than multi-leg options, it will be the upper or lower limit price of the product for dynamic	Y	Y	Y	Y	Y	Y	Y

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data							
				price banding mechanism)								
12	qty	uint16	Order quantity		Y	Y	Y	Y	Y	Y	Y	Y
13	investor_acno	uint32	Investor account No.		Y	Y	Y	Y	Y	Y	Y	Y
14	investor_flag	char	Investor ID code		Y	Y	Y	Y	Y	Y	Y	Y
15	Side	uint8	Buy/sell code	1: Buy, 2: Sell	Y	Y	Y	Y	Y	Y	Y	Y
16	OrdType	uint8	Order type	1:Market, 2:Limit, 3:MWP	Y	Y	Y	Y	Y	Y	Y	Y
17	TimeInForce	uint8	Order condition	FOK:4 IOC:3 ROD:0 Quote automatically cancelled after a period of time:8	Y	Y	Y	Y	Y	Y	Y	Y
18	PositionEffect	char	Open/ offset	open:O, close:C, daytrade:D, Quote:9 open & specified position offsets:A(Options Only) Offset by FCM:7	Y	Y	Y	Y	Y	Y	Y	Y
19	LastPx	int32	Last execution price	Last execution price for execution report 0 for cancel/decrease order /modify price order	N	N	N	N	Y	Y	Y	Y
20	LastQty	uint16	Last quantity executed	Last execution quantity for execution report 0 for cancel/decrease order /modify price order	N	N	N	N	Y	Y	Y	Y

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data						
21	px_subtotal	int64	Cumulative weighted execution price	px_subtotal divided by CumQty is the average price per contract	Y	Y	Y	Y	Y	Y	Y
22	CumQty	uint16	Total quantity executed		Y	Y	Y	Y	Y	Y	Y
23	LeavesQty	uint16	Remaining quantity		Y	Y	Y	Y	Y	Y	Y
24	before_qty	uint16	Remaining order quantity before match		Y	Y	Y	Y	Y	Y	Y
25	leg_side	uint8 [2]	Buy/sell code for both legs	0: Single order,1: Buy, 2: Sell	N	N	N	N	N	N	Y
26	leg_px	int32 [2]	Execution price for both legs	Refer to Order Price (When status_code 48 for multi-leg options orders, it will be the upper or lower limit price of the corresponding leg product for dynamic price banding mechanism)	N	N	N	N	N	N	Y
27	leg_qty	uint16 [2]	Quantity executed for both legs		N	N	N	N	N	N	Y
28	org_trans_time	msg_time	Original time of order input		Y	Y	Y	Y	Y	Y	Y
29	TransactTime	msg_time	Final time of change	Refer to: Time Format	Y	Y	Y	Y	Y	Y	Y
30	target_id	uint8	Target ID	23: Execution report including head office and branch offices	Y	Y	Y	Y	Y	Y	Y

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data						
					Y	Y	Y	Y	Y	Y	Y
31	uniq_id	uint32	Unique ID	When target_id=23 and protocol_type = TMP ,it is session_seq When target_id=23 and protocol_type = FIX ,it is the tenth end substring of ExecID report sequence.	Y	Y	Y	Y	Y	Y	Y
32	rpt_seq	uint32	Report sequence No.	target_id=23, it is report execution report including head office and branch office seq	Y	Y	Y	Y	Y	Y	Y
33	protocol_type	uint8	Source of new order data	0: Reserved 1: TMP 2: FIX,	Y	Y	Y	Y	Y	Y	Y
34	rpt_session_id	uint16	Session ID		Y	Y	Y	Y	Y	Y	Y
35	Checksum	uint8	Check sum		Y	Y	Y	Y	Y	Y	Y

Price field and status_code field

Refer to document “R02/R32 Price field and status_code field”.

rpt_session_id field

For the description of rpt_session_id, please refer to 2.5.2.2.

2.5 Clearing Member Order Execution Report

A clearing member (CM) may apply for a TMP-based clearing member order and execution report line to receive the order and transaction data of its downline FCMs and settle the executed trades on their behalf.

2.5.1 Connection method

CM must download “Product Group and Connection Port Mapping File (P07)” from TAIFEX sftp server and find the domain name port for protocol tmpcm. An example of P07:

f001000.session3.tmpcm.fut.taifex,10009
f001000.session3.tmpcm.opt.taifex,10011

When a CM applies for an order and execution report line, the CM will receive a set consisting of domain name and port number with the following format from TAIFEX for business connection:

<The seven characters of CM ID >.session<session_id>.tmpcm. <system_name>.taifex: <port>

Connection example:

f001000.session3.tmpcm.opt.taifex:10011
f001000.session3.tmpcm.fut.taifex:10009

Description:

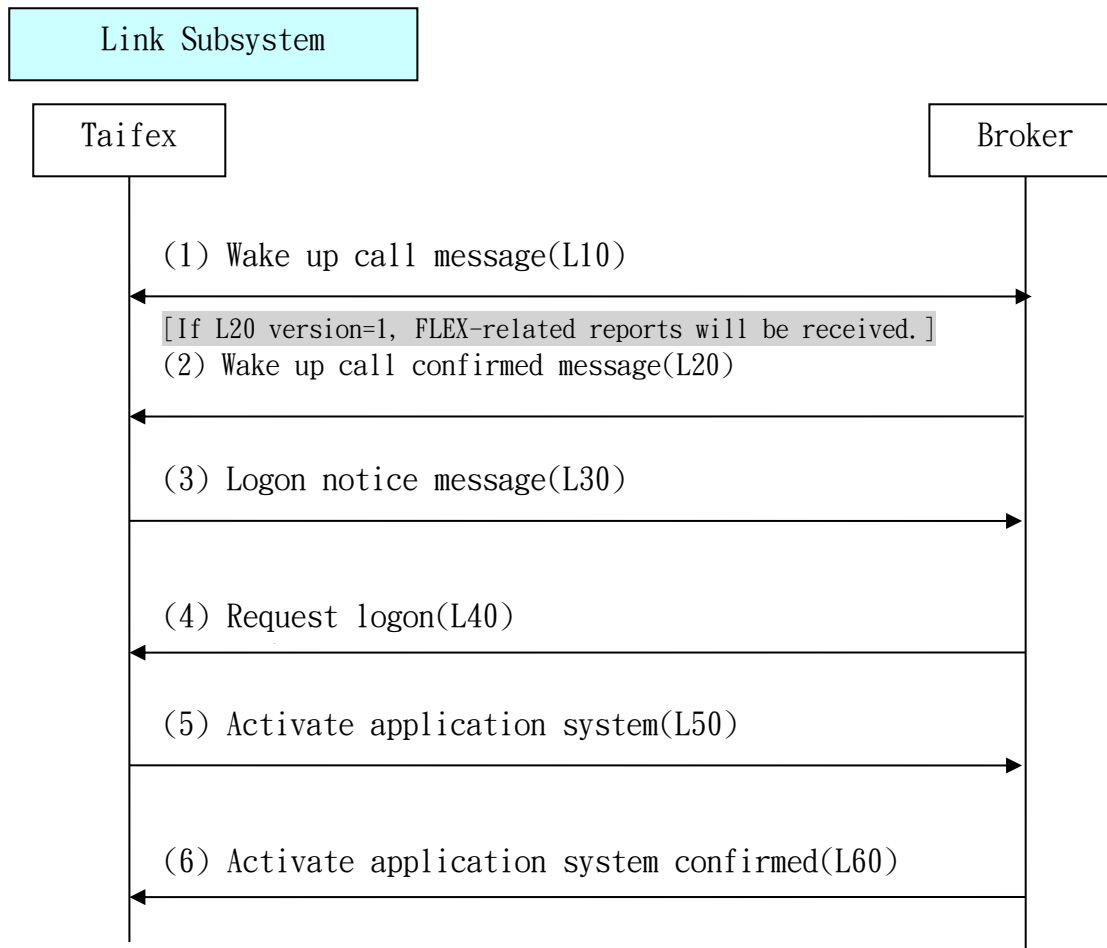
If CM F001000 likes to receive the order and execution data of its downline FCM from the options system via the clearing member order and execution report line and session_id=3, the CM will learn that the domain name for connection is f001000.session3.tmpcm.opt.taifex, port_no=10009 from P07 file and connect to f001000.session3.tmpcm.opt.taifex:10009.

If the CM likes to receive the order and execution data of its downline FCM from the futures system and session_id=3, the CM will learn that the domain name for connection is f001000.session3.tmpcm.fut.taifex, port_no=10011 from P07 file and connect to f001000.session3.tmpcm.fut.taifex:10011.

2.5.2 TMPCM Message Flow

Please refer to the following messages for FLEX-related information:

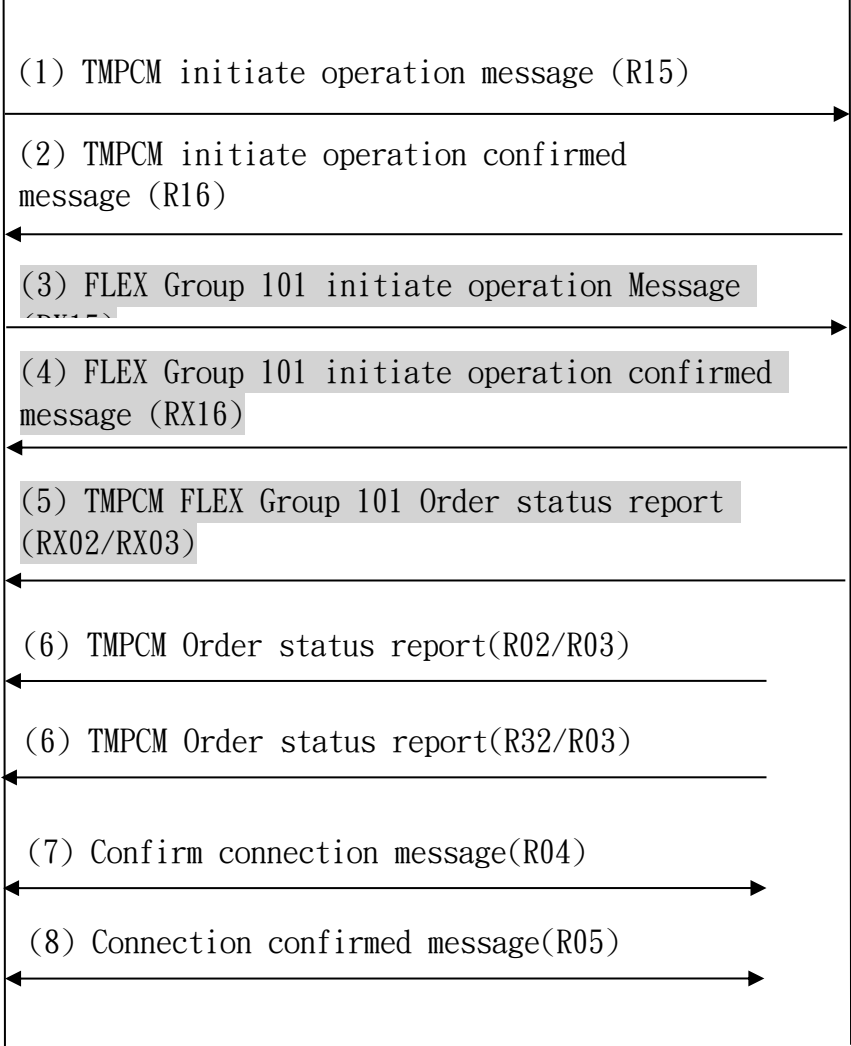
- 2.17 FLEX Order Input
- 2.18 FLEX Order Status Report
- 2.19 Clearing Member FLEX Order Execution Report



Application Subsystem

Broker

Taifex



To receive FLEX order reports for group 101, send an RX15 message with part_id=101.

2.5.3 Data transmission route

2.5.3.1 Downline FCM order and execution report(R15 target_id=8 or 18)

If R15 target_id = 8 or 18, then this connection is used for Downline FCM order and execution report data transmission.

Downline FCM: A FCM that appoints a clearing member to settle the trades on its behalf and the first four characters of the FCM ID are different from those of the CM ID.

EX:

1. If CM F002000 settles trades on behalf of FCM S102000, S102000 is the downline FCM of F002000, and CM F002000 must apply for TMP-based clearing member order and execution report line.
2. If CM F001000 settles trades on behalf of FCM F001001, CM F001000 is considered as settling trades for itself and need not apply for clearing member order and execution report line.

CM can apply for TMP-based clearing member order and execution report line, which will transmit multi-protocol order and execution data of its downline FCM, including:

1. Downline FCM's TMP-based order, cancel, decrease and execution data (successful order, cancel, decrease and execution data only; error data will not be transmitted).
2. Downline FCM's FIX-based order, cancel, decrease and execution data (successful order, cancel, decrease and execution data only; error data will not be transmitted).

2.5.3.2 Execution report including head office and branch offices(R15 target_id=3 or 13 or 23)

If R15 target_id = 3 or 13 or 23, then this connection is used for transmitting execution report including every protocol (TMP and FIX). But these data haven't the order response neither deletion/decrease.

Because CM can use order report line to transmit execution report including head office and branch offices, we recommend that FCM should use one connection for Downline FCM order report data transmission, and another connection for Execution report including head office and branch offices. It is backup function, cannot replace original execution report line.

The differences between target_id=3, target_id=13 and target_id=23 are as follows.

	target_id=3	target_id=13	target_id=23
Execution Report	R02	R32	R06
Content of uniq_id	session_id*1000000+ session_seq	session_id*1000000+ session_seq	session_seq
Original session_id	data is placed in uniq_id	data is placed in uniq_id	data is placed in rpt_session_id
The possibility of uniq_id overflow	If session_seq is greater than or equal to 1000000, uniq_id may be duplicate.	If session_seq is greater than or equal to 1000000, uniq_id may be duplicate.	Overflow is only possible if the uniq_id exceeds the value range.

2.5.3.3 Downline FCM execution report(R15 target_id=9 or 19)

If R15 target_id = 9 or 19, then this connection is used for Downline FCM execution report data transmission.

2.5.4 Link Subsystem

CM communicates with the Link Subsystem in the same manner as via the order and execution report line (see 2.2 on Link Subsystem), only CM will enter “8” in the ap_code field of FCM request logon (L40) message (Clearing member order/transaction report).

Given that data transmitted via the clearing member order report line are not trading activities, TAIFEX will not provide the functions of data resend by way of L41 and L42 via the line. But to align the operation of Link Subsystem with that of the order and execution report line, the CM should enter 0 for request_start_seq in the L40 it sends.

In the clearing member order and execution report line, the confirm connection message (R04) can only be initiated by TAIFEX. After receiving the R04, the CM should send connection confirmed message (R05). For example, when TAIFEX finds that the lapse between messages has exceeded the number of seconds set in the HeartBtInt field in L50, TAIFEX would send a “confirm connection (R04) to the CM and the CM needs to respond with a “connection confirm” message (R05).

2.5.5 Application Subsystem

After a CM sends L60, it means it has established a connection with TAIFEX and the CM must send an “initiate operation” message to request report start No. (R15), to which TAIFEX will respond with a “initiate operation confirmed” message (R16) and then proceed to send the order and execution information of its downline FCMs (in R02/R32/R06 format). For FLEX orders, CM must follow additional subscription steps (using RX15 subscription). TAIFEX will respond with RX16 to confirm the subscription's success. Subsequently, TAIFEX will transmit FLEX downline order execution report in the corresponding format(RX02). For details on FLEX orders, please refer to section “2.19 Clearing Member FLEX Order Execution Report”.

The clearing member order report line is primarily for transmitting the order and execution information. It is not a trading line, hence does not provide trading related functions, including R11, R12, R13, R14, RX13 and RX14.

Through TMP R15 message to specify which data this connection wants to receive:

- Downline FCM order and execution report
- Downline FCM execution report
- Execution report including head office and branch offices (Execution report of orders from TMP, FIX)
 - In the 'uniq_id' field, include 'session_id' and 'session_seq' for regular orders, and for FLEX orders, use 'rpt_session_id' and 'rpt_session_seq'. Refer to 2.19.1 FLEX Data transmission route.

For example: If F001000 is a clearing member, it can use one session to receive downline FCM order and execution report, and use another session to receive execution report including head office and branch offices. **If F001000 is not a clearing member, it can use** session to receive execution report including head office and branch offices.

For all messages of TMP CM order and execution report line, the MsgSeqNum will be 0 and will use rpt_seq of R02/R32/R06 message as the report sequence number. In the case of FLEX orders, please refer to section “2.19 Clearing Member FLEX Order Execution Report”.

add TMPCM Session flow control in regular trading session and after-hours trading session , user can use cancel_order_sec field in L40 (unit:100) (current value 0 means that user don't have flow control).

2.5.5.1 Clearing member initiate operation message (R15)

Message ID: 115

Description: Clearing member sends this message to request report start sequence, CM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:115
2	member_id	uint16	Member id	cm_id If Target id = 8 or 9 or 18 or 19 fcm_id If Target id = 3 or 13 or 23
3	target_id	uint8	Target ID	8: Clearing member order and execution, reply format:R02 3: Execution report including head office and branch offices, reply format:R02 9: Clearing member execution, reply format:R02 18: Clearing member order and execution, reply format:R32 13: Execution report including head office and branch offices, reply format:R32 19: Clearing member execution, reply format:R32 23: Execution report including head office and branch offices, reply format:R06
4	req_cm_seq	uint32	Request report start No.	Correspond to the field of rpt_seq (cm_seq) in R02/R32/R06 target_id=8 or 18, request downline FCM order and execution report seq number target_id=3 or 13 or 23, request execution report including head office and branch offices seq num

No.	Field	Data Type	Field Name	Remark
				target_id=9 or 19, request downline FCM execution report seq number
5	Checksum	uint8	Check sum	

2.5.5.2 Clearing member initiate operation confirmed message (R16)

Message ID: 116

Description: TAIFEX responds with a report start notice, TAIFEX -> CM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:116
2	status_code	uint8	Status code	Refer to Error Message Table
3	member_id	uint16	Member id	cm_id If Target id = 8 or 9 or 18 or 19 fcm_id If Target id = 3 or 13 or 23
4	target_id	uint8	Target ID	8: Clearing member order and execution , reply format:R02 3: Execution report including head office and branch offices , reply format:R02 9: Clearing member execution , reply format:R02 18: Clearing member order and execution , reply format:R32 13: Execution report including head office and branch offices , reply format:R32 19: Clearing member execution , reply format:R32 23: Execution report including head office and branch offices , reply format:R06
5	req_cm_seq	uint32	Report start No.	Correspond to the field of rpt_seq (cm_seq) in R02/R32 target_id=8 or 18, request downline FCM order and execution report seq number

No.	Field	Data Type	Field Name	Remark
				target_id=3 or 13 or 23, request execution report including head office and branch offices seq num target_id=9 or 19, request downline FCM execution report seq number
6	Checksum	uint8	Check sum	

2.5.5.3 Clearing member order status report (orders)

The clearing member order status report uses the order status report format (R02/R32), only the field target_id=8 or 18 and its data content differs from that of the FCM order status report. The clearing member order status report does not contain error messages nor order status requests, thereby having less sets of data.

2.5.5.4 Clearing member order status report (quotes)

The clearing member quote status report also uses the orders status report format (R02/R32), but with the field target_id=8 or 18. When the downline FCM places a quote, it includes a bid and an offer that can be executed separately. Thus for a quote, TAIFEX will respond with two order status reports (one for the bid and one for the offer) and the CM will receive two order status reports for a FCM quote (one for bid quote and one for offer quote) that have the same format as a regular order status report.

2.5.5.5 Clearing member order execution report (single, multi-leg)

The clearing member order execution report uses the order status report format (R02/R32), only the field target_id=9 or 19 and its data content differs from that of a FCM order execution report. The clearing member order execution report does not contain error messages nor order status request, thereby having less sets of data. The single and multi-leg orders can be distinguished by leg_side[0].

if target_id=3 or 13, report execution report including head office and branch office

R02/R32 example:

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:102 or 132 enter 0 for message sequence No. (MsgSeqNum)
Omitted...				
30	target_id	uint8	Target ID	FCM: 4 Clearing member Order status report:8 or 18 Clearing member order execution report:9 or 19

No.	Field	Data Type	Field Name	Remark
				Execution report including head office and branch office:3 or 13
31	uniq_id	uint32	Unique ID	<p>When target_id=4, it is a system unique No. (OrderID);</p> <p>When target_id=8 or 18, it is the order reply information. (cm_sub_seq)</p> <p>When target_id=9 or 19, it is the order match information. (cm_sub_seq)</p> <p>When target_id=3 or 13 and protocol_type = TMP ,it is session_id*1000000+session_seq</p> <p>When target_id=3 or 13 and protocol_type = FIX ,it is session_id*1000000+ it is the tenth end substring of ExecID report sequence.</p>
32	rpt_seq	uint32	Report sequence No.	<p>When target_id=4, it is session_seq;</p> <p>when target_id=8 or 9 or 18 or 19, it is cm_seq</p> <p>Target_id=3 or 13,it is report execution report including head office and branch office seq</p>
Omitted...				

For the reason to mapping relationship from “execution report of head and branch offices”to “execution report of downline fcm”, we redefined the uniq_id definition when target_id = 3 or 13.

1. When target_id=3 or 13 ,it is session_id*1000000+session_seq

Ex: FCM_ID=F001888, protocol_type = TMP, session_id=101, session_seq=9

Then uniq_id = 101 * 1000000 + 9

R06 example:

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:106 enter 0 for message sequence No. (MsgSeqNum)
Omitted...				
30	target_id	uint8	Target ID	Execution report including head office and branch office:23

No.	Field	Data Type	Field Name	Remark
31	uniq_id	uint32	Unique ID	When target_id=23 and protocol_type = TMP ,it is session_seq When target_id=23 and protocol_type = FIX ,it is the tenth end substring of ExecID report sequence.
32	rpt_seq	uint32	Report sequence No.	target_id=23, it is report execution report including head office and branch office seq
Omitted...				
34	rpt_session_id	uint16	Session ID	
Omitted...				

2.5.6 Data content conversion

FCM ID and CM ID conversion principle:

A CM must go to TAIFEX sftp server to download “FCM ID Mapping File (P06)” for reading the fcm_id and cm_id in the data.

Product ID conversion principle:

A CM must go to TAIFEX sftp server to download ”Product and Time Flow Group Definition File(P08/PA8)” for reading numeric product ID.

2.5.7 Handling of incomplete data received

If a TAIFEX clearing member identifies non-consecutive values in the rpt_seq field of the data received from the regular trading system, they can initiate a data supplement by requesting the generation of a supplementary file (B40/BD0) through the order and trade line using the TMP protocol. Once TAIFEX completes the file generation, the clearing member will receive a notification (R14) and they can retrieve the file from TAIFEX's SFTP server.

Similarly, if a TAIFEX clearing member detects non-consecutive values in the rpt_seq field of the data received from the FLEX trading system, they can request the creation of a supplementary file (XB40) specific to the designated FLEX Partition ID through the order and trade line using the RX13 message in the TMP protocol. Upon receiving the notification (RX14) indicating the completion of the file generation, the clearing member can access the file from TAIFEX's SFTP server.

2.6 File Transfer and Bulletin

Single messages and file transfers between TAIFEX and a FCM can be initiated through bulletin messages.

2.6.1 Transmission agreement

1. TAIFEX sends bulletin message

When TAIFEX has bulletin news for a FCM, TAIFEX will initiate a R14 message to the FCM.

FCM's actions:

- If a FCM receives a R14 message in which the bulletin_seq is other than 0, the FCM can read the bulletin news from the data field.

2. TAIFEX sends file ready notice

After TAIFEX has prepared a file and wants to notify a FCM, TAIFEX will initiate a R14 message to the FCM.

FCM's actions:

- If a FCM receives a R14 message in which the bulletin_seq is 0, meaning it is a file ready notice, the FCM can learn the file name from the data field and download the file from the TAIFEX sftp server.

3. FCM requests file

- If a FCM likes to request a certain file, the FCM can initiate a R13 message to TAIFEX and enter 0 for bulletin_req_id.
- After the file is ready and normal, TAIFEX will respond with a R14 message.
- If exceptional circumstances occur, TAIFEX will respond with a R14 message and enter error status_code. The FCM then should take action according to the status_code.

4. FCM initiates a message to TAIFEX (pending)

- If a FCM likes to send TAIFEX a message, the FCM can initiate a R14 message to TAIFEX.

To prevent transfer too much data which caused by too much request, the R13 can only successful once per 10 seconds, and reply status_code 121 when request failed.

Message transfer direction diagram:

FCM requests file - normal circumstances

FCM	Direction	TAIFEX	Remark
R13	->	...	
...	<-	R14	

FCM requests file - exceptional circumstances

FCM	Direction	TAIFEX	Remark
R13	->	...	
...	<-	R14	Error status_code

TAIFEX sends a bulletin message or a file ready notice

FCM	Direction	TAIFEX	Remark
...	<-	R14	

FCM initiates a message to TAIFEX (pending)

FCM	Direction	TAIFEX	Remark
R14	->	...	

2.6.2 Bulletin request (R13)

Message ID: 113

Description: FCM uses this message to request file from TAIFEX, FCM -> TAIFEX
One session only can request one R13 request in 10 seconds.

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	
2	fcm_req_id	uint32	FCM request No.	FCM-defined No. Please do not use 0.
3	bulletin_req_id	uint32	Bulletin request No.	Currently only file request is allowed, which has a value of 0
4	system_type	uint8	System type	10: Options (the second digit is 0 during regular market hours) 20: Futures (the second digit is 0 during regular market hours) 11: Options (the second digit is 1 during after-market hours) 21: Futures (the second digit is 1 during after-market hours)

No.	Field	Data Type	Field Name	Remark
5	data	char [hdr.msg_length-15-9]	Bulletin data	This field has variable length; refer to the definition of data field in R13 for each file when FCM requests a file.
6	Checksum	uint8	Checksum	

2.6.3 Bulletin report (R14)

Message ID: 114

Description: Bulletin news and file ready notice, FCM <-> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	
2	status_code	uint8	Status code	Refer to Error Message Table
3	fcm_req_id	uint32	FCM request No.	FCM-defined No., which corresponds to fcm_req_id in R13. When TAIFEX initiates a file ready notice, its value is 0.
4	bulletin_seq	uint32	Bulletin No.(key value)	1. For file ready notice, its value is 0. 2. In case of a bulletin message, its value is other than 0.
5	bulletin_time	msg_time	Bulletin or file generation time	Refer to: Time Format
6	system_type	uint8	System type	10: Options (the second digit is 0 during regular market hours) 20: Futures (the second digit is 0 during regular market hours) 11: Options (the second digit is 1 during after-market hours) 21: Futures (the second digit is 1 during after-market hours)
7	data	char [hdr.msg_length-15-16]	Bulletin information	This field has variable length. Refer to the definition of data field in R14 for each file. If the R13 message has errors, fill this field with the original R13 data content.
8	Checksum	uint8	Checksum	

See [3.8 File Transfer Method](#) for file transfer.

2.6.4 File transfer overview

Refer to document “Taifex_FileTransfer_Format”、 “Taifex_Flex_FileTransfer_Format”.

2.7 Block trade

TAIFEX provide two kinds of block trade: continuous matching block trade and negotiated block trade. TAIFEX block trading system use independent match engine. The register/order/report process is conducted through R13 single message and file transfer mechanism. FCM use current trading network and TMP file transfer protocol to complete a block trade. The process is described below.

● Single product block trade

1. Get contract and product information through P09/PA9(contract definition file) and P08/PA8(Product and Time Flow Group Definition File) files.
2. Use TMP R13 to send Single product block trade order input message (B01/BA1) to TAIFEX system.
3. After order processing by TAIFEX system, according to processing result, TAIFEX system will generate Single product block trade order/execution report file (B02/BA2), and use R14 message to notify FCM.
4. After order processing by TAIFEX system, according to processing result, TAIFEX system will generate Single product block trade clearing member order/execution report file (B05/BA5), and use R14 message to notify CM.
5. If there is any error occurs while order processing, TAIFEX system will generate Single product block trade error report file (B03), and use R14 message to notify FCM.

● Combine product block trade

Because the combine product block trade match engine is only on the Futures system, connection for placing order and receiving report must use Futures session. The message and file will only with Futures system_type.

1. Get contract and product information through P09/PA9(contract definition file) and P08/PA8(Product and Time Flow Group Definition File) files.
2. Use TMP R13 to send Combine product block trade order input message (B11/BB1) to TAIFEX system.
3. After order processing by TAIFEX system, according to processing result, TAIFEX system will generate Combine product block trade order/execution report file (B12/BB2), and use R14 message to notify FCM.
4. After order processing by TAIFEX system, according to processing result, TAIFEX system will generate Combine product block trade clearing member order/execution report file (B15/BB5), and use R14 message to notify CM.
5. If there is some error occurs while order processing, TAIFEX system will generate Combine product block trade error report file (B13), and use R14 message to notify FCM.

● Negotiated block trade (NBT)

Negotiated block trading system is built on Futures trading system, so client should use Futures system connection to send and receive negotiated block trade data. Each message and file generated will with Futures system_type.

- Trading process:

1. Get contract and product information through P09/PA9(contract definition file) and P08/PA8(Product and Time Flow Group Definition File) files.
2. Designated FCM use TMP R13 to send Negotiated block trade register file message (B21) to TAIFEX system. (When the buying and selling traders belong to different futures commission merchants, they shall designate one futures commission merchant to represent them to register this trade.)
3. After processing by TAIFEX system, according to processing result, TAIFEX system will generate Negotiated block trade register report file (B22), and use R14 message to notify all participant FCM.
4. When FCM receive B22 message, FCM should use TMP R13 to send Negotiated block trade confirm input message (B31) to TAIFEX system in 10 minutes.
5. After processing by TAIFEX system, according to processing result, TAIFEX system will generate Negotiated block trade confirm report file (B32), and use R14 message to notify FCM.
6. At the same time, TAIFEX will generate Negotiated block trade confirm report file - clearing member (B35) for clearing member, and use R14 message to notify CM.
7. When all of the participants have already confirmed trading data by B31. TAIFEX will do some check:
 - (1) If check OK. This negotiated block trade is success. TAIFEX system will generate Negotiated block trade execution report file (B52), and use R14 message to notify all participant FCM. At the same time, generate Negotiated block trade execution report file - clearing member (B55), and use R14 message to notify all CM.
 - (2) If check fail. This negotiated block trade is failed. TAIFEX system will generate Negotiated block trade error execution report file (B53), and use R14 message to notify all participant FCM. At the same time, generate Negotiated block trade error execution report file - clearing member (B55), and use R14 message to notify all CM.
8. If TAIFEX system wait 10 minutes and not all FCMs have sent confirm message B31 success. This negotiated block trade is also failed. TAIFEX system will generate Negotiated block trade error execution report file (B53), and use R14 message to notify all participant FCM. At the same time, generate Negotiated block trade error execution report file - clearing member (B55), and use R14 message to notify all CM.

➤ **Cancel process:**

Negotiated block trade can be canceled during the register and confirm process. Only Designated FCM can make a cancel command.

1. Designated FCM use TMP R13 to send Negotiated block trade register file message (B21) with ExecType='4' to TAIFEX system.
2. After processing by TAIFEX system and this trade is canceled, TAIFEX system will generate Negotiated block trade register report file (B22), and use R14 message to notify Designated FCM. At the same time, will generate Negotiated block trade error execution report file (B53), and use R14 message to notify all participant FCM.
3. If this negotiated block trade has any confirm report message already send to clearing member, TAIFEX will generate Negotiated block trade error execution report file - clearing member (B55), and use R14 message to notify the CM.

➤ **Query process:**

FCM can query the status of a negotiated block trade.

1. FCM use TMP R13 to send Negotiated block trade register file message (B21) with ExecType='I' to TAIFEX system.
2. TAIFEX system will generate Negotiated block trade register report file (B22), to FCM with status code. Possible status_code include: Block trade ID does not exist (162), Negotiated block trade success (163), Negotiated block trade fail (164), Negotiated block trade cancelled (165), Negotiated block trade wait FCM to confirm order (166).

➤ Confirm data cancel process:

When Negotiated block trade in the status of waiting FCM to confirm order, FCM can cancel its confirmed input B31.

1. FCM use TMP R13 to send Negotiated block trade confirm input message (B31) with ExecType='4' to TAIFEX system.
2. After processing by TAIFEX system and confirm order is canceled, TAIFEX system will generate Negotiated block trade confirm report file (B32), and use R14 message to notify FCM. At the same time, will generate Negotiated block trade confirm report file - clearing member (B35), and use R14 message to notify its CM.

The related message and file format please refer to section 2.6.

● Block Trade Session Report Rule Description

TAIFEX block trade use TMP R14 or FIX Email(MsgType:C) message to report executions, and use TMP R13 or FIX Email(MsgType:C) message to input the block trade order. If the session wants to get block trade executions, it should be applied proactive notification.

The NBT input session is not necessary to apply proactive notification, but the participants FCM session need to apply it.

The participants FCM also can get execution report from NBT WEB.

➤ Single product block trade and Combine product block trade

Order Input Source	Order Input Type	Report Type	FCM	R14Report Session
TMP/FIX	B01/BA1	B01/BA1		B01/BA1 input Session.
TMP/FIX	B01/BA1	B02/BA2		Broadcasting to B01/BA1 input Session.
TMP/FIX	B01/BA1	B03		Broadcasting to B01/BA1 input Session.
TMP/FIX	B01/BA1	B05/BA5		Broadcasting to the CM Session.
TMP/FIX	B11/BB1	B11/BB1		B11/BB1 input Session.
TMP/FIX	B11/BB1	B12/BB2		Broadcasting to B11/BB1 input Session.
TMP/FIX	B11/BB1	B13		Broadcasting to B11/BB1 input Session.
TMP/FIX	B11/BB1	B05/BB5		Broadcasting to CM Session.

➤ Negotiated Block Trade

Order Input Source	Order Input Type	Report Type	FCM	R14 Report Session
TMP/FIX	B21	B21		Designated FCM B21 input session

Order Input Source	Order Input Type	Report Type	FCM	R14 Report Session
NBT_WEB	B21	B21		Broadcasting to Designated FCM B21 input session. If the Designated FCM B21 input session is not existed, then it will be broadcasted to Designated FCM head office session.
TMP/FIX	B21	B22	The first four characters of participant FCM NO is the same as the first four characters of Designated FCM NO.	Designated FCM B21 input session
TMP/FIX	B21	B22	The first four characters of participant FCM NO is not the same as the first four characters of Designated FCM NO.	Broadcasting to all participants FCM session. If the participants FCM session is not existed, then it will be broadcasted to the participants FCM head office session.
NBT_WEB	B21	B22		Broadcasting to all participants FCM session. If the participants FCM session is not existed, then it will be broadcasted to the participants FCM head office session.
TMP/FIX	B21	B23		Designated FCM B21 input session
NBT_WEB	B21	B23		Broadcasting to Designated FCM B21 input session. If the Designated FCM B21 input session is not existed, then it will be broadcasted to Designated FCM head office session.
TMP/FIX	B31	B31 B32 B33 B52 B53		B31 input session

Order Input Source	Order Input Type	Report Type	FCM	R14 Report Session
NBT_WEB	B31	B31 B32 B33 B52 B53		Broadcasting to the B31 input session. If the B31 input session is not existed, then it will be broadcasted to that FCM head office session.
TMP/FIX WEB	B31	B35		Broadcasting to the CM Session. If the CM session is not existed, then it will be broadcasted to CM head office session.
TMP/FIX	B21	B53	<u>The participant FCM is not inputted B31</u> , and the first four characters of participant FCM NO is the same as the first four characters of Designated FCM NO.	Designated FCM B21 input session
TMP/FIX	B21	B53	<u>The participant FCM is not inputted B31</u> , and the first four characters of participant FCM NO is not the same as the first four characters of Designated FCM NO.	Broadcasting to the participant FCM Session. If the participant FCM session is not existed, then it will be broadcasted to participant FCM head office session.
NBT_WEB	B21	B53	<u>The participant FCM is not inputted B31</u>	Broadcasting to the participant FCM Session. If the participant FCM session is not existed, then it will be broadcasted to participant FCM head office session.
TMP/FIX NBT_WEB	B31	B55		Broadcasting to the CM Session. If the CM session is not existed, then it will be broadcasted to CM head office session.

2.8 Eurex/TAIFEX Link(Obsolete)

2.9 Upload Omnibus Report Files via SFTP

Refer to document “Taifex_FileTransfer_Format” 、 “Taifex_Flex_FileTransfer_Format” .

2.10 Drop Copy Service(TMPDC Session)

Taifex launches TMPDC Session to transfer order reply data(drop copies) of TMP, FIX4.4 and FIX4.2 Session. Brokers can get drop copies from TMPDC Session during Taifex Services time. Each TMPDC Session can map to a dedicated order Session.

Add TMPDC Session flow control in regular trading session and after-hours trading session , user can use cancel_order_sec field in L40 (unit:100) (current value 0 means that user don't have flow control)

2.10.1 Connection

Get connection IP and port by query Taifex DNS server by the domain name of TMPDC session in P07 file.

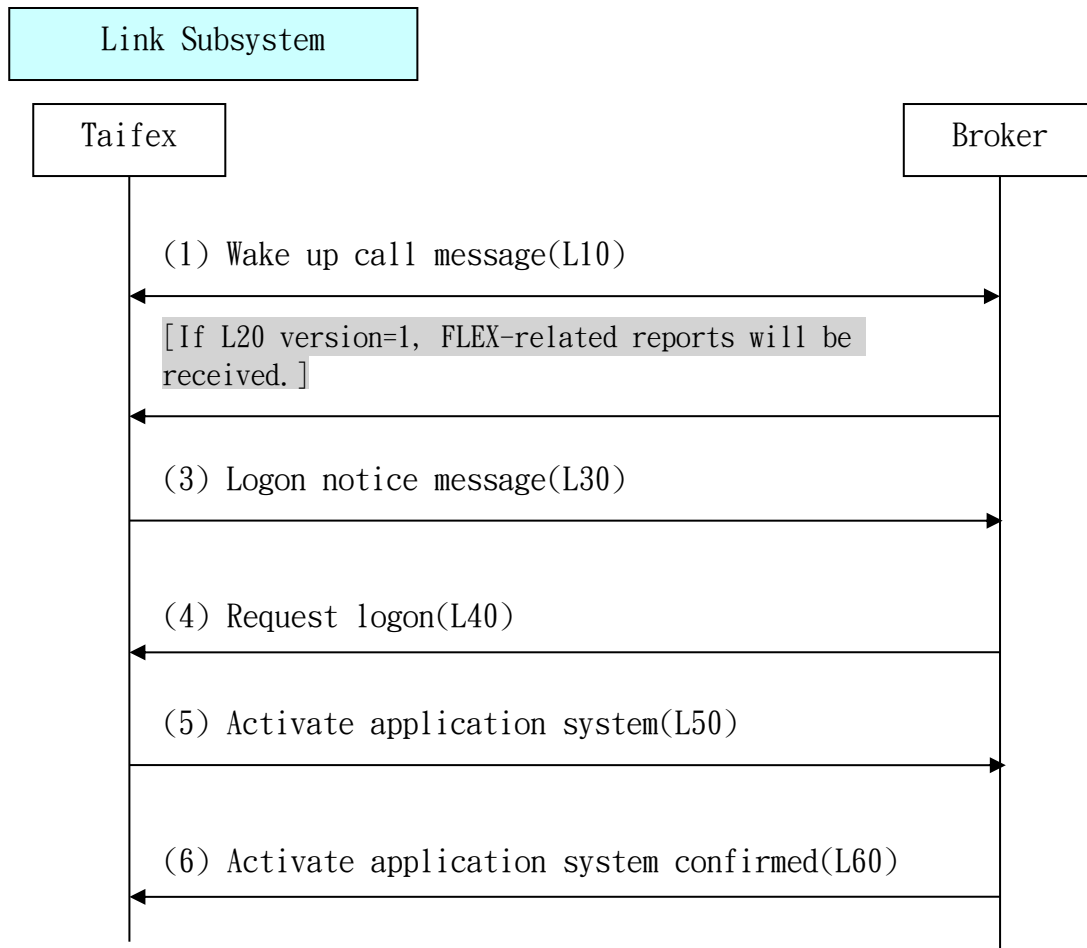
1. Product Group and Connection Port Mapping File (P07)

Production: f000000.session1. tmpdc .opt.taifex,10001 Testing: f000000.test.session1. tmpdc .opt.taifex,10001
--

2.10.2 TMPDC Message Flow

Please refer to the following messages for FLEX-related information:

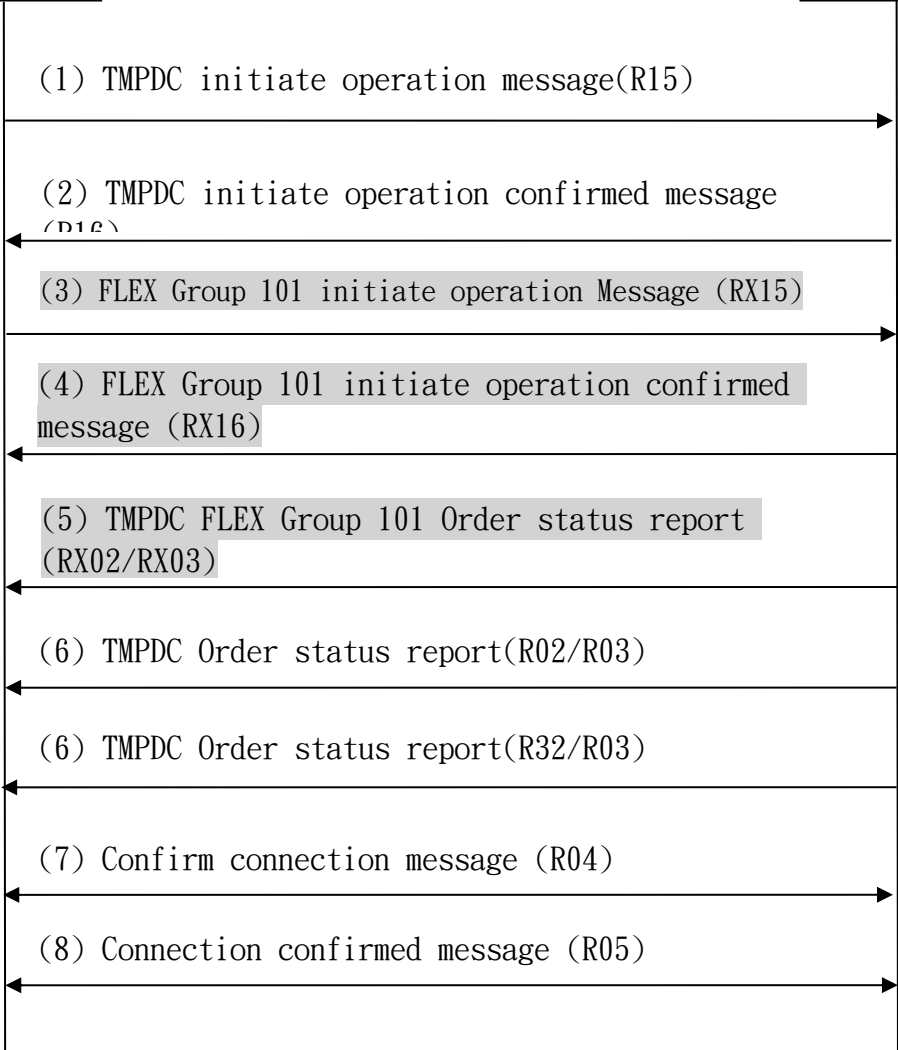
- 2.17 FLEX Order Input
- 2.18 FLEX Order Status Report
- 2.20 Drop Copy Service for FLEX trading (TMPDC Session)



Application Subsystem

Broker

Taifex



To receive FLEX order reports for group 101, send an RX15 message with part_id=101.

2.10.3 File Usage

1. get P07 File to query TAIFEX connection information.
2. get P12 File to query FCM connection information.
3. get P17 File to query mapping relationship between order session and TMPDC session. P17 file creation time is the same as P07 File.

2.10.4 Message Format

TMPDC's Message Format is the same as Clearing Member Order Execution Report:

1. Link Subsystem: L40 ap_code's value is 7.
2. Application Subsystem:R15,R16 target_id= 7(non stock id) or 17(long product format:stock id).
3. Application Subsystem:use R02/R32/R03, but redefine rpt_seq field.
 - (1) If R15 target_id=7(non stock id), TMPDC applies R02/R03 format.
 - (2) If R15 target_id=17(long product format: stock id), TMPDC applies R32/R03 format.
 TMPDC don't send copies whose rpt_seq=0.
4. The application subsystem uses RX15 and RX16, with the target_id set to 7. TMPDC uses RX02/RX03 to transmit original order session-specific FLEX orders, trades, or error reports for the designated group.

2.10.4.1 TMPDC initiate operation message(R15)

Message ID: 115

Description: Broker sends this message to request starting sequence of drop copies, FCM -> TAIFEX,

No.	Field	Data Type	Field Name	Remark
1	Hdr	hdr	Common message header	Message ID:115
2	fcm_id	uint16	fcm id	
3	target_id	uint8	Target ID	target_id =7:R02 target_id 17:R32 (target_id 7,17 only can be used in TMPDC Session)
4	req_cm_seq	uint32	Request report start No.	Correspond to the field of rpt_seq (cm_seq) in R02/R32/R03 target_id=7/17, request seq number of drop copies
5	Checksum	uint8	Check sum	

2.10.4.2 TMPDC initiate operation confirmed message(R16)

Message ID: 116

Description: TAIFEX responds with a report start notice, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:116 MsgSeqNum=0
2	status_code	uint8	Status code	Refer to Error Message Table
3	fcm_id	uint16	fcm id	
4	target_id	uint8	Target ID	target_id =7:R02 target_id 17:R32 (target_id 7, 17 is valid only in TMPDC Session)
5	req_cm_seq	uint32	Report start No.	Correspond to the field of rpt_seq (cm_seq) in R02/R32/R03 target_id=7/17, request FCM reply data seq number
6	Checksum	uint8	Check sum	

2.10.4.3 TMPDC order status report (R02/R32)

R02/R32 example:

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:102 or 132 enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	
3	ExecType	char	Execution type	0:New, 4:Cancel, 5:Decrease, F: Execution report, M or m:Modify Price, 6: New and Execution report
Omitted...				
30	target_id	uint8	Target ID	<u>TMPDC: 7, 17</u>

No.	Field	Data Type	Field Name	Remark
31	uniq_id	uint32	Unique ID	
32	rpt_seq	uint32	Report sequence No.	<u>Order session rpt_seq</u>
Omitted...				

2.10.4.4 TMPDC Error report (R03)

R03 example:

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:103 When the trading system adds query order, it will enter 0 for message sequence No. (MsgSeqNum)
2	status_code	uint8	Status code	Refer to Error Message Table
3	ExecType	char	Execution type	0:New, 4:Cancel, 5:Decrease, M or m:Modify price, F: Execution report, I: Request
4	fcm_id	uint16	FCM ID	
5	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)
6	ord_id	uint32	Order serial No.	
7	user_define	char [8]	FCM defined variable	
8	rpt_seq	uint32	Report sequence No.	Order Session rpt_seq
9	Side	uint8	Buy/sell code	1: Buy, 2: Sell
10	Checksum	uint8	Check sum	

2.11 SYSTEM SETTING and SYSTEM NOTIFICATION

To provide system setting and system notification function, TAIFEX define new messages for system setting (R17) and system notification (R18). R18 is proactive notification and client does not need to apply to TAIFEX for using it.

In TAIFEX FIX Message protocol (FIX 4.4 or FIX 4.2), we use FIX Email (MsgType: C) to implement this function. If your TEXT field of Email message prefixed by "Z00", it will be the same as using R17/R18.

For example (FIX Only):
 If the R17 content is "K1012100010000100001004".
 In FIX, FCM should use Email (MsgType: C) and TEXT field is
 "Z00K1012100010000100001004", TAIFEX will process this message.
 If you send the same content via TMP R13, TAIFEX will not process this message.

2.11.1 SYSTEM SETTING (R17)

Message ID: 117

Description: System setting(ex. Kill Switch), FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	117	Message ID:117 Enter 0 for message sequence No.(MsgSeqNum)
2	data	char [hdr.msg_length-15]		This field has variable length; refer to the definition of data field in R17 for each FUNCTION-TYPE and FUNCTION-CODE.
3	Checksum	uint8	Check Sum	

2.11.2 SYSTEM NOTIFICATION (R18)

Message ID: 118

Description: TAIFEX proactive system notification. FCM <- TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	118	
2	status_code	uint8	Status code	Refer to Error Message Table
3	data	char [hdr.msg_length-15-1]		This field has variable length. Refer to the definition of data field in R14 for each FUNCTION-TYPE and FUNCTION_CODE.
4	Checksum	uint8	Check Sum	

2.11.3 Set and Confirm Kill Switch

- FCM use R17 to request Kill Switch. If TAIFEX accept this command, TAIFEX will reply via R18, and the content of R18 data will be the same as R17 data.
- FCM can request Kill Switch command more than once in one day.
- For Kill Switch command, first 4 characters of the FCM_NO (ex. F000999) which is identified by FCM_ID and SOURCE_FCM_NO (ex. F000000) which is identified by SOURCE_FCM_ID should be the same.
- If TYPE=1(Killed by FCM_ID), TAIFEX will cancel all existing orders and quotes in FUTURES system and OPTIONS system (not include Negotiated Block Trade). Kill Switch function is on the best effort. TAIFEX doesn't guarantee all existing orders (quotes) must be cancelled and prevent new orders.
- If TYPE=2(Killed by session), TAIFEX will only cancel all existing orders and quotes in designated FCM session (Not include Negotiated Block Trade).

	FIELD-NAME	FORMAT	LENGTH	COMMENT
data	FUNCTION-TYPE	X(1)	1	K
	FUNCTION-CODE	9(3)	3	101
	TYPE	X(1)	1	1: Killed by FCM which consists of FCM_ID. 2: Killed by session which consists of FCM_ID, SOURCE_FCM_ID and SESSION_ID.
	CMD	X(1)	1	1:Enable kill switch 2:Disable kill switch operation
	Kill Switch Serial No (KSW_NUM)	9(4)	4	<ul style="list-style-type: none"> ● Please assign a sequence number for each session. For example, if FCM have two session (session_id=1 and session_id=2), they can send the same KSW_NUM to TAIFEX. <ul style="list-style-type: none"> ● KSW_NUM should be increasing; TAIFEX will not process command with KSW_NUM less than or equal to previous KSW_NUM. For example, if session_id=1 sent 0005 before, TAIFEX will not process again 0005 and 0004. R18 will return status code 155.
	FCM_ID	9(5)	5	It is the key of TYPE=1 and TYPE=2
	SOURCE_FCM_ID	9(5)	5	It is the key of TYPE=2 FCM_ID of designated FCM session.
	SESSION_ID	9(3)	3	The key of TYPE=2 SESSION_ID of designated FCM session.

Ex. if SOURCE_FCM_ID and FCM_ID are "00001", and SESSION_ID is "004", the sample content is like below table.

FUNCTION-TYPE	FUNCTION-CODE	TYPE	CMD	KSW_NUM	FCM_ID	SOURCE_FCM_ID	SESSION_ID
K	101	2	1	0001	00001	00001	004

2.11.4 Subscription Request for Expired FCM Session Order Report File

- TAIFEX generates B50 files for expired orders in the order book when session status changes to closed for each flow group.
- FCM can use R17 to request subscription for expired orders in the order book by FCM session. If TAIFEX accept this command, TAIFEX will reply via R18, and the content of R18 data will be the same as R17 data.
- If TAIFEX accept subscription request, TAIFEX will generates expired fcm session order report file by R17 fcm_id + session_id when session status changes to closed for each flow group.

	FIELD-NAME	FORMAT	LENGTH	COMMENT
data	FUNCTION-TYPE	X(1)	1	K
	FUNCTION-CODE	9(3)	3	102

2.11.5 Multiple orders/quotes status request

- FCMs use R17 to send “Multiple orders/quotes status request”. If TAIFEX accepts this command, TAIFEX will reply via R18, and the content of R18 data will be the same as R17 data.
- If the <order_no count> field is not consistent with the <order_no set> field, the R17 command will not be accepted.
- TAIFEX will reply with “Order status report (R02/R32)” or “Error report (R03)” after sending R18 (status_code = 0).

		FIELD-NAME	FORMAT	LENGTH	COMMENT
data	function header	FUNCTION-TYPE	X(1)	1	K
		FUNCTION-CODE	9(3)	3	103
		FCM_ID	9(5)	5	
		TYPE	9(1)	1	1:Order (R01/R31) 9:Quote (R09/R39)
		order_no count	9(1)	1	Number of orders/quotes, at most 3.
the <order_no count> field above decide the following <function body> repeating time.					
	function body	order_no set	X(5)	5	order_no

For example,

1. FCM sends a request via R17 with order_no A0001 and C0003.

FUNCTION-TYPE	FUNCTION-CODE	FCM_ID	TYPE	order_no count	order_no set-1	order_no set-2
K	103	09999	1	2	A0001	C0003

The content will be as follows:

K1030999912A0001C0003

2. FCM sends a request via R17 with order_no A0001, B0002 and C0003.

FUNCTION-TYPE	FUNCTION-CODE	FCM_ID	TYPE	order_no count	order_no set-1	order_no set-2	order_no set-3
K	103	09999	1	3	A0001	B0002	C0003

The content will be as follows:

K1030999913A0001B0002C0003

Order processing example:

FCM	Direction	TAIFEX	Remark
R17(K103)	To TAIFEX (→)	...	
	To Client (←)	R18(K103)	status_code=0
	To Client (←)	R02	
	To Client (←)	R03	
	To Client (←)	R02	

Request failure example:

FCM	Direction	TAIFEX	Remark
R17(K103)	To TAIFEX (→)	...	The <TYPE> field is set to 2 which does not exist
	To Client (←)	R18(K103)	status_code=93 The value of the field is incorrect

FCM	Direction	TAIFEX	Remark
R17(K103)	To TAIFEX (→)	...	
	To Client (←)	R18(K103)	status_code=1 Trading time over

FCM	Direction	TAIFEX	Remark
R17(K103)	To TAIFEX (→)	...	
	To Client (←)	R18(K103)	status_code=2 Order acceptance not yet started or trading halt or order not yet accepted during receiving order stage

2.12 Upload Equity Report Files via SFTP

Refer to document “Taifex_FileTransfer_Format” 、 “Taifex_Flex_FileTransfer_Format” .

2.13 Order Session Connection Backup Mechanism

To avoid session connection is broken, TAIFEX provides session connection backup mechanism. When TAIFEX session gateway is failed, FCM can use session connection backup mechanism to connect backup session gateway in a short time.

When primary session connection is broken, FCM can use the same session setting (FCM ID, Session ID, Client IP, Client Port and Server Port) to connect to TAIFEX backup session gateway.

2.13.1 FCM Backup mechanism (optional)

If you want to implement session backup mechanism, you can follow the suggestions.

A: Preload backup session information

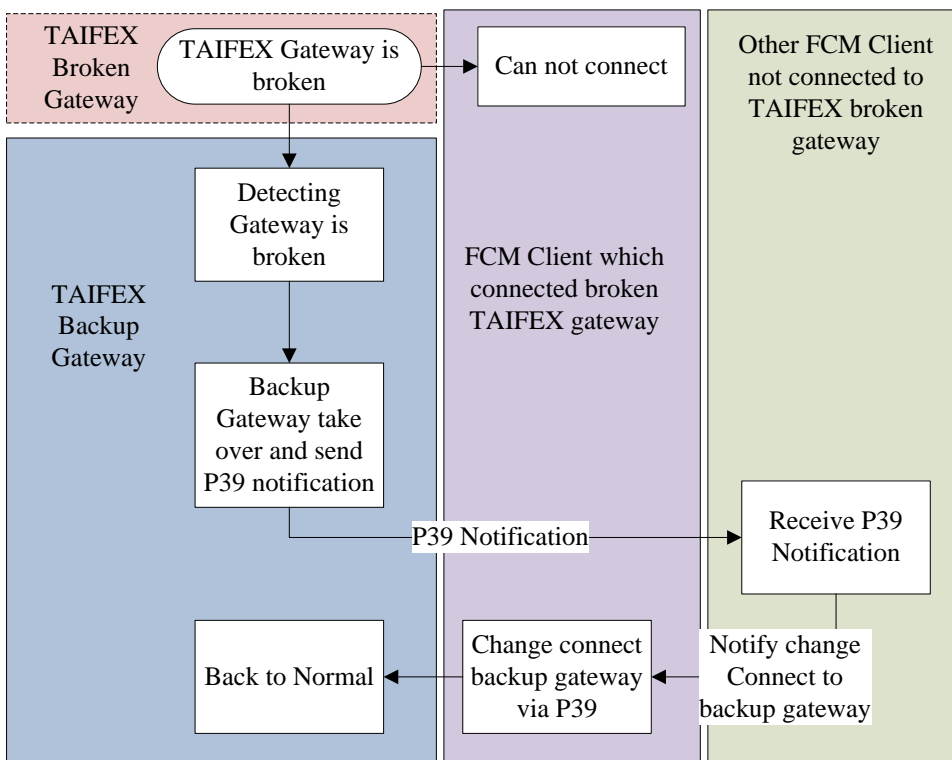
All backup session information will be included in PA7 file. When primary session connection is broken, you can use it to connect backup session.

B: Use P39 notification to find backup session

When primary session connection is broken, TAI FEX will startup backup connection, in the meantime TAI FEX will create a notification file P39 in SFTP, also will send R14 through other normal session inform that backup connection is up.

If vendor don't have broken session in the P39 file, vendor can just ignore it.

P39 file name is easy to mapping backup session via server port. If the file name is not enough to mapping backup session, P39 content will give more detail mapping.



When TAI FEX primary session gateway is failed, TAI FEX backup session gateway will take over as follow description.

1. When primary session gateway is failed, backup session gateway will detect primary is failed, and try to take over service.
2. Backup session gateway set its status to be active.
3. Backup session gateway create P39 file and send notification via R14.
4. FCM can use the P39 notification, change connect to backup session gateway.

2.14 TMPCM/TMPDC Session Connection Backup Mechanism

To avoid session connection is broken, TAIFEX provide session connection backup mechanism. When TAIFEX session gateway is failed, FCM can use session connection backup mechanism to connect backup session gateway in a short time.

When primary session connection is broken, FCM can use the same session setting (FCM ID, Session ID, Client IP, Client Port) to connect to TAIFEX backup session gateway(PA7 have backup session's Server IP, Server Port). The Mechanism will be online together with "Order Session Connection Backup Mechanism.

PA7 include primary sessions(P07) and backup sessions, TMPDCM example:

f000999.session10.tmpcm.opt.taifex,20401	←	primary session
f000999.session10.tmpcm bak1 .opt.taifex, 20441	←	backup session

TMPDC example:

f000999.session5.tmpdc.opt.taifex,20441	←	primary session
f000999.session5.tmpdc bak1 .opt.taifex, 20491	←	backup session

The primary sessions and backup sessions are active simultaneously, FCM get backup sessions from PA7 to connect to TAIFEX backup gateway while primary session connection is broken, We don't provide P39 while primary session connection is broken .

2.15 Cancel on Disconnect (COD)

Cancel on Disconnect will assist users to mitigate risks associated with managing open orders when there is an involuntary loss of connectivity. COD cancels all open orders for the disconnected registered FCM session.

Conditions under which COD is invoked:

1. Product is not in the Non-Cancel period.
2. COD detection will be enabled after the FCM sends the L60 (if requested).
3. TAIFEX detects a network-level disconnection from the client without a Logout message(L70) or detects that the session is inactive with no heartbeats being received for 35 seconds.

If you have requested and enabled COD, you must send a logout message (L70) before disconnecting, otherwise the COD function will be triggered.

FCM	Direction	TAIFEX	Remark
R04	->	...	FCM sends R04
...	<-	R05	TAIFEX responds R05
...	<-	...	Other operations
L70	->	...	FCM sends L70
...	<-	L80	TAIFEX responds L80
...	After confirming that L80 is received and checking that the return status_code is 0, disconnect the connection.

If due to force majeure factors, Taifex's trade system is unable to detect the connection between Taifex and the FCMs, or Taifex's COD is not operate correctly (including but not limited to order session connection backup mechanism, malfunction or telecommunication disruption of the trading systems, disaster recovery, etc.), the COD mechanism will not be triggered.

2.16 FLEX Trading System Overview

In response to the demand for flexible trading, TAIFEX has introduced the FLEX Trading System. This system allows Futures Commission Merchants (FCMs) to connect to both the regular trading system and multiple partitions within the FLEX Trading System through existing order and execution report lines. As FLEX business is serviced by multiple partitions, the order placement and reporting behavior may vary depending on the specific partition. Received orders are forwarded to the respective partitions for processing via the existing order and execution report lines. FCMs can refer to the "Product Partition Description" to determine the available partitions and utilize the "Contract and Basic Data File (XP09)" to obtain relevant information for each contract, such as the part_id (partition ID). System report sequence numbers, including rpt_seq, uniq_id, and cm_id, are assigned based on the corresponding partitions.

FCM	Direction	TAIFEX	Remark
RX01	->	...	FLEX Order input
...	<-	RX02 (order input)	To FCM: FLEX Order status report
...	<-	RX02 (order input)	To clearing member: Clearing member FLEX Order status report
...	Order immediately or subsequently filled, if any
...	<-	RX02 (order execution)	To FCM: FLEX order execution report
...	<-	RX02 (order execution)	To clearing member: FLEX order execution report
RX01	->	...	FLEX Order input
...	<-	RX03(error)	FLEX Error report
RX01	->	...	FLEX Order input request
...	<-	RX02	FLEX Order status report
RX01	->	...	FLEX Order input request
...	<-	RX03(error)	FLEX Error report
RX07	->	...	FLEX Price inquiry input
...	<-	RX08	FLEX Price inquiry reply
RX07	->	...	FLEX Price inquiry input
...	<-	RX08(error)	FLEX Error report
RX09	->	...	FLEX Quote input
...	<-	RX02 (new report)*2	To FCM: FLEX Price input report
...	<-	RX02 (clearing member)*2	To clearing member: Clearing member FLEX Order status report
...	Order immediately or subsequently

FCM	Direction	TAIFEX	Remark
			filled, if any
...	<-	RX02 (order execution)	To FCM: FLEX order execution report
...	<-	RX02 (clearing member order execution report)	To clearing member: FLEX order execution report
RX09	->	...	FLEX Quote input
...	<-	RX03(error)	FLEX Error report
...	<-	RX03(error)	FLEX Error report
RX09	->	...	FLEX Quote request
...	<-	RX02 (buy request reply)	FLEX Quote input report
...	<-	RX02 (sell request reply)	FLEX Quote input report
RX09	->	...	FLEX Quote request
...	<-	RX03(error)	FLEX Error report
...	<-	RX03(error)	FLEX Error report

In FLEX order and execution reports (RX02/RX03/RX08), the part_id information is transmitted to the Futures Commission Merchants (FCMs). This information allows FCMs to retrieve the last message sequence numbers for each partition group.

2.17 FLEX Order Input

If the L20 version is 0, the following FLEX order input-related messages are not accepted.

2.17.1 FLEX Order Input Single (RX01)

Message ID: 201

Description: FLEX Order input, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:201 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	Fill in MsgTypeExt with 1 to indicate single-leg order and input the product as a product serial number (numeric value). Fill in MsgTypeExt with 2 to indicate single-leg order and input

No.	Field	Data Type	Field Name	Remark
				<p>the product as a product symbol (text value).</p> <p>Fill in MsgTypeExt with 3 to indicate multi-leg order and input the product as a product serial number (numeric value).</p> <p>Fill in MsgTypeExt with 4 to indicate multi-leg order and input the product as a product symbol (text value).</p>
3	ExecType	char	Execution type	0: New, 4: Cancel, 5:Decrease, M or m:Modify Price, I: Query
4	cm_id	uint16	Clearing member ID	Enter clearing member ID ref: P06
5	fcm_id	uint16	FCM ID	ref: P06
6	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)
7	ord_id	uint32	Order serial No.	Enter the serial No. of order (maximally 7-digit number)
8	user_define	char [8]	FCM defined variable	When the trading system adds new order, deletes or changes order, it will automatically update this value in the order status

<< Product-related >> start

■ MsgTypeExt=1、2

9	sym	symbol_num_x: MsgTypeExt=1 symbol_txt_x: MsgTypeExt=2	Part product ID	
---	-----	--	-----------------	--

■ MsgTypeExt=3、4

No.	Field	Data Type	Field Name	Remark	
9-1	NoLeg	uint8	Number of legs	The content of the <<NoLeg>> related block will be modified accordingly based on this value.	
9-2	comb_op	uint8	ID of multi-leg order	When NoLeg=2: 1: Price spread(/) 2: Time spread(/) 3: Straddle(:) 4: Strangle(:) 5: Conversion(-) & Reversals(-)	
The number of repetitions below is determined by NoLeg					
/DEDEATA	9-3	leg_sym	symbol_num_x: MsgTypeExt=3 symbol_txt_x: MsgTypeExt=4	Product ID for one leg	
	9-4	leg_side	uint8	Buy/sell code for one leg	1: Buy, 2: Sell
	9-5	leg_qty	uint16	Quantity for one leg	
<< Product-related >> end					
10	Price	int32	Order price	Refer to Order Price	
11	qty	uint16	Order quantity		
12	investor_acno	uint32	Investor account No.		
13	investor_flag	char	Investor ID code		
14	Side	uint8	Buy/sell code	1:Buy, 2: Sell	
15	OrdType	uint8	Order type	1:Market, 2:Limit, 3:Market with Protection(MWP)	
16	TimeInForce	uint8	Order condition	FOK:4 IOC:3 ROD:0	
17	PositionEffect	char	Open/offset code	open:O (uppercase), close:C, daytrade:D	

No.	Field	Data Type	Field Name	Remark
				open & specified position offsets:A(Options Only) Offset by FCM:7
18	filler	uint8[12]	Reserved	
19	Checksum	uint8	Check sum	

2.17.2 FLEX Price inquiry input (RX07)

Message ID: 207

Description: FLEX Price inquiry input, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:207 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	Fill in MsgTypeExt with 1 to indicate single-leg order and input the product as a product serial number (numeric value). Fill in MsgTypeExt with 2 to indicate single-leg order and input the product as a product symbol (text value).
3	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)
4	ord_id	uint32	Order serial No.	Enter order serial No.
5	fcm_id	uint16	FCM ID	
<< Product-related >> start				
■ MsgTypeExt=1、2				
6	sym	symbol_num_x: MsgTypeExt=1 symbol_txt_x: MsgTypeExt=2	Part product ID	
<< Product-related >> end				
7	filler	uint8[8]		
8	Checksum	uint8	Check sum	

2.17.3 FLEX Quote input (RX09)

Message ID: 209

Description: FLEX Quote input, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:209 enter 0 for message sequence No. (MsgSeqNum)
	sub_hdr	sub_hdr_ext	Expanded Message Header	Fill in MsgTypeExt with 1 to indicate single-leg order and input the product as a product serial number (numeric value). Fill in MsgTypeExt with 2 to indicate single-leg order and input the product as a product symbol (text value).
2	ExecType	char	Execution type	0: New, 4: Cancel, 5: Decrease, I: Query, M or m: Modify Price
3	cm_id	uint16	Clearing member ID	Enter clearing member ID ref: P06
4	fcm_id	uint16	FCM ID	ref: P06
5	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)
6	ord_id	uint32	Order serial No.	Enter order serial No.
7	user_define	char [8]	FCM defined variable	When the trading system adds new order, or cancels or changes order, it will automatically update this value in order status
<< Product-related >> start				
■ MsgTypeExt=1、2				
	sym	symbol_num_x: MsgTypeExt=1 symbol_txt_x: MsgTypeExt=2	Part product ID	
<< Product-related >> end				
10	BidPx	int32	Buy order price	Refer to Order Price
11	OfferPx	int32	Sell order price	Refer to Order Price
12	BidSize	uint16	Buy quantity	
13	OfferSize	uint16	Sell quantity	
14	investor_acno	uint32	Investor account No.	
15	investor_flag	char	Investor ID code	

No.	Field	Data Type	Field Name	Remark
16	TimeInForce	uint8	Order condition	Order automatically deleted after a period of time: 8 Quote ROD:0
17	PositionEffect	char	Open/offset	9: Market maker quote
18	filler	uint8[12]		
19	Checksum	uint8	Check sum	

2.17.4 Request for supplementary FLEX group report message (RX40)

After receiving LX30, the FCM can operate starting from the end_out_bound_num (which represents the rpt_seq of the last group message before disconnection) received. The FCM then sends a request for FLEX group report messages, RX40, which includes request_start_seq. This request_start_seq is used to request TAIFEX to supplement messages starting from the next sequence number represented by that value (i.e., the FCM requests the supplementation of FLEX group messages from request_start_seq + 1 to end_out_bound_num).

Message ID: 240

Description: Request for supplementary FLEX group report message, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:240 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	Fill in MsgTypeExt with 0.
3	part_id	uint8	Partition ID	Please refer to Section 3.6
4	request_start_seq	uint32	The start message No. this time	(Enter 0 for “Clearing member order and execution report Line” and “TMPDC Session”)
5	Checksum	uint8	Check sum	

2.17.5 Temporary suspension of supplementary FLEX group report message (RX42)

If there is no longer a need to supplement data for a particular partition during the process of RX41 supplementation, the FCM can utilize RX42 to temporarily pause the supplementation. However, if there is no such requirement, there is no need to specifically transmit RX42.

Message ID: 242

Description: Temporary suspension of supplementary FLEX group report message, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:242 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	enter 0 for Expanded MessageType. (MsgTypeExt)
3	part_id	uint8	Partition ID	Please refer to Section 3.6
4	Checksum	uint8	Check sum	

2.17.6 FLEX Product Definition request message (RX19)

The Futures Commission Merchants (FCMs) can submit FLEX Product Definition requests through the “Order and Execution Report Line” using the RX19 message. TAIFEX will respond to these requests with the RX20 message.

Message ID: 219

Description: FLEX Product Definition request message, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark	If N, the field does not carry data. Can be filled with 0 or text 0.	
1	hdr	hdr	Common message header	Message ID:219 enter 0 for message sequence No. (MsgSeqNum)	Request	Query
2	sub_hdr	sub_hdr_ext	Expanded Message Header	enter 0 for Expanded MessageType. (MsgTypeExt)		
3	SecurityRequest Type	char	Type of Security Definition Request	1:Request 3:Query	Y	Y
4	SecurityReqID	uint32	Unique ID of a Security		Y	Y

			Definition Request			
5	type	char	Type	F: Futures, O: Options	Y	N
6	fcm_id	uint16	FCM ID	ref: P06	Y	Y
7	investor_acno	uint32	Investor account No.		Y	N
8	application_type	char	Application type	1: Trader's delegated application 2: Proprietary trader's self-application 3: FCM's self-application	Y	N
9	root_symbol	char[3]	Product ID	ref: XP09	Y	N
10	expiry_type	char	Expiry type	X: Flexible, European Style Exercise, Cash Settlement	Y	N
11	contract_date	char[8]	Contract date	(yyyymmdd)	Y	N
12	strike_price	uint32	Strike price	For options, refer to the decimal places of the same root symbol in XP09. For futures, fill in 0.	Y	N
13	call_put_code	char	Call/put option code	C:CALL, P:PUT; blank for futures	Y	N
14	filler	char[20]	Space		N	N
15	Checksum	uint8	Check sum		Y	Y

2.18 FLEX Order Status Report

The following FLEX order report-related messages are not allowed for reporting if the L20 version is 0.

2.18.1 FLEX Order status report (RX02)

Except for the filler, if there is a need to add additional fields in the future, it is generally recommended to add them before the Checksum field. The existing message fields should remain unchanged. Developers implementing the message should consider the possibility of receiving additional new fields and allow for the necessary flexibility.

Message ID: 202

Description: FLEX Order status report, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:202 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	The value of MsgTypeExt should be the same as the value entered in the order for the corresponding message type.
3	part_id	uint8	Partition ID	Please refer to Section 3.6
4	NoLeg	uint8	Number of legs	The value for a single-leg product is 1. The content of the <<NoLeg>> related block will be modified accordingly based on this value.
5	status_code	uint16	Status code	Enter 0 if normal
6	ExecType	char	Execution type	0:New, 4:Cancel, 5:Decrease, F: Execution report, M or m:Modify Price, I: Request 6: New and Execution report
7	cm_id	uint16	Clearing member ID	Enter clearing member ID ref: P06
8	fcm_id	uint16	FCM ID	ref: P06
9	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)

No.	Field	Data Type	Field Name	Remark
10	ord_id	uint32	Order serial No.	Enter order serial No.
11	user_defi ne	char [8]	FCM defined variable	When the trading system adds new order, cancels or changes order, it will automatically update this value in the order status

<<NoLeg>> section - Start

■ NoLeg = 1

12	sym	symbol_num_x: MsgTypeExt=1 symbol_txt_x:M sgTypeExt=2	Part product ID	
----	-----	--	-----------------	--

■ NoLeg > 1

12-1	comb_op	uint8	ID of multi-leg order	1: Price spread(/) 2: Time spread(/) 3: Straddle(:) 4: Strangle(:) 5: Conversion(-) & Reversals(-)
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The number of repetitions below is determined by NoLeg

/DEDEATA\	12-2	leg_sym	symbol_num_x: MsgTypeExt=3 symbol_txt_x: MsgTypeExt=4	Number of legs	
	12-3	leg_side	uint8	Buy/sell code for one leg	1: Buy, 2: Sell
	12-4	leg_px	int32	Execution price for one leg	Refer to <u>Order Price</u> (When status_code 48 for multi- leg options orders, it will be the upper or lower limit price of the corresponding leg product for dynamic price banding mechanism)
	12-5	leg_qty	uint16	Quantity executed for one leg	

<<NoLeg>> section - End

No.	Field	Data Type	Field Name	Remark
13	Price	int32	Order price	Refer to Order Price(For MWP, it is the price assigned by Matching Engine) (When status_code 48 for orders other than multi-leg options, it will be the upper or lower limit price of the product for dynamic price banding mechanism)
14	qty	uint16	Order quantity	
15	investor_acno	uint32	Investor account No.	
16	investor_flag	char	Investor ID code	
17	Side	uint8	Buy/sell code	1: Buy, 2: Sell
18	OrdType	uint8	Order type	1:Market, 2:Limit, 3:MWP
19	TimeInForce	uint8	Order condition	FOK:4 IOC:3 ROD:0 Quote automatically cancelled after a period of time:8
20	PositionEffect	char	Open/ offset	open: O, close: C, daytrade: D, Quote:9 open & specified position offsets: A (Options Only) Offset by FCM:7
21	LastPx	int32	Last execution price	Last execution price for execution report 0 for cancel/decrease order /modify price order
22	LastQty	uint16	Last quantity executed	Last execution quantity for execution report 0 for cancel/decrease order /modify price order
23	px_subtotal	int64	Cumulative weighted execution price	px_subtotal divided by CumQty is the average price per contract

No.	Field	Data Type	Field Name	Remark
24	CumQty	uint16	Total quantity executed	
25	LeavesQty	uint16	Remaining quantity	
26	before_qty	uint16	Remaining order quantity before match	
27	org_trans_time	msg_time_x	Original time of order input	
28	TransactTime	msg_time_x	Final time of change	Refer to: Time Format
29	target_id	uint8	Target ID	FCM: 4 Clearing member Order status report:8 or 18 Clearing member order execution report:9 or 19 Execution report including head office and branch offices:3 or 13
30	uniq_id	uint32	Unique ID	When target_id=3,4, it is a system unique No. (OrderID). The unique sequence number is part_id + uniq_id. When target_id=8, it is the order reply information. (cm_sub_seq) When target_id=9, it is the order match information. (cm_sub_seq)
31	rpt_seq	uint32	Report sequence No.	When target_id=4, it is session_seq. The unique sequence number is fcm_id + session_id + part_id + rpt_seq. When target_id=8 or 9, it is cm_seq When Target_id=3,it is report execution report including head office and branch office seq

No.	Field	Data Type	Field Name	Remark
32	rpt_session_id	uint16	Session ID	When target_id is 4, use the current session_id; When target_id is 3, 8, or 9; use the session_id of the original reporting session.
33	rpt_session_seq	uint32	Session serial No. (session_seq)	When target_id is 4, use the current session_seq; when target_id is 8 or 9, use the session_seq of the original reporting session.
34	filler	uint8[12]	Reserved	
35	CheckSum	uint8	Check sum	

2.18.2 FLEX Error Report (RX03)

Except for the filler, if there is a need to add additional fields in the future, it is generally recommended to add them before the Checksum field. The existing message fields should remain unchanged. Developers implementing the message should consider the possibility of receiving additional new fields and allow for the necessary flexibility.

Message ID: 203

Description: FLEX Error Report, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID: 203 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	For unexpected error records, set MsgTypeExt to 255. For normal error records, set MsgTypeExt to the same value as the input order.
3	part_id	uint8	Partition ID	Please refer to Section 3.6
4	OriMessageType	uint8	Original message code	
5	status_code	uint16	Status code	Refer to Error Message Table
6	ExecType	char	Execution type	0:New, 4:Cancel, 5:Decrease, M or m:Modify price, F: Execution report, I: Request
7	fcm_id	uint16	FCM ID	

No.	Field	Data Type	Field Name	Remark
8	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)
9	ord_id	uint32	Order serial No.	
10	user_define	char [8]	FCM defined variable	
11	rpt_seq	uint32	Report sequence No.	Session serial No.(session_seq) Combine part_id with rpt_seq for identification.
12	Side	uint8	Buy/sell code	1: Buy, 2: Sell
13	filler	uint8[12]	Reserved	
14	Checksum	uint8	Check sum	

2.18.3 FLEX Price inquiry reply (RX08)

Except for the filler, if there is a need to add additional fields in the future, it is generally recommended to add them before the Checksum field. The existing message fields should remain unchanged. Developers implementing the message should consider the possibility of receiving additional new fields and allow for the necessary flexibility.

Message ID: 208

Description: FLEX Price inquiry reply, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:208 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	MsgTypeExt will be the same as the original input for RX07.
3	part_id	uint8	Partition ID	Please refer to Section 3.6
4	status_code	uint16	Status code	Enter 0 for normal status
5	order_no	char [5]	Order No.	(All 5 characters can be alphanumeric.)
6	ord_id	uint32	Order serial No.	Enter order serial No.
7	fcm_id	uint16	FCM ID	
<< Product-related >> start				

No.	Field	Data Type	Field Name	Remark
8	sym	symbol_num_x: MsgTypeExt=1 symbol_txt_x: MsgTypeExt=2	Part product ID	
<< Product-related >> start				
9	filler	uint8[8]		
10	CheckSum	uint8	Check sum	

2.18.4 Send FLEX group report resend message (RX41)

If the FLEX group sequence number (request_start_seq + 1) is greater than or equal to the end_out_bound_num, TAIFEX will send an RX41 supplementary FLEX group report message with a file_size of 0, indicating that no messages need to be resent. However, if the request_start_seq + 1 is less than the end_out_bound_num, TAIFEX will use the data field of RX41 to send the group report messages within that range. If the amount of data to be resent exceeds the maximum data capacity of a single RX41 message, TAIFEX will split it into multiple RX41 messages for transmission.

Message ID: 241

Description: Send FLEX group report resend message, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID: 241 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	MsgTypeExt will be the same as the original input for RX40.
3	status_code	uint16	Status code	Refer to Error Message Table
4	part_id	uint8	Partition ID	Please refer to Section 3.6
5	is_eof	uint8	End-of-file symbol	0:No, 1: End of file

6	file_size	uint32	Total length of file sent	
7	data	uint8 [hdr.msg_length-15-14]	Data	Data contain all message between request_start_seq+1 and end_out_bound_num
8	Checksum	uint8	Check sum	

2.18.5 FLEX Product Definition message (RX20)

Message ID: 220

Description: FLEX Product Definition message, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID: 220 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	The MsgTypeExt field in the response message (RX20) will be the same as the value provided in the RX19 message.
3	SecurityRequestType	char	Type of Security Definition Request	1: Request 3: Query
4	SecurityReqID	uint32	Unique ID of a Security Definition Request	
5	status_code	uint16	Status code	Refer to Error Message Table
6	Checksum	uint8	Check sum	

2.19 Clearing Member FLEX Order Execution Report

Clearing members have the option to apply for the TMP protocol-based clearing member order and trade reporting line to receive order and trade data from executing FCMs, both for regular trading and FLEX trading.

By receiving and processing this data, clearing members can perform the necessary clearing and settlement processes for executed trades on behalf of the executing FCMs.

2.19.1 FLEX Data transmission route

Downline FCM order and execution report for FLEX trading(RX15 target_id=8/3/9):

The FLEX trading report transmission depends on RX15's target_id, determining whether it sends to the head office, branch offices or downline FCM.

target_id=8	Downline FCM order and execution report for FLEX trading	
target_id=3	Execution report including head office and branch offices for FLEX trading	The content of uniq_id is session_seq; original report session_id stored in rpt_session_id field.
target_id=9	Downline FCM execution report for FLEX trading	

2.19.2 Clearing member initiate FLEX operation message (RX15)

Message ID: 215

Description: Clearing member initiate FLEX operation message, CM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	Hdr	Common message header	Message ID:215 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	Fill in MsgTypeExt with 0 to indicate the same product as the original order input. Fill in MsgTypeExt with 1 to indicate single-leg order and input the product as a product serial number (numeric value). Fill in MsgTypeExt with 2 to indicate single-leg order and input the product as a product symbol (text value).
3	part_id	uint8	Partition ID	Please refer to Section 3.6
4	member_id	uint16	Member id	cm_id If target id = 8 fcm_id If target id = 3
5	target_id	uint8	Target ID	8: Clearing member order and execution for FLEX trading, reply format:RX02 3: Execution report including head office and branch offices for FLEX trading, reply format:RX02 9: Clearing member execution for FLEX trading, reply format:RX02

6	req_cm_seq	uint32	Request report start No.	Correspond to the field of rpt_seq (cm_seq) in RX02 target_id=8, request downline FCM order and execution report seq number for FLEX trading target_id=3, request execution report including head office and branch offices seq num for FLEX trading target_id=9, request downline FCM execution report seq number for FLEX trading
7	Checksum	uint8	Check sum	

2.19.3 Clearing member initiate FLEX operation confirmed message(RX16)

Except for the filler, if there is a need to add additional fields in the future, it is generally recommended to add them before the Checksum field. The existing message fields should remain unchanged. Developers implementing the message should consider the possibility of receiving additional new fields and allow for the necessary flexibility.

Message ID: 216

Description: Clearing member initiate FLEX operation confirmed message, TAIFEX -> CM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:216 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	MsgTypeExt will be the same as the original input for RX15.
3	part_id	uint8	Partition ID	Please refer to Section 3.6
4	status_code	uint16	Status code	Refer to Error Message Table
5	member_id	uint16	Member id	cm_id If Target id = 8 or 9 fcm_id If Target id = 3
6	target_id	uint8	Target ID	8: Clearing member order and execution for FLEX trading, reply format:RX02 3: Execution report including head office and branch offices for FLEX trading, reply format:RX02 9: Clearing member execution for FLEX trading, reply format:RX02
7	req_cm_seq	uint32	Report start No.	Correspond to the field of rpt_seq (cm_seq) in RX02 target_id=8, request downline FCM order and execution report seq number for FLEX trading

				target_id=3, request execution report including head office and branch offices seq num for FLEX trading target_id=9, request downline FCM execution report seq number for FLEX trading
8	filler	uint8[16]	Reserved	
9	Checksum	uint8	Check sum	

2.19.4 Clearing member FLEX order status report(orders)

The clearing member FLEX order status report uses the order status report format (RX02), only the field target_id=8 and its data content differs from that of the FCM FLEX order status report. The clearing member order status report does not contain error messages nor order status requests for FLEX trading, thereby having less sets of data.

2.19.5 Clearing member FLEX order status report(quotes)

The clearing member FLEX quote status report also uses the orders status report format (RX02), but with the field target_id=8. When the downline FCM places a quote, it includes a bid and an offer that can be executed separately. Thus for a FLEX quote, TAIFEX will respond with two order status reports (one for the bid and one for the offer) and the CM will receive two FLEX order status reports for a FCM quote (one for bid quote and one for offer quote) that have the same format as a regular order status report.

2.19.6 Clearing member FLEX order execution report (single)

The clearing member FLEX order execution report uses the order status report format (RX02), only the field target_id=9 and its data content differs from that of a FCM order execution report. The clearing member order execution report does not contain error messages nor FLEX order status request, thereby having less sets of data.

if target_id=3, FLEX execution report including head office and branch office

RX02 example:

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:202 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	MsgTypeExt will be the same as the original order input.
3	part_id	uint8	Partition ID	Please refer to Section 3.6

No.	Field	Data Type	Field Name	Remark
Omitted...				
29	target_id	uint8	Target ID	FCM: 4 Clearing member Order status report:8 Clearing member order execution report:9 Execution report including head office and branch office:3
30	uniq_id	uint32	Unique ID	When target_id=3,4, it is a system unique No. (OrderID). The unique sequence number is part_id + uniq_id. When target_id=8, it is the order reply information. (cm_sub_seq) When target_id=9, it is the order match information. (cm_sub_seq)
31	rpt_seq	uint32	Report sequence No.	When target_id=4, it is session_seq; When target_id=8 or 9, it is cm_seq When Target_id=3,it is report execution report including head office and branch office seq
32	rpt_session_id	uint16	Session ID	When target_id is 4, use the current session_id; When target_id is 3, 8, or 9; use the session_id of the original reporting session.
33	rpt_session_seq	uint32	Session serial No. (session_seq)	When target_id is 4, use the current session_seq; when target_id is 3 or 8 or 9, use the session_seq of the original reporting session.
Omitted...				

For the same data type (e.g., target_id=8, target_id=9, target_id=3), if the report sequence No. and Partition ID are identical, the content is the same (RX02 report format).

2.20 Drop Copy Service for FLEX trading (TMPDC Session)

Taifex launches TMPDC Session to transfer FLEX order reply data(drop copies) of TMP, FIX4.4 and FIX4.2 Session. Brokers can get drop copies from TMPDC Session during Taifex Services time. Each TMPDC Session can map to a dedicated FLEX order Session.

2.20.1 TMPDC initiate FLEX operation message(RX15)

Message ID: 215

Description: TMPDC initiate FLEX operation message, FCM -> TAIFEX

No.	Field	Data Type	Field Name	Remark
1	hdr	Hdr	Common message header	Message ID:215 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	Fill in MsgTypeExt with 0 to indicate the same product as the original order input. Fill in MsgTypeExt with 1 to indicate single-leg order and input the product as a product serial number (numeric value). Fill in MsgTypeExt with 2 to indicate single-leg order and input the product as a product symbol (text value).
3	part_id	uint8	Partition ID	Please refer to Section 3.6
4	fcm_id	uint16	FCM ID	
5	target_id	uint8	Target ID	target_id =7:RX02 (target_id 7 only can be used in TMPDC Session)
6	req_cm_seq	uint32	Request report start No.	Correspond to the field of rpt_seq (cm_seq) in RX02 target_id=7, request seq number of drop copies
7	Checksum	uint8	Check sum	

2.20.2 TMPDC initiate FLEX operation confirmed message (RX16)

Except for the filler, if there is a need to add additional fields in the future, it is generally recommended to add them before the Checksum field. The existing message fields should remain unchanged. Developers implementing the message should consider the possibility of receiving additional new fields and allow for the necessary flexibility.

Message ID: 216

Description: TMPDC initiate FLEX operation confirmed message, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:216 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	MsgTypeExt will be the same as the original input for RX15.
3	part_id	uint8	Partition ID	Please refer to Section 3.6
4	status_code	uint16	Status code	Refer to Error Message Table
5	fcm_id	uint16	FCM ID	
6	target_id	uint8	Target ID	target_id =7:RX02 (target_id 7 is valid only in TMPDC Session)
7	req_cm_seq	uint32	Report start No.	Correspond to the field of rpt_seq (cm_seq) in RX02 target_id=7, request FCM reply data seq number
8	filler	uint8[16]	Reserved	
9	CheckSum	uint8	Check sum	

2.20.3 TMPDC FLEX order status report (RX02)

RX02 example:

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:202 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	MsgTypeExt will be the same as the original order input.
3	part_id	uint8	Partition ID	Please refer to Section 3.6
4	NoLeg	uint8	Number of legs	The value for a single-leg product is 1. The content of the <<NoLeg>> related

No.	Field	Data Type	Field Name	Remark
				block will be modified accordingly based on this value.
5	status_code	uint16	Status code	
6	ExecType	char	Execution type	0:New, 4:Cancel, 5:Decrease, F:Execution report, M or m:Modify Price, 6: New and Execution report
Omitted...				
29	target_id	uint8	Target ID	<u>TMPDC: 7</u>
30	uniq_id	uint32	Unique ID	The unique sequence number is part_id + uniq_id.
31	rpt_seq	uint32	Report sequence No.	<u>Order session rpt_seq</u>
Omitted...				

2.20.4 TMPDC FLEX Error report(RX03)

RX03 example:

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	Message ID:203 enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	Unexpected Error Record, set MsgTypeExt to 255 Normal Error Record, set MsgTypeExt to the same value as the input order
3	part_id	uint8	Partition ID	Please refer to Section 3.6
4	OriMessageType	uint8	Original message code	
5	status_code	uint16	Status code	Refer to Error Message Table
Omitted...				

No.	Field	Data Type	Field Name	Remark
11	rpt_seq	uint32	Report sequence No.	Order Session rpt_seq
12	Side	uint8	Buy/sell code	1: Buy, 2: Sell
13	filler	uint8[12]	Reserved	
14	Checksum	uint8	Check sum	

2.21 File Transfer and Bulletin for FLEX trading

Single messages and file transfers between TAIFEX and a FCM can be initiated through FLEX bulletin messages.

2.21.1 Transmission agreement

1. TAIFEX sends FLEX bulletin message

When TAIFEX has FLEX bulletin news for a FCM, TAIFEX will initiate a RX14 message to the FCM.

FCM's actions:

- If a FCM receives a RX14 message in which the bulletin_seq is other than 0, the FCM can read the FLEX bulletin news from the data field.

2. TAIFEX sends FLEX file ready notice

After TAIFEX has prepared a FLEX file and wants to notify a FCM, TAIFEX will initiate a RX14 message to the FCM.

FCM's actions:

- If a FCM receives a RX14 message in which the bulletin_seq is 0, meaning it is a FLEX file ready notice, the FCM can learn the file name from the data field and download the file from the TAIFEX sftp server.

3. FCM requests FLEX file

- If a FCM likes to request a certain FLEX file, the FCM can initiate a RX13 message to TAIFEX and enter 0 for bulletin_req_id.
- After the FLEX file is ready and normal, TAIFEX will respond with a RX14 message.
- If exceptional circumstances occur, TAIFEX will respond with a RX14 message and enter error status_code. The FCM then should take action according to the status_code.

To prevent transfer too much data which caused by too much request, the RX13 can only successful once per 10 seconds, and reply status_code 121 when request failed.

Message transfer direction diagram:

FCM requests FLEX file - normal circumstances

FCM	Direction	TAIFEX	Remark
RX13	->	...	
...	<-	RX14	

FCM requests FLEX file - exceptional circumstances

FCM	Direction	TAIFEX	Remark
RX13	->	...	
...	<-	RX14	Error status_code

TAIFEX sends a FLEX bulletin message or a file ready notice

FCM	Direction	TAIFEX	Remark
...	<-	RX14	

2.21.2 FLEX Bulletin request (RX13)

Message ID: 213

Description: FCM uses this message to request FLEX file from TAIFEX, FCM -> TAIFEX
One session only can request one RX13 request in 10 seconds.

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	Fill in MsgTypeExt with 0.
3	fcm_req_id	uint32	FCM request No.	FCM-defined No. Please do not use 0.
4	bulletin_req_id	uint32	Bulletin request No.	Currently only file request is allowed, which has a value of 0
5	system_type	uint8	System type	10: Options (the second digit is 0 during regular market hours)

No.	Field	Data Type	Field Name	Remark
				20: Futures (the second digit is 0 during regular market hours) 11: Options (the second digit is 1 during after-market hours) 21: Futures (the second digit is 1 during after-market hours)
6	data	char [hdr.msg_length -15-15]	Bulletin data	This field has variable length; refer to the definition of data field in RX13 for each file when FCM requests a file.
7	Checksum	uint8	Checksum	

2.21.3 FLEX Bulletin report (RX14)

Message ID: 214

Description: FLEX bulletin news and file ready notice, TAIFEX -> FCM

No.	Field	Data Type	Field Name	Remark
1	hdr	hdr	Common message header	enter 0 for message sequence No. (MsgSeqNum)
2	sub_hdr	sub_hdr_ext	Expanded Message Header	For an RX14 generated in response to an RX13 request, set MsgTypeExt to the same value as the input RX13. For all other situations, set MsgTypeExt to 0.
3	status_code	uint16	Status code	Refer to Error Message Table
4	fcm_req_id	uint32	FCM request No.	FCM-defined No., which corresponds to fcm_req_id in RX13. When TAIFEX initiates a file ready notice, its value is 0.
5	bulletin_seq	uint32	Bulletin No.(key value)	1. For file ready notice, its value is 0. 2. In case of a bulletin message, its value is other than 0.
6	bulletin_time	msg_time_x	Bulletin or file generation time	Refer to: Time Format
7	system_type	uint8	System type	10: Options (the second digit is 0 during regular market hours) 20: Futures (the second digit is 0 during regular market hours) 11: Options (the second digit is 1 during after-market hours)

No.	Field	Data Type	Field Name	Remark
				21: Futures (the second digit is 1 during after-market hours)
8	data	char [hdr.msg_length-15-25]	Bulletin information	This field has variable length. Refer to the definition of data field in RX14 for each file. If the RX13 message has errors, fill this field with the original RX13 data content.
9	Checksum	uint8	Checksum	

See [3.8 File Transfer](#) for file transfer.

2.21 FLEX block trade

● FLEX negotiated block trade (FLEX NBT)

FLEX negotiated block trading system is built on Futures trading system, so client should use Futures system connection to send and receive FLEX negotiated block trade data. Each message and file generated for FLEX trading will with Futures system_type.

➤ Trading process:

1. Get contract and product information through XP09 (contract definition file) and XP08 (Product and Time Flow Group Definition File) FLEX files.
2. Designated FCM use TMP RX13 to send FLEX negotiated block trade register file message (XB21) to TAIFEX system. (When the buying and selling traders belong to different futures commission merchants, they shall designate one futures commission merchant to represent them to register this trade.)
3. After processing by TAIFEX system, according to processing result, TAIFEX system will generate FLEX negotiated block trade register report file (XB22), and use RX14 message to notify all participant FCM.
4. When FCM receive XB22 message, FCM should use TMP RX13 to send FLEX negotiated block trade confirm input message (XB31) to TAIFEX system in 10 minutes.
5. After processing by TAIFEX system, according to processing result, TAIFEX system will generate FLEX negotiated block trade confirm report file (XB32), and use RX14 message to notify FCM.
6. At the same time, TAIFEX will generate FLEX negotiated block trade confirm report file – clearing member (XB35) for clearing member, and use RX14 message to notify CM.
7. When all of the participants have already confirmed trading data by XB31. TAIFEX will do some check:
 - (1) If check OK. This negotiated block trade is success. TAIFEX system will generate FLEX negotiated block trade execution report file (XB52), and use RX14 message to notify all participant FCM. At the same time, generate FLEX negotiated block trade execution report file - clearing member (XB55), and use RX14 message to notify all CM.
 - (2) If check fail. This FLEX negotiated block trade is failed. TAIFEX system will generate FLEX negotiated block trade error execution report file (XB53), and use RX14 message to notify all participant FCM. At the same time, generate FLEX negotiated block trade error execution report file – clearing member (XB55), and use RX14 message to notify all CM.
8. If TAIFEX system wait 10 minutes and not all FCMs have sent confirm FLEX message XB31 success. This FLEX negotiated block trade is also failed. TAIFEX system will generate FLEX negotiated block trade error execution report file (XB53), and use RX14 message to notify all

participant FCM. At the same time, generate FLEX negotiated block trade error execution report file - clearing member (XB55), and use RX14 message to notify all CM.

➤ **Cancel process:**

FLEX negotiated block trade can be canceled during the register and confirm process. Only Designated FCM can make a cancel command.

1. Designated FCM use TMP RX13 to send FLEX negotiated block trade register file message (XB21) with ExecType='4' to TAIFEX system.
2. After processing by TAIFEX system and this trade is canceled, TAIFEX system will generate FLEX negotiated block trade register report file (XB22), and use RX14 message to notify Designated FCM. At the same time, will generate FLEX negotiated block trade error execution report file (XB53), and use RX14 message to notify all participant FCM.
3. If this FLEX negotiated block trade has any confirm report message already send to clearing member, TAIFEX will generate FLEX negotiated block trade error execution report file - clearing member (XB55), and use RX14 message to notify the CM.

➤ **Query process:**

FCM can query the status of a FLEX negotiated block trade.

1. FCM use TMP RX13 to send FLEX negotiated block trade register file message (XB21) with ExecType='I' to TAIFEX system.
2. TAIFEX system will generate FLEX negotiated block trade register report file (XB22), to FCM with status code. Possible status_code include: Block trade ID does not exist (162), Negotiated block trade success (163), Negotiated block trade fail (164), Negotiated block trade cancelled (165), Negotiated block trade wait FCM to confirm order (166).

➤ **Confirm data cancel process:**

When FLEX negotiated block trade in the status of waiting FCM to confirm order, FCM can cancel its confirmed input XB31.

1. FCM use TMP RX13 to send FLEX negotiated block trade confirm input message (XB31) with ExecType='4' to TAIFEX system.
2. After processing by TAIFEX system and confirm order is canceled, TAIFEX system will generate FLEX negotiated block trade confirm report file (XB32), and use RX14 message to notify FCM. At the same time, will generate FLEX negotiated block trade confirm report file - clearing member (XB35), and use RX14 message to notify its CM.

FLEX related message and file format please refer to section 2.21.

● **FLEX Block Trade Session Report Rule Description**

TAIFEX FLEX block trade use TMP RX14 or FIX Email(MsgType:C) message to report executions, and use TMP RX13 or FIX Email(MsgType:C) message to input the FLEX block trade order. If the session wants to get FLEX block trade executions, it should be applied proactive notification. The FLEX NBT input session is not necessary to apply proactive notification, but the participants FCM session need to apply it.

➤ **FLEX Negotiated Block Trade**

Order Input Source	Order Input Type	Report Type	FCM	RX14 Report Session
TMP/FIX	XB21	XB21		Designated FCM XB21 input session

Order Input Source	Order Input Type	Report Type	FCM	RX14 Report Session
NBT_WEB	XB21	XB21		Broadcasting to Designated FCM XB21 input session. If the Designated FCM XB21 input session is not existed, then it will be broadcasted to Designated FCM head office session.
TMP/FIX	XB21	XB22	The first four characters of participant FCM NO is the same as the first four characters of Designated FCM NO.	Designated FCM XB21 input session
TMP/FIX	XB21	XB22	The first four characters of participant FCM NO is not the same as the first four characters of Designated FCM NO.	Broadcasting to all participants FCM session. If the participants FCM session is not existed, then it will be broadcasted to the participants FCM head office session.
NBT_WEB	XB21	XB22		Broadcasting to all participants FCM session. If the participants FCM session is not existed, then it will be broadcasted to the participants FCM head office session.
TMP/FIX	XB21	XB23		Designated FCM XB21 input session
NBT_WEB	XB21	XB23		Broadcasting to Designated FCM XB21 input session. If the Designated FCM XB21 input session is not existed, then it will be broadcasted to Designated FCM head office session.
TMP/FIX	XB31	XB31 XB32 XB33 XB52 XB53		XB31 input session
NBT_WEB	XB31	XB31 XB32 XB33 XB52 XB53		Broadcasting to the XB31 input session. If the XB31 input session is not existed, then it will be broadcasted to that FCM head office session.
TMP/FIX NBT_WEB	XB31	XB35		Broadcasting to the CM Session. If the CM session is not existed, then it will be broadcasted to CM head office session.

Order Input Source	Order Input Type	Report Type	FCM	RX14 Report Session
TMP/FIX	XB21	XB53	<u>The participant FCM is not inputted XB31</u> , and the first four characters of participant FCM NO is the same as the first four characters of Designated FCM NO.	Designated FCM XB21 input session
TMP/FIX	XB21	XB53	<u>The participant FCM is not inputted XB31</u> , and the first four characters of participant FCM NO is not the same as the first four characters of Designated FCM NO.	Broadcasting to the participant FCM Session. If the participant FCM session is not existed, then it will be broadcasted to participant FCM head office session.
NBT_WEB	XB21	XB53	<u>The participant FCM is not inputted XB31</u>	Broadcasting to the participant FCM Session. If the participant FCM session is not existed, then it will be broadcasted to participant FCM head office session.
TMP/FIX NBT_WEB	XB31	XB55		Broadcasting to the CM Session. If the CM session is not existed, then it will be broadcasted to CM head office session.

3. Appendices

3.1 Time Format

Time in the field epoch_s represents the number of seconds from 1970/01/01 0:0 up to now (GMT+0). The field ms is 1/1000 sec.

Ex.: epoch_s=1205549144, ms=123 means “Sat Mar 15 10:45:44.123 2008 (GMT+8)”.

Ref: <http://www.epochconverter.com>

3.2 Order No.

When generating the ord_no, FCMs need to be cautious. In the regular trading system, the combination of fcm_id + ord_no serves as a unique identifier, ensuring that regular orders, quote orders, and inquiry orders do not have duplicate numbers. However, in the FLEX trading system, the uniqueness of the identifier is determined by considering the part_id, where part_id + fcm_id + ord_no forms the unique identifier within the FLEX trading system.

When assigning ord_id, FCMs should heed that ord_id is used for asynchronous order and report messages.

3.3 Error Message Table

3.3.1 Error Codes

No.	Content	FCM's Action
0	Succeed	Input the next message
1	Trading time over	End the trading subsystem
2	Order acceptance not yet started or trading halt or order not yet accepted during receiving order stage	Input later(e.g. MWP is not accepted during receiving order stage)
3	Price quote not yet accepted	Input later
4	In processing, no order accepted for the time being	Input later
5	No such order no.	Check and correct the term or order No.
6	Order or quote filled	Check transaction reply
7	Order or quote cancelled	Check the day's order data of client
8	Stop order	Order is restricted for the commodity
9	Order limit	Only offset order may be placed for the commodity
10	Order not in the book; cancel or decrease or modify not allowed	Check transaction reply
11	ExecType error	Check and correct ExecType

No.	Content	FCM's Action
12	Broker ID error	Check and correct FCM ID
13	Branch No. error	Check and correct branch No.
14	1. Investor Acct No. error 2.The investor account is not opened in NBT.	Check and correct investor's account number
15	Investor ID code error	Check and correct investor's ID code
16	Reject delete or modify order during non-cancel period	Re-enter the order later
17	Duplicate order No. or quote No.	Check and correct order No.
18	Order No. or quote No. error	Check and correct order No.
19	The same side order not exist	Reject the MWP order, re-enter the order when the same side order exist
20	Product ID error	Check and correct Product ID
21	Exceeding rise/fall limit	Check and correct order price
22	Order quantity error	Check and correct order quantity
23	Price inquiry not accepted yet, or price is at rise/fall limit, price inquiry not accepted	Input later
24	Buy-sell error	Check and correct buy-sell code
25	OrdType error	Check and correct OrdType (e.g. "NBT" and "option combination order" is not allowed with MWP)
26	Order type and price not matched	Check and correct order type or order price
27	TimeInForce error	Check and correct TimeInForce
28	PositionEffect error	Check and correct PositionEffect code
29	Price and tick size not matched	Check and correct the order price
30	Product expired	Check and correct ordered commodity
31	Broker ID, product group, and market maker's account No. inconsistent	Check and correct the product group or market maker's account number
32	Decrease successful, but the change requested is greater than the unfilled part that can be decreased of the original order. This is a warning.	Change order quantity to the limited minimum quantity if there is minimum quantity limit, or change order quantity to 0 (treated as cancel)
33	Quoted bid/ask price may not exceed the spread limit of the product	Check and correct the quote price
34	Bid price exceeding ask price	Check and correct order price
35	The remaining quantity of the unmodified side is zero (single-side quote order modification)	Requote.
36	The unfilled part of the one-way quote is less than the minimum quantity limit	Check and correct order quantity
37	Price inquiry already present; new inquiry not accepted	Send price inquiry later
38	Market order(and MWP) does not accept ROD	Check and correct the order type or order condition

No.	Content	FCM's Action
39	Decrease quantity error	Check and correct Decrease quantity (for FIX)
40	Price error (single-side quote order modification)	Check and correct quote price
41	Settlement month error	Check and correct settlement year and month
42	Strike price error	Check and correct strike price
43	Clearing member ID error	Check and correct clearing member's ID
44	order_source error	Check and correct order_source
45	info_source error	Check and correct info_source
46	Disable kill switch operation error	Specified kill switch operation does not exist, check and update the kill switch disable command
47	Reject the leaves quantity due to the simulated matched price reached the upper (lower) limit of the dynamic price banding.	The status presented in the last reply message of a transaction.
48	Status 48 means this report will disclose the upper or lower limit price of dynamic price banding when leaves quantity rejected due to the simulated matched price reached the upper (lower) limit of the dynamic price banding.	It will be send after reject leaves quantity by Taifex's dynamic price banding. Price or leg_px field will be filled by upper or lower limit price and other fields will be 0.
51	FOK not filled and deleted by system	
52	IOC is partially filled	
53	IOC not filled and deleted by system	
54	Delete the order because of COD	Investor can decide whether to replace the order
61	Buy/sell code of cancel/decrease order not matching original order	Check and change buy/sell code
62	Product ID of cancel/decrease order not matching original order	Check and correct Product ID
63	Modify price of IOC order not allowed	Check the day's order data of client
64	Order partially traded, modify to market FOK order or MWP FOK order is not allowed	Check transaction reply
65	Kill switch in operation, the order execution type is not allowed	Input later
77	No such contract	Check if the contract is valid
78	Order of this contract is restricted for this account-code	Order of this contract is restricted for this account-code
79	Order deleted due to trading suspension or order acceptance before collective bidding	Investor can decide whether to replace the order
80	FCM is not yet approved to trade this product or execute the function	Check and correct the product ordered or change the message
89	Too many errors	Call TAIFEX
91	MESSAGE TIME OUT	Return to Link Subsystem to reconnect or enter the off-line state.

No.	Content	FCM's Action
92	MESSAGE LENGTH ERROR	Check the input message.
93	MESSAGE FORMAT ERROR	Check the input message.
99	Major error	Order cannot be input, call TAIFEX
110	Illegal file code	Wrong file code requested, go back to the beginning of transmission subsystem
113	Wrong file request range	Wrong file request range, continue on to the next operation
114	File is not ready	File requested is not ready, continue on to the next operation
117	File is ready but empty	File requested is empty, continue on to the next operation
120	File not found for broker	The FCM file is not found, continue on to the next operation
121	Illegal time to get file	Wrong time for requesting file, continue on to the next operation
150	fcm_unique_id or serial no duplicate	Check fcm_unique_id field value of R13/RX13 message, or serial no in the data field in messages.
151	Product can not block trade	Check and correct Product ID
152	Block trade order quantity error	Check and correct order quantity
153	Invalid prod_count	Check and correct prod_count in combine product block trade order
154	prod_count is not match with the number of legs in a block trade order	Check and correct prod_count and the number of rows in a block trade order
155	invalid fcm_unique_id or serial no	Check and correct fcm_unique_id in TMP R13/RX13 message, or serial no in the data field in messages.
156	Block trade ID duplicate	Check and correct Block trade ID of B21/XB21
157	Invalid Block trade ID	Check and correct Block trade ID of B21/XB21
158	Invalid participant_fcm_count	Check and correct participant_fcm_count of B21/XB21
159	participant_fcm_count is not consistent with participant_fcm_id list	Check and correct participant_fcm_count and participant_fcm_id list
160	participant_fcm_id error	Check and correct participant_fcm_id of B21/XB21
161	Invalid prod_count	Check and correct prod_count of B21/XB21
162	Block trade ID does not exist	Check Block trade ID of B21/XB21
163	Negotiated block trade success	
164	Negotiated block trade fail	
165	Negotiated block trade cancelled	
166	Negotiated block trade wait FCM to confirm order	

No.	Content	FCM's Action
167	fcid not matching represent FCM	Check and correct fcm_id
168	symbol_type error	Check and correct symbol_type
169	Invalid order_count of negotiated block trade confirm input	Check and correct order_count of B31/XB31
170	number of orders in B31/XB31 is not consistent with order_count field	Check and correct order_count and orders of B31/XB31
171	Negotiated block trade is not in the status of waiting for confirm input	
172	investor_acno duplicate in negotiated block trade confirm input	Check and correct investor_acno of B31/XB31
175	Negotiated block trade timed out	Negotiated block trade fail, please make a trade again.
176	The confirm input data is not consistent with B21/XB21 registered data	Negotiated block trade fail, please make a trade again.
177	Negotiated block trade beyond the position limit	Negotiated block trade fail, please check position
186	Illegal source id	Logon FCM ID is inconsistent with the FCM ID for file request, continue on to the next operation
200	Significant system time error. This is a warning.	Could be due to network delay or inaccurate system time. Adjust the system time or use more precise time calibration system
201	"append_no" ERROR	Pay attention to the "append_no"
202	"fcid" ERROR	Pay attention to the "fcid"
203	"ap_code" ERROR	Pay attention to the "ap_code"
204	"key_value" ERROR	Pay attention to the "key_value"
205	"session_id" ERROR	Pay attention to the "session_id"
206	"system_type" ERROR	Pay attention to the "system_type"
207	"MsgSeqNum" ERROR	Pay attention to the "MsgSeqNum"
208	"target_id" ERROR	Pay attention to the "target_id"
209	flow_group_no ERROR	Pay attention to the "flow_group_no"
210	SubscriptionRequestType ERROR	Pay attention to the "SubscriptionRequestType"
220	MsgTypeExt ERROR	Pay attention to the "MsgTypeExt"
221	part_id ERROR	Pay attention to the "part_id"
240	session exceeds the flow limit	Return to Link Subsystem
241	a session exceeds flow limit continuously, system will lock this session for a period of time.	Use another session to place order
242	The difference between msg_time of R01/R31/RX01 and TAIFEX trading system's R01/R31/RX01 receiving time is larger than "cancel_order_sec" value. This order will be rejected.	Could be due to network delay or inaccurate system time. Please check the condition.

No.	Content	FCM's Action
	TAIFEX will not check status_code=242 when ExecType=4.	
248	session reach 80% of the flow limit. This is a warning.	Pay attention to the order input speed
249	session reach 90% of the flow limit. This is a warning.	Pay attention to the order input speed
250	The difference between msg_time of R01/R31/RX01 and TAIFEX trading system's R01/R31/RX01 receiving time is larger than 2 seconds. This is a warning.	Could be due to network delay or inaccurate system time. Please check the condition.
300	The FLEX contract has been resubmitted.	
301	Due to undetermined OI for today, please submit the FLEX contract application after OI confirmation.	
302	The FLEX contract is listed for trading.	
303	Incorrect expiration date for the FLEX contract.	
304	Duplicate unique ID of a security definition request for the FLEX contract.	Check and correct SecurityReqID of RX19.
305	Exceeding the FLEX contract limit.	For quota increase, call the TAIFEX Trading Department.
306	No record of successful FLEX contract application was found.	
310	Non-flexible contract application period.	
311	The proprietary trading account has not been approved to apply for FLEX contracts.	
312	The FCM account has not been approved to apply for FLEX contracts.	
313	Incorrect coverage range for the FLEX contract.	
314	Invalid strike_price for the FLEX contract.	
315	Invalid SecurityRequestType for the FLEX contract.	Check and correct SecurityRequestType of RX19.
316	Invalid application type for the FLEX contract.	Check and correct application_type of RX19.
317	Invalid type for the FLEX contract.	Pay attention to the "type"
318	"expiry_type" ERROR	Pay attention to the "expiry_type"
319	"call_put_code" ERROR	Pay attention to the "call_put_code"

When following error condition of block trade occur, system will reply R14/RX14 message with status code directly without generating B01/BA1/B11/BB1/B21/B31/XB21/XB31, B03/B13/B23/B33/XB23/XB33 file. (The content of R14/RX14 data field will be the same as R13/RX13 data field which FCM entered)

No.	Content	FCM's Action
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4	In processing, no order accepted for the time being	Input later
92	MESSAGE LENGTH ERROR	Check B01/BA1, B11/BB1, B21/XB21, B31/XB31 message length.
93	MESSAGE FORMAT ERROR	Check B01/BA1, B11/BB1, B21/XB21, B31/XB31 message length.
99	Major error	Order cannot be input, call TAIFEX
121	illegal time to get file	Wrong time for requesting file, continue
150	fcm_unique_id duplicate	Check fcm_unique_id field value R13/RX13 message.
155	invalid fcm_unique_id	Check and correct fcm_unique_id in TMP R13/RX13 message
156	Block trade ID duplicate	Check and correct Block trade ID of B21/XB21
157	Invalid Block trade ID	Check and correct Block trade ID of B21/XB21

3.4 Order price

To address the problem of floating point number addition/subtraction, the price fields in all messages must be an integer. For actual price, refer to the number of decimal digits as defined in the Decimal_Locator in P08/PA8/XP08. The TAIFEX trading system can accept actual price in the range of -214,748 ~ +214,748.

Ex.: price=12345, if decimal_locator=2, the actual price is 123.45

3.5 Multi-leg Product ID

3.5.1 Coding Principles for Options Product Symbols

The **PROD-ID field** consists of 10 characters and is structured into four components (PP + T +AAAAA+ CY), as explained below:

1. PP: indicates **Contract ID**.
2. T: indicates type, such as futures, options or others.
 - i. "O" denotes a standard options product.
 - ii. If the product is **equity** options, "A-Z" represents an adjusted product.
 - iii. For **non-equity** weekly options, the symbols 1, 2, 4, 5, and U, V, X, Y, Z are used.

For TX products, examples are as follows:

nth Weekday of Month	1st	2nd	3rd	4th	5th
Wednesday	1	2	O	4	5
Friday	U	V	X	Y	Z

A Product ID, with its first two units combined, is expressed as follows:

PP+T	TXO	TEO	TX1	XIO	GTO	TXU	ABO	ABA
------	-----	-----	-----	-----	-----	-----	-----	-----

3. AAAAA: **Strike Price**, represented as an integer.

4. **CY**:

i. If the product is not an equity options, "C" represents the month, and "Y" represents the year.

Month	1	2	3	4	5	6	7	8	9	10	11	12
Call Option	A	B	C	D	E	F	G	H	I	J	K	L
Put Option	M	N	O	P	Q	R	S	T	U	V	W	X

Example:

The call options TXO for September 2009 can be expressed as TXO06900I9.

The put options for September 2009 can be expressed as TXO06900U9.

ii. If the product is an equity options, "C" represents the month, while the definition of 'Y' is as follows:

- If 'Y' is a number, it represents the year.
- If 'Y' is a letter, it represents a weekly contract product.

For equity options, examples for the 'Y' code are as follows:

nth Weekday of Month	1st	2nd	3rd	4th	5th
Wednesday	K	L	0-9	M	N

Example:

CDO09900LK: If this contract is listed in 2025, and its contract year is 2025 (as indicated by the "contract_date" field in the P08 file), it represents a call option expiring on the first Wednesday of December 2025.

CDO10000MK: If this contract is listed in 2025, but its contract year is 2026 (as indicated by the "contract_date" field in the P08 file), it represents a put option expiring on the first Wednesday of January 2026.

CDO10000L5: If this contract is listed in 2025 (as indicated by the "contract_date" field in the P08 file), it represents a call option expiring of December 2025.

Link contract IDs with underlying stock IDs in messaging protocol

The 15-character equity options symbol is structured with the following components:

- Characters 1-6: TWSE stock code, padded with spaces.

- Character 7: 'S', indicating a stock-derived product.
- Character 8: The option type.
- Characters 9-13: The strike price.
- Character 14: The call/put type and month.
- Character 15: The expiration year or weekly contract code.
 - ◆ A number indicates the year.
 - ◆ A letter indicates a weekly contract.

For example:

(1) Using the symbol for a Nan Ya Plastics (1303) option as an example, each component is defined as follows:

- Characters 1-6 ("1303"): Represent the underlying stock, Nan Ya Plastics Corp.
- Character 7 ('S'): Indicates it is a stock-derived product.
- Character 8 ('O'): Defines the option type. 'O' is the standard type, while 'A', 'B', and so on are used for subsequently adjusted contracts.
- Characters 9-13: Represent the strike price.
- Character 14: Indicates the month code and whether it is a call or put option.
- Character 15: Represents the expiration year or the weekly contract code, where a number indicates the year and a letter indicates a weekly contract.

Stock Code						Type	Strike price					Month	Year	
1	3	0	3			S	O	0	0	5	0	0	L	3
Nan Ya Plastics Corp.						Stock	Options	Strike price \$50.0					December	2013

(2) Using the symbol for a TSMC (2330) option as an example, each component is defined as follows:

- Characters 1-6 ("2330"): Represent the underlying stock, TSMC.
- Character 7 ('S'): Indicates it is a stock-derived product.
- Character 8 ('O'): Defines the option type. 'O' is the standard type, while 'A', 'B', and so on are used for subsequently adjusted contracts.
- Characters 9-13: Represent the strike price.
- Character 14: Indicates the month code and whether it is a call or put option.
- Character 15: Represents the expiration year or the weekly contract code, where a number indicates the year and a letter indicates a weekly contract.

Stock Code						Type	Strike price					Month	Year /weekly contract code	
2	3	3	0			S	O	0	9	9	0	0	L	K
TSMC						Stock	Options	Strike price 990.0					December	Listed in 2025, it expires on the first Wednesday of December 2025.

3.5.2 Examples of options multi-leg orders

Explanation of Each Component in the Product ID Structure:

- PPP: Contract ID.
- PPW: Weekly Options Contract ID **for non-equity options**.
- AAAAA: Strike Price of the first leg.
- BBBBB: Strike Price of the second leg.
- CC: **The expiration** month of the first leg. **For a standard contract, it represents the year and month; for an equity weekly contract, the code includes both month and week information.**
- DD: **The expiration** month of the **second** leg. For a standard contract, it represents the year and month; for an equity weekly contract, the code includes both month and week information.

Expiration date information can be referred to the "contract_date" field in the P08 file.

For example,

1. Price spread (/) – PPPAAAA/BBBBBCC or PPWAAAA/BBBBBCC (16 characters long, with the ninth character as “/”)

Simultaneously buying and selling call (or put) options with the same expiration date but different strike prices.

Case 1: In case of call, put the higher price at the front.

Ex.: TXO05200/05100C3, BS_Code=B, BS1=S, BS2=B

TXO05200/05100C3, BS_Code=S, BS1=B, BS2=S

Case 2: In case of put, put the lower price at the front

Ex.: TXO05200/05300N3, BS_Code=B, BS1=S, BS2=B TXO05200/05300N3, BS_Code=S, BS1=B, BS2=S

2. Time spread (/) – PPPAAAACC/DD (13 characters long, with the 11th character as “/”)

Simultaneously buying and selling call (or put) options with the same strike price but different **expiration dates**. The leg with the nearer **expiration date** is listed first.

Case 1: In case of call,

Ex.:

TXO05200F3/I3, BS_Code=B, BS1=S, BS2=B

TXO05200F3/I3, BS_Code=S, BS1=B, BS2=S

CDO09900LK/LL (The leg with the nearer expiration date is listed first).

CDO09900LK/L5 (The leg with the nearer expiration date is listed first).

Case 2: In case of put

Ex.:

TXO05200R3/S3, BS_Code=B, BS1=S, BS2=B

TXO05200R3/S3, BS_Code=S, BS1=B, BS2=S

CDO09900X5/MK (The leg with the nearer expiration date is listed first).

CDO09900X5/XM (The leg with the nearer expiration date is listed first).

3. Straddle (:) – PPPAAAACC:DD:DD or PPWAAAACC:DD (13 characters long, with the 11th character as “:”)

Simultaneously buying (or selling) a call and a put options with the same strike price and expiration date. The call contract is placed first.

Case 1: If buy at the same time,

Ex.: TXO05200D3:P3, BS_Code=B, BS1=B, BS2=B

Case 2: If sell at the same time,

Ex.: TXO05200D3:P3, BS_Code=S, BS1=S, BS2=S

4. Strangle (:) – PPPAAAACC:BBBBBDD or PPWAAAACC:BBBBBDD (18 characters long, with the 11th character as “:”)

Simultaneously buying (or selling) call and put options with different strike prices but the same expiration date. The call contract is placed first.

Case 1: If buy at the same time,

Ex.: TXO05200D3:05100P3, BS_Code=B, BS1=B, BS2=B

Case 2: If sell at the same time,

Ex.: TXO05200D3:05100P3, BS_Code=S, BS1=S, BS2=S

5. Conversion (-) & Reversals (-) – PPPAAAACC-DD or PPWAAAACC-DD (13 characters long, with the 11th character as “-”)

Case 1: Conversion, buy a put and at the same time sell a call with the same price and same expiration date,

Ex.: TXO05200G3-S3, BS_Code=B, BS1=S, BS2=B

Case 2: Reversals, buy a call and at the same time sell a put with the same price and same expiration date,

Ex.: TXO05200G3-S3, BS_Code=S, BS1=B, BS2=S

6. Weekly time spread (/) – PPPAAAACC/PPWDD, PPWAAAACC/PPPDD, or PPWAAAACC/PPWDD (16 characters long, with the 11th character as “/”)

Simultaneously buying and selling call (or put) options with the same strike price but different expiration date. The leg with the nearer expiration date is listed first.

e.g., 1: Simultaneously buying and selling call (or put) options with the same strike price, but the expiration dates differ, and one of the legs is a weekly call options (PPPAAAACC/PPWDD)

Ex.: TXO06500C6/TX4C6, BS_Code=B, BS1=S, BS2=B

TXO06500C6/TX4C6, BS_Code=S, BS1=B, BS2=S

e.g., 2: Simultaneously buying and selling call (or put) options with the same strike price, but the expiration dates differ, and one of the legs is a weekly put options (PPWAAAACC/PPPDD)

Ex.: TX106300O6/TXOP6, BS_Code=B, BS1=S, BS2=B

TX106300O6/TXOP6, BS_Code=S, BS1=B, BS2=S

e.g., 3: Simultaneously buying and selling call (or put) options with the same strike price, but the expiration dates differ, and both of the legs are weekly options (PPWAAAACC/PPWDD)

Ex.: TX120400B5/TXVB5, BS_Code=B, BS1=S, BS2=B

TX120400B5/TXVB5, BS_Code=S, BS1=B, BS2=S

Time Spread Combination: If the expiration date of a product postpone due to force majeure factors, causing it to align with the expiration date of another product, the original combination rules will still apply. After the postponement, the two products can still form a time spread.

Link contract IDs with underlying stock IDs in messaging protocol

For example,

Explanation of Each Component in the Product ID Structure

- PPPPPST: Contract ID

- AAAAA: Strike Price of the first leg
- BBBBB: Strike Price of the second leg
- CC: The expiration month code for the first leg. For a standard contract, it represents the year and month; for an equity weekly contract, the code also includes week information.
- DD: The expiration month code for the second leg. For a standard contract, it represents the year and month; for an equity weekly contract, the code also includes week information.

1. Price spread (/) – P P P P P S T A A A A A / B B B B B C C (21 characters long, with the 14th character as “/”) Simultaneously buying and selling call (or put) options with the same expiration **date** but different strike prices.

Case 1: In case of call, put the higher price at the front.

Ex.: 1303 SO05200/05100C3, BS_Code=B, BS1=S, BS2=B
1303 SO05200/05100C3, BS_Code=S, BS1=B, BS2=S

Case 2: In case of put, put the lower price at the front

Ex.: 1303 SO05200/05300N3, BS_Code=B, BS1=S, BS2=B
1303 SO05200/05300N3, BS_Code=S, BS1=B, BS2=S

2. Time spread (/) – P P P P P S T A A A A A C C / D D (18 characters long, with the 16th character as “/”) Simultaneously buying and selling call (or put) options with the same strike price but different **expiration dates**.

Case 1: In case of call,

Ex.:
1303 SO05200F3/I3, BS_Code=B, BS1=S, BS2=B
1303 SO05200F3/I3, BS_Code=S, BS1=B, BS2=S
2330 SO09900LK/LL (The leg with the nearer expiration date is listed first).
2330 SO09900LK/L5 (The leg with the nearer expiration date is listed first).

Case 2: In case of put

Ex.:
1303 SO05200R3/S3, BS_Code=B, BS1=S, BS2=B
1303 SO05200R3/S3, BS_Code=S, BS1=B, BS2=S
2330 SO09900X5/MK (The leg with the nearer expiration date is listed first).
2330 SO09900X5/XM (The leg with the nearer expiration date is listed first).

3. Straddle (:) – P P P P P S T A A A A A C C : D D (18 characters long, with the 16th character as “:”) Simultaneously buying (or selling) call and put options with the same strike price and the same **expiration dates**. The call contract is placed first.

Case 1: If buy at the same time,

Ex.: 1303 SO05200D3:P3, BS_Code=B, BS1=B, BS2=B

Case 2: If sell at the same time,

Ex.: 1303 SO05200D3:P3, BS_Code=S, BS1=S, BS2=B

4. Strangle (:) – PPPPPSTAAAACC:BBBBBDD (23 characters long, with the 16th character as “:”) Simultaneously buying (or selling) call and put options with different strike prices but the same **expiration dates**. The call contract is placed first.

Case 1: If buy at the same time,

Ex.: 1303 SO05200D3:05100P3, BS_Code=B, BS1=B, BS2=B

Case 2: If sell at the same time,

Ex.: 1303 SO05200D3:05100P3, BS_Code=S, BS1=S, BS2=S

5. Conversion (-) & Reversals (-) – PPPPPSTAAAACC-DD (18 characters long, with the 16th character as “-”)

Case 1: Conversion, buy a put and at the same time sell a call with the same price and same **expiration dates**,

Ex.: 1303 SO05200G3-S3, BS_Code=B, BS1=S, BS2=B

Case 2: Reversals, buy a call and at the same time sell a put with the same price and same **expiration dates**,

Ex.: 1303 SO05200G3-S3, BS_Code=S, BS1=B, BS2=S

3.5.3 Coding Principles for Futures Product Symbols

The PROD-ID field consists of 5 characters and is structured into three components (PP + T + CC), as explained below:

1. PP: indicates **Contract ID**.
2. T: indicates type, such as futures, options or others.
 - i. "F" denotes a standard futures product.
 - ii. If the product is equity futures, "1-9" represents an adjusted product.
 - iii. For non-equity futures, the symbols 1, 2, 4, and 5 are used for weekly products.

A Product ID with the first two units combined is expressed as follows:

PP+T	CPF	EXF	FXF	GBF	GDF	MSF	MXF	MX1	TXF
------	-----	-----	-----	-----	-----	-----	-----	-----	-----

3. CC:consists of month and year; the first C indicates month; the second C indicates year.

Month	1	2	3	4	5	6	7	8	9	10	11	12
Settlement month	A	B	C	D	E	F	G	H	I	J	K	L

Ex. The futures of TXF Oct. 2009 can be expressed as TXFH9.

Un-link contract IDs with underlying stock IDs in messaging protocol

Combination of futures time spread orders:

1. Combination method: Time spread orders are accepted for all futures products.
2. Buy/sell: Time spread orders have the same buy/sell code as the far-month contract. A “buy spread order” means buying a far-month contract while selling a near-month contract at the same time; a “sell spread order” means selling a far-month contract while buying a near-month contract at the same time.
3. Order price: The far-month contract is the body of the order. The price of a time spread order is the price of far-month contract deducted by the price of near-month contract.
4. Price range: The highest price of a spread order is the upper price limit of the far-month contract deducted by the lower price limit of the near-month contract; the lowest price of a spread order is the lower price limit of the far-month contract deducted by the upper price limit of the near-month contract. Orders exceeding such price range will not be accepted.

5. Check rules for time spread product ID:
 - (1) 8 bytes in length.
 - (2) The 6th character is '/'.
 - (3) The month code of the first and the second contract (the 4th and the 7th byte) lies between A~L.
 - (4) The first and the second contracts must be contracts of different months.
 - (5) The first contract is the near-month contract, and the second contract is the far-month contract.

Thus if the field of PROD-ID-S shows **【MXFA9】** , it means 200901 (January 2009) MXF (mini-TAIEX);

If the field of PROD-ID shows **【MXFA9/C9】** , it means MXF (mini- TAIEX) spread for January and March 2009.

Weekly time spread (/) (PPPCC/PPWDD, PPWCC/PPPDD, or PPWCC/PPWDD, 11 characters in length, with the 6th character as '/'): Simultaneously buying and selling futures contracts with different expiration dates, where at least one has a weekly expiry. The leg with the nearer expiration date is listed first.

e.g., 1: If simultaneously buying and selling futures with different expiration dates, with one being a weekly expiry (PPPCC/PPWDD):

Example: MXFC6/MX4C6

- If BS_Code = B, then BS1 = S and BS2 = B
- If BS_Code = S, then BS1 = B and BS2 = S

e.g., 2: If simultaneously buying and selling futures with different expiration dates, with one being a weekly expiry (PPWCC/PPPDD):

Example: MX1O6/MXFO6

- If BS_Code = B, then BS1 = S and BS2 = B
- If BS_Code = S, then BS1 = B and BS2 = S

e.g., 3: If simultaneously buying and selling futures with different expiration dates, with at least one being a weekly expiry (PPWCC/PPWDD):

Example: MX1G4/MX2G4

- If BS_Code = B, then BS1 = S and BS2 = B
- If BS_Code = S, then BS1 = B and BS2 = S

Time Spread Combination: If the expiration date of a product postpone due to force majeure factors, causing it to align with the expiration date of another product, the original combination rules will still apply. After the postponement, the two products can still form a time spread.

Link contract IDs with underlying stock IDs in messaging protocol

The PROD-ID for stock futures has 10 bytes. Byte 1 - 6 contain TWSE stock code with space padded. Byte 7 both 'S' and 'M' indicates stock. Byte 8 indicates type of stock futures. Byte 9 indicates month. Byte 10 indicates year.

For example:

Stock Code						Type	Month	Year	
3	0	0	8			S	F	C	6
LARGAN Precision Corp						Stock	Futures	March	2016

Stock Code						Type	Month	Year	
3	0	0	8			M	F	C	6
LARGAN Precision Corp.						Stock	Futures	March	2016

Beginning 6 bytes "3008 " indicates LARGAN Precision Corp.

7th byte both 'S' and 'M' indicates it is a stock derived product.

8th byte 'F' indicates futures type, 'F' is standard type, and '1' for first time adjusted, '2' for second time adjusted, etc.

9th byte indicates month code for December.

10th byte indicates year code for 2013.

If we use PPTTTTST for contract, CC for month and year of first product leg, DD for month and year of second product leg.

Time spread (/) (PPTTTTSTCC/DD, 13 characters long, the 11th character is '/') - buy and sell at the same time with the same contract but different settlement month. First leg is near expired contract.

Example:

Time spread of 1303 SFF3 and 1303 SFI3, 1303 SFF3 is near expired contract.

1303 SFF3/I3, BS_Code=B, BS1=S, BS2=B

1303 SFF3/I3, BS_Code=S, BS1=B, BS2=S

Weekly time spread (/) : (PPTTTTSTCC/ PPTTTTTSWDD or PPTTTTTSWCC/ PPTTTTSTDD, 21 characters long, the 11th character is "/") - buy and sell same product at the same time with different expire date, and one of the leg is weekly expired. The near expired contract put in front.

Case 1: PPTTTTSTCC/ PPTTTTTSWDD

1303 SFF3/1303 S4F3 is weekly time spread of 1303 SFF3 and 1303 S4F3, 1303 SFF3 is near expired contract so put it in front.

Case 2: PPTTTTTSWCC/ PPTTTTSTDD

1303 S1F3/1303 SFF3 is weekly time spread of 1303 S1F3 and 1303 SFF3, 1303 S1F3 is near expired contract so put it in front.

3.5.4 Product ID and multi-leg order

The pseq1 in the morning session and the pseq1 in the afternoon session of the same text product ID (eg. 'TXO088888L8') might have different number. Similarly, the numeric product ID pseq1=1 might represent 'TXFL8' for futures products and 'TFO00888L8' for options products.

The pseq1 and pseq2 of the same text product ID represent two product IDs respectively in a message, and leg_side[0] is the buy/sell code of the first leg and leg_side[1] represents the buy/sell code of the second leg. In the case of a single order, pseq value is 0.

1. Price spread (/) : (leg_side[0]: positive, leg_side[1]: negative) or (leg_side[0]: negative, leg_side[1]: positive)
2. Time spread (/) : (leg_side[0]: positive, leg_side[1]: negative) or (leg_side[0]: negative, leg_side[1]: positive)
3. Straddle (:) : (leg_side[0]: positive, leg_side[1]: positive) or (leg_side[0]: negative, leg_side[1]: negative)
4. Strangle (:) : (leg_side[0]: positive, leg_side[1]: positive) or (leg_side[0]: negative, leg_side[1]: negative)
5. Conversion (-) : leg_side[0]: positive, leg_side[1]: negative
6. Reversals (-) : leg_side[0]: negative, leg_side[1]: positive

3.6 Partition ID Definition

The FLEX trading system facilitates support for multiple groups, whereby relevant files, initial operational messages, or execution report messages convey segmented information to FCMs through the partition ID field (part_id). The part_id field consists of three digits and is defined as follows:

Trade Product	part_id
FLEX Futures (regular market hours)	202
FLEX Options (regular market hours)	102

3.7 Trade Session Status

Trade session status can be requested via R11 message and reported via R12 message. Each flow group has its own discrete trade session status, which includes: unknown (including before market), halted, pre-open, open, closed and Non-Cancel Period.

Status	
General	unknown -> pre-open -> Non-Cancel Period -> open -> closed
Halted during pre-open (for order acceptance)	unknown -> pre-open -> halted -> pre-open -> Non-Cancel Period -> open -> closed
Halted during market	unknown -> pre-open -> open -> halted -> pre-open Non-Cancel Period -> -> open -> closed

3.8 File Transfer

TAIFEX adopts the standard TCP/IP file transfer protocol (sftp). FCM can use sftp client to connect to TAIFEX sftp server according to the server address announced by TAIFEX to download files needed. The TAIFEX sftp server supports active and passive mode for file transfer (passive mode is suggested).

The sftp server stores two kinds of files, one of which is a data file and the other is a ready file representing that the data file is ready. Before downloading any file, a FCM should check first whether the ready file is present; if yes, the FCM can proceed to download the file; if not, it means the data file is not yet ready, that TAIFEX does not guarantee the integrity of the data file and the FCM should not download it.

If a FCM stresses the quality and speed of order placement, it is suggested that the FCM use different physical lines for order execution reports and file transfers.

- File naming principles

1. Common data files that are generated only once a day are named according to the following principles:

file code.<system_type>
file code.<system_type>.ready

2. Common data files that are generated more than once and have different contents in a day are named according to the following principles:

file code.<system_type>.<timestamp>
file code.<system_type>.<timestamp>.ready

3. For the naming of files specific to a FCM or CM, refer to file remarks in Section 2.

<system_type> is used to distinguish different trade session and system type:

10: Options (the second digit is 0 during regular market hours)
20: Futures (the second digit is 0 during regular market hours)
11: Options (the second digit is 1 during after-market hours)
21: Futures (the second digit is 1 during after-market hours)

<timestamp> is the timestamp or serial number with respect to file generation; bigger numeric value represents a newer file to distinguish individual files generated. Timestamp is transmitted through the definition in the data field in the R14 message. For details, refer to data field remarks in Section 2.

Ex.:

1. Each session's Product and Time Flow Group Definition File (P08) is generated only once a day. Thus during regular trading hours, the names of options P08 file and ready file as stored in sftp server are respectively:

P08.10
P08.10.ready

2. The Exchange Rate File (C01) might be generated multiple times a day. Thus the names of an exchange rate file and ready file generated at 2008/09/01 14:30:50 during normal trading hours as stored on the sftp server are respectively:

C01.11.20080901143050000
C01.11.20080901143050000.ready

- directory storing principles

The files in each directory presents as followed:

Regular trading	<The same name of sftp account>	Storing the private files belonging to FCM or CM. These files can be identified by file name contained FCM or FM ID in it.
	fut	Storing the public files of futures system.
	opt	Storing the public files of options system.
FLEX trading	<The same name of sftp account> /flex	Storing the private FLEX files belonging to FCM or CM. These FLEX files can be identified by file name contained FCM or FM ID in it.
	xfut	Storing the public FLEX files of futures system.
	xopt	Storing the public FLEXfiles of options system.
	<The same name of sftp account> /<part_id>	Storing the private FLEX files belonging to FCM or CM. These FLEX files can be identified by file name contained FCM or FM ID or partition ID in it.

The old directory under <The same name of sftp account> or fut or opt:after system shut down, move files to old directory and keep for one week, the backup directories are named like YYYYMMDDhhmm format of the backup time.

File transfer process is described below.

3.8.1 TAIFEX initiates a file to a FCM

1. TAIFEX sends a R14/RX14 message and the fields of R14/RX14 have the following values:

- status_code: 0.
 - fcm_req_id: 0.
 - bulletin_seq: 0 means file transfer.
 - bulletin_time: the time the bulletin or file was generated.
 - system_type: system type of the file
 - data: the R14/RX14 data field as defined by the file.
2. When the FCM receives the R14/RX14 and finds bulletin_seq = 0, status_code = 0, and fcm_req_id = 0, which means a TAIFEX initiated file notice, the FCM should obtain information on the filename and timestamp as provided in the data field, activate the sftp client and connect to the TAIFEX sftp server to download the file.

3.8.2 FCM requests a file

1. FCM sends a R13/RX13 message the fields of R13/RX13 have the following values:
 - fcm_req_id: FCM-defined number; TAIFEX will include this number in R14/RX14 message. In order to distinguish from the value of fcm_req_id = 0 when TAIFEX initiates a file notice, FCM please do not use 0 as the fcm_req_id value.
 - bulletin_req_id: 0 means file transfer.
 - system_type: system type of the requested file.
 - data: enter in the R13/RX13 data field of content as defined by the file requested.
2. Upon receiving a R13/RX13, TAIFEX will send a R14/RX14 to the FCM.
 - status_code: 0 means normal, other than 0 means exceptional circumstance.
 - fcm_req_id: fcm_req_id as entered by FCM in R13/RX13.
 - bulletin_seq: 0 means file transfer.
 - bulletin_time: the time the bulletin or file was generated.
 - system_type: system type of the requested file.
 - data: the R14/RX14 data field as defined by the file.

3.8.3 FCM logs on TAIFEX sftp server directly to download file

1. For files initiated by TAIFEX, a FCM can activate the sftp client at any time to download the file from the sftp server. Files of different types are downloaded according to the following rules:
 - Common file without timestamp: Check only whether ready file is present and then download the corresponding data file.
 - Common file with timestamp: Check the ready file with the largest timestamp value, then download the data file corresponding to said timestamp.
2. For files generated only under FCM request, the FCM should request files according to the instructions in 3.7.2.

3.9 Flow Control

TAIFEX will adopt a flow control mechanism for every session (the flow is depend on the number of input orders received from FCM per second), the control process has 3 stages:

1. **Warning:** When the flow of a session reaches the warning threshold defined by TAIFEX, input orders will still be accepted by trading system, but the FCM will receive a warning message. All R01/R31/RX01, R04, R05, R07/R37/RX07, R09/R39/RX09, R11, R17, R13/RX13, RX19, RX20, RX40, RX42, L10, L20, L40, L42 messages are included in flow control calculation. The warning message is sent by using `status_code` in each reply message which means when this message is sent, the flow has reached the warning threshold but the message can still be accepted by the system (ex: order can enter system for matching.) The value of `status_code` 248 means the flow has reached 80% of flow limit. The value of `status_code` 249 means the flow has reached 90% of flow limit. When the client exceeds the limit 10 times, TAIFEX will lock the session to prevent the abuse of system resources. Please contact TAIFEX to unlock the session.
2. **Reject:** When the flow of a session exceeds the flow limit, TAIFEX will close this session and FCM must re-connect to the system. After re-connecting to the system FCM must enter subsequent `MsgSeqNum` based on the `start_in_bound_num` in L10 message for this session. The error message for exceeding flow limit is returned by each reply message with `status_code` 240. After sending reply message TAIFEX will send L10. (The flow limit is the `max_flow_ctrl_cnt` value in L50 message) TAIFEX currently have two order entry limits, one is that the total amount of order entry in three seconds must not exceed three times of the order entry limit per second (for example, if the order entry limit is 16 orders/sec, and the number of input order exceeds 48 in three seconds, the connection will be disconnected). Another is that the total amount of order entry in one second must not exceed three times of the order entry limit per second (for example, if the order entry limit is 16 orders/sec, and the number of input order exceeds 48 in one second, the connection will be disconnected).
3. **Abnormal disconnection automatic protection:** When the trading system finds the session disconnected 100 times, the system will lock the socket port connection to prevent the abuse of system resources. Please contact TAIFEX to unlock the session.

3.10 Message Versions

2008.04.22 Ver. 1

2008.04.24 Ver. 2

1. Revise the naming rules for Test DNS Server in “Introduction.”
2. Add description of Data Type int64.
3. Adjust end_out_bound_num examples.
4. Adjust the field sequence in R01,R02, and R09 where identical fields are all placed in the front.
5. Add example of user_define, protocol_type.
6. Change ord_id, org_ord_id in R01,R02,R03 to order_no, ord_id where Order No. is changed to order_no (compatible with x.25 message) + ord_id (for asynchronous message).
7. Add status_code in R02.
8. Add user_define, ord_id in R03.
9. Change ord_id in R07 and R08 to order_no.
10. Explain the field attribute in sftp file format.
11. Revise the naming of B30/B40,S08, and S21files.

2008.06.16 Ver. 2.1.1

1. For the naming of P07 in system initiation step, refer to the naming of file P07 in the section of [File Transfer and Bulletin].
2. Change the checking of fields investor account No. and ID code (investor flag) for cancel/decrease in R09 as not required.
3. Add the field ord_id in R07 and R08.
4. When TAIFEX responds to an input of new quote, or quote cancel, decrease or request and must send a message with quote price, TAIFEX will break down the bid and offer quotes by sending two consecutive quote messages. That is, one quote input will receive two quote report messages.

2008.07.08 Ver. 2.1.2

1. In the Domain Name naming rules, change the wording “first four characters of FCM ID” to “first seven characters of FCM ID”, and revise the naming of file P07 simultaneously.
2. Add the field system_type in R13 and R14 for distinguishing transactions in different markets.
3. Revise the connection method in Clearing Member Order Execution Report by changing the wording “first four characters of FCM ID” to “first seven characters of FCM ID.”
4. Add a section 3.8 Flow Control.
5. Add the warning threshold for order quantity and the status code for flow reaching certain limit.

2008.08.04 Ver. 2.1.3

1. P09 file is obsoleted, and update Domain Name naming rules and P07 file.

2008.08.11 Ver. 2.1.4

1. Delete PROD_GROUP field.

2008.09.11 Ver. 2.1.5

1. Correct typo in Appendices “Time Format” example: 10:45:59.123 => 10:45:44.123
2. Modify the naming rule of B40 and Data Type in the R13 and R13 of B30 and B40.
3. Modify timestamp format in R14 data field to char[17], to store the year, month, date, hour, minute, second information (yyyymmddhhmmsxxx).

4. Add a rule: In order to distinguish from the value of fcm_req_id = 0 when TAIFEX initiates a file notice, FCM please do not use 0 as the fcm_req_id value.
5. P11 file name will not contain timestamp.
6. Add I15,I16,I17 file for collateral
7. Add P12 file(FCM connection information file)
8. Adjust to each and every new order, cancels or changes order of R01 or R02 or R03 or R09 message need to be assigned an effective message sequence No in the field of MsgSeqNum, but otherwise enter 0.
9. Add SIN,SP1,SP2 file for SPAN
10. Add the field fcm_id and session_id in Common message header(hdr).

2008.10.03 Ver. 2.1.6

1. Change the naming of P07,P12.
2. Add target_id filed of R15,R16 and request format of B40.
3. Modify filed name of P12.
4. Add the field ExecType in R03.
5. Add status_code from 201 to 208.
6. Revise the statement for Confirm connection message (R04).
7. Modify for sftp support only passive mode, and directory storing principles.
8. Modify flow control using FCM input R-serious message.
9. Adjust the “status_code” field position in R02, R08 to let all “status_code”field is following the end of common header.

2008.10.31 Ver. 2.1.7

1. Revise the statement for msg_length.
2. Change naming rule of P07, P12
3. Modify R14 data field of F03.
4. Add status_code 209, 210, 242.
5. Add L50, L60 round trip time to determine the maximum peak flow per second.
6. Let CM line on TMP protocol can transmit execution report including head office and branch offices.

2008.11.04 Ver. 2.1.8

1. Add ExecType = 6 in R02
2. Add R22 formats for Condensed version order status report
3. Change order_no’s format as: The leading three characters should be 0-9,A-Z,a-z. The last two characters should only be numerals.

2008.12.09 Ver. 2.1.9

1. Change L10 start_in_bound_num = 0
2. Add status_code = 39 for FIX.
3. Modify the description of LastPx, LastQty in R02.
4. Modify the description of status_code 32, 35, 36.
5. Modify the transmission mode of sftp server and usage of old directory.
6. Modify format of I15 or I16 or I17
7. Modify uniq_id of Execution report including head office and branch offices
8. Added the sequence number ordering sample, ref: TMP “Common message header”.

9. Limit the transmission amount of R13, ref:“Transmission agreement”.

2008.12.23 Ver. 2.1.10

1. R03 message would be enter 0 in the field of MsgSeqNum when status_code is 1 or 99.
2. Modify the description of status_code 23.

2009.06.01 Ver. 2.1.11

1. Add definition of data field in SP2
2. File transfer of futures add I12,I13,T92,T95 for equity futures
3. Define uniq_id of head office and branch offices
4. Add specification for domain name of sftp server
5. Add the field Side in R03
6. Modify the description of L040 and L041
7. Add E01 and B41 for trading close and they will be put in sftp path.(Enable this until after market trading is beginning.)
8. Add DNS naming rule for after hour trading.
9. Add definition of futures combination order in chapter 3.5 Multi-leg Product ID.

2009.07.03 Ver. 2.1.12

1. Correct 2.6.4 2.6.4 File transfer overview

2009.10.20 Version 2.1.13

1. Remove X.25 related description.
2. For the flexibility of after hour trading, E01 and B41 will not open in this version.

2010.02.04 Version 2.1.14

1. TCP/IP TMP protocol error code 242 policy
2. Add Downline FCM execution report from Clearing Member Order Execution Report (see 2.5.2.3)
3. Provide function of order price modify

2010.02.25 Version 2.1.15

1. Add ExecType=m for order price modify

2010.03.02 Version 2.1.16

1. Improve description of status code.
2. Add description of B40 not including target_id=9.

2010.08.13 Version 2.1.17

1. Add ETF description for I15 and I16.
2. Correct flow control description.

2010.12.02 Version 2.1.18

1. Remove L70 and L80.
2. Improve description of B30.
3. Improve description of R13.

2010.12.15 Version 2.1.19

1. Add suggest for fcm in developing program.
2. Add function of B40 including target_id=9.

2011.02.23 Version 2.1.20

1. Add F13 file, all last transaction and clearing member order and execution report sequence collection file for a FCM.
2. Add P13 file , investor position limit definition file
3. Add P14 file , contract margin definition file
4. Add X01 file
5. Modify T94
6. Add P09 file, Contract Definition File
7. Add I14 file, Equity option/futures contract preliminary adjustment file

2011.09.19 Version 2.1.21

1. Modify Contract Definition file (P09), add < block_trade_flag > field.
2. Add single product block trade message/file format: B01,B02,B03,B05.
3. Add combine product block trade message/file format:B11,B12,B13,B15.
4. C11 open interest contain block trade.
5. When announce open interest, The statistical values in following fields: "Total number of buy order", " Total number of buy contracts ordered ", "Total number of sell order", " Total number of sell contracts ordered ", " Number of matched trades ", " Number of contracts matched ", " Combined total of buy orders ", " Combined total of buy contracts ordered ", "Combined total of sell orders", " Combined total of sell contracts ordered ", and " Combined total of matched contracts ", "Open interest" will include the volume of block trade.
6. Add Daily block trade volume file (B10), send when open interest announce.
7. Add Equity option/futures contract adjustment reference file (I20).
8. Add Underlying Stock Violation File (I19), Futures Violation File (U20)
9. Modify I13,I14 contract adjustment file format, add fields.
10. Add section 2.7 Block trade.

2011.11.03 Version 2.1.22

1. Add remark of fcm_unique_id and B11 combine strategy.
2. Add status_code 155.
3. Adjust error condition of block trade system which will reply R14 message with status code directly without generating B03/B13 file.
4. For query report, <rpt_seq> will be 0000000000

2011.11.16 Version 2.1.23

1. Correct B01, B02, B03, B11, B12, B13 file name <Order FCM number> should be <session FCM number>.
2. Adjust <order_no> field, all 5 characters can be alphanumeric.

2011.12.12 Version 2.1.24

1. Add P15 file, Investor Position Limit of Equity option/futures contract File
2. The upper bound of block trade order quantity is 65535.

2011.12.14 Version 2.1.25

1. The upper bound of block trade order quantity is 32767.
2. Adjust error condition of block trade system which will reply R14 message with status code directly without generating B01/B11, B03/B13 files.

2012.08.14 Version 2.1.26

1. P09 add <expiry_type> field to identify standard and weekly contract expiry type.
2. Add description of “Weekly time spread” in section 3.5.2.

2012.11.16 Version 2.1.27

1. C01 add currency RMD exchange rate.

2013.09.30 Version 2.1.29

1. Add field value for R15 or R16 for long product format(STOCK ID)

2014.01.17 Version 2.2

1. Change the descriptions of error code and append example error cases of TMP R14.
2. Change the description of PositionEffect in R01 and R31. It will validate PositionEffect field when querying.
3. Append block trade session report rule description.
4. Add new order type '3' in R01/R31, R02, and R32 for "Market with protection order". This will also effect “CLEARING MEMBER ORDER STATUS REPORT (R02/R32)”,
5. "EXECUTION REPORT INCLUDING HEAD OFFICE AND BRANCH OFFICES (R02/R32)" and "ORDER, QUOTE AND ORDER EXECUTION REPORT RESEND FILE (B30, B40/BD0)".
6. Return "Price" field (R02/R32, R22) assigned by matching engine for "Market with protection order".
7. Append two fields "Order Source" and "Market data source" in R01, R07, and R09. They are similar to the fields in R31, R37, and R39.
8. Add "Market with protection (MWP) order's protection points definition file" for "Market with protection".
9. Append error code 6 and adjust description of code 2 and 38 for “Disclose the market information during the Pre-Open state”.
10. Add "R12 with Non-Cancel Period" for “Disclose the market information during the Pre-Open state”.

2014.02.10 Version 2.2.1

1. Add error code 44 and 45 for “order_source error” and “info_source error”.

2014.03.24 Version 2.2.2

1. Add "new line feed" in EU1~EU6.
2. Improve error code 64 descriptions.

2014.04.11 Version 2.2.3

1. Add "DayTradeQty " in EU2~EU4.
2. Add more description of C10, C11 file.

2014.04.18 Version 2.2.4

1. Add H14 file,Investor OI Data File(Eurex) (0515)
2. Add H15 file,FCM OI Data File (Eurex) (0516)

2014.04.30 Version 2.2.5

1. Add EU7.
2. Add 9514 warning code.

2014.07.14 Version 2.2.6

1. Add Drop Copy Service(TMPDC Session) in chapter 2.10
2. Add TMPDC Order Session Mapping File(P17) in chapter 2.6.89
3. Modify description for Drop Copy Service:
 - A. Introduction
 - B. 2.2 Link Subsystem L30, L40, L50
 - C. Add TMPDC Session connection Type in P07, P12 File
4. Add INDEX-UNIT for I15
5. TAIFEX will not check status_code=242 if ExecType of incoming order(R01) is equal to 4(ExecType=4).

2014.9.16 Version 2.2.7

1. C01 add currency ZAR exchange rate.
2. Add more description about B21 reply R14 message directly.

2015.01.06 Version 2.2.8

1. Correct R09 symbol description about ExecType=I.

2015.3.16 Version 2.2.9

1. Add remind code:9614 in EU5

2015.02.04 Version 2.3.0

1. Add File F06/FA6: Announcement of Postpone of Last Trading (Settlement) Day When Underlying information is Abnormal.
2. P08/PA8, P09/PA9 Type of contract field add new value E: Currency.
3. Add 3.10
4. Add 2.6.91 Expired Order Report File for Time Flow Group(B50)
5. Add more description about 3.4 Order price.

2015.05.22 Version 2.3.1

1. P09/PA9 contract_size field change format to char[11] 9(7)V9(4)
2. P09/PA9 add field: underlying_type
3. P09/PA9 add field: market_close_group
4. Change B50 file naming rule. Use fcm_id instead of fcm_no.

2015.10.02 Version 2.4.0

1. modify description about order status code.
2. I15 add length of stock name and blank.
3. P04/PA4 add field: limit_stable.
4. P08/PA8 add field: delivery_date.Add flow_group 6 definition.
5. F06/FA6 type field add value:2 for last trading date (delivery date) postpone.
6. For trading suspend, remove F01, F04/FA4 file, add F02 file.
7. Add R17/R18, and kill switch function.

2015.10.19 Version 2.4.1

1. Remove volatility interrupt related changes. (P04/PA4, F02)

2016.03.31 Version 2.5

1. P04/PA4 add field: settle_month, filler.
2. Add T96/TJ6: Physical Delivery Payment File.
3. Add some filed description for P08/PA8.
4. For Circuit Breaker: Expansion of Price Limit Range, F02 file add FUNCTION-CODE 100, 101 definition. Delete P11 file.
5. Adjust 3.5.3 Link contract IDs with underlying stock IDs rule.
6. Add 2.12: Upload Equity Report Files via SFTP

2016.04.27 Version 2.5.1

1. Change the format of underlying_price field of Options C10, C11 file to 9(9) and refer to decimal locator of the price field.
2. Change the format of 2.12.1 The summary information of Book-Entry Central Government Securities on margin account equity(daily)
3. P13 or P15 don't include Mini Contract of Single Stock Futures

2016.08.15 Version 2.6

1. P08/PA8 add flow_group 7,8,9 definition.
2. P09/PA9 add market_close_group 7 definition.
3. EQFD/EQAD add DATA_ENDTIME column.
4. add session connection backup mechanism, and PA7, P39 description.
5. add TMPCM/TMPDC Session Connection Backup Mechanism (online together with "Order Session Connection Backup Mechanism")

2017.02.02 Version 2.7

1. The after-hour session (night session) data is also available in regular trading dns.
 - D. The night session file (P07/PA7/P12, etc.) of after-hours trading will update and reload the night session data of regular trading dns when the previous after-hours trading system stops.
 - i. e.g. if after-hours trading system closes at 06:30, the next night session file will be updated at 06:30. In general case, the night session file will be updated before 06:30.
 - E. When regular trading dns start, the night session data is also available fcm to query, but night session is opened in after-hours trading system start.
 - F. Regular trading dns domain is taifex.
 - i. e.g. <fcm_id(7_characters)>.session<session_id>.<protocol>.<system_name>.taifex.
 - G. After-hour trading dns domain is taifex1.
 - i. e.g. <fcm_id(7_characters)>.session<session_id>.<protocol>.<system_name>.taifex1.
2. For after-hour trading, because market will open at different time, P03, P04, P08 will be generated multiple times, , please update data when receive file notification.
3. P03/PA3 add fields: delivery_date ,filler. Different delivery date have different value.
4. P08/PA8 add flow_group 10,11 definition.
5. P09/PA9 add market_close_group 10 definition.
6. After-hour trading period will generate P14, P16 file.
7. After-hour trading period will generate block trade files.
8. X01 will be only generate in regular trading period, and data will include after-hour trading data.

9. B10 will be only generate in regular trading period, and data will include after-hour trading data.
10. Add Clearing Member excess margin alert file (N04), and N04 is only available in after-hours trading system.
11. Modify B41,E01 file name and path.
12. C10/CB0 when open_interest is provided, the following 12 fields: "day_buy_count ", "day_buy_qty ", "day_sell_count ", "day_sell_qty ", "match_cnt ", "match_qty ", "combine_day_buy_count ", "combine_day_buy_qty ", "combine_day_sell_count ", "combine_day_sell_qty ", "combine_match_qty " and "open_interest" will contain information of normal and block trade from both regular and after-hour trading period.
13. add TMPCM/TMPDC Session flow control in regular trading session and after-hours trading session , user can use cancel_order_sec field in L40 (unit:100) (current value 0 means that user dont have flow control).
14. The underlying_price of options C10/CB0, C11/CB1 file is for settlement purpose only, and shall refer to the value when open_interest is provided.
15. Add position limit notification (N06), and N06 is available both in regular trading session and in after-hour trading session.
16. F02 add trading suspend REASON 4: After-hours product definition data is not ready.
17. delete M21, M22, M23.
18. add F02 example, Some contract's price limit range is expanded during after-hour trading period, and the price limit range state will continue at the same level when start of following regular trading period.

2017.03.03 Version 2.7.1

1. Add H17 file, Investor OI Data File(After Hour) (0518).
2. Add H18 file, FCM OI Data File (After Hour) (0519).
3. PositionEffect new value define: A (open & specified position offsets).
4. Add U21 File.
5. Modifty N04 and N06 file format.

2017.03.09 Version 2.7.2

1. Add U21 description in File transfer overview.
2. PositionEffect A define (open & specified position offsets) is allowed in R01 and R31, block trade is not support A define. After the order is matched, except omnibus accounts, the clearing system will carry out specified position offsets according to the order execution report and in respect of open positions.
3. F02 modify trading suspend REASON 2 definition to "Taiwan security market trading halt, or the product closed early due to TAIFEX trading system failure."

2017.07.03 Version 2.7.3

1. Modify Equity Mortgage — Bond Information(I17) Denomination unit from ten thousand to thousand.

2017.09.20 Version 2.8.0

1. Split Taifex_TCPIP_TMP_v2.7.3.docx into two separate word documents.
(Taifex_TCPIP_TMP_v2.8.0.docx, Taifex_FileTransfer_Format_v1.0.0.docx)

2. R22 PositionEffect field add value:A (open & specified position offsets)
3. Unlist Eurex/TAIFEX Link Product. Delete chapter “2.8 Eurex/TAIFEX Link”.
4. Add another method to get B50 file through Subscription Request by fcm_id + session_id.

2017.11.24 Version 2.9.0

1. Adjust R02/R32, R22, there are the newly status 47, 48 in status_code.

2018.04.19 Version 2.10.0

1. TMP R01 or R02 or R31 or R32 or R22 PositionEffect add Offset by FCM:7
2. Move Currency Table from Taifex_TCPIP_TMP to Taifex_FileTransfer_Format

2019.02.15 Version 2.11.0

1. Adjust the field definitions of TMP R02/R22/R32 when status_code is 48.

2020.04.10 Version 2.12.0

1. If the client requests target_id = 3 or target_id = 13 in R15 and session_seq exceeds 1 million, then uniq_id may be duplicate, so target_id = 23 and R06 messages are added to R15 and R16. Please check 2.4.9 and 2.5.2.2.The function is optional.

2020.08.03 Version 2.13.0

1. Add SFTP Server and modify the description of FTP.
2. Add Single-side quote order modification function in quote input(R09).
3. Error codes: modify 35, add 40, delete 55, 81~87, 94~97.

2021.03.09 Version 2.14.0

1. Add L40 and L50 information security description. (2.2.4 Request logon (L40), 2.2.7 Activate application system (L50))
2. Add investor_acno check method description. (2.4.1Order input (R01/R31))
3. Add 3.8 Flow Control description.
4. Remove FTP service description.

2021.09.17 Version 2.15.0

1. Introduction – TCP/IP TMP NETWORK’s SFTP SERVER add SFTP server description for information security.

2022.03.11 Version 2.16.0

1. In order to provide FCM with a more comprehensive recovery mechanism to handle exceptions, the “Multiple orders/quotes status request” function added in R17.
2. Correct “3.6 Trade Session Status” describe trade status.

2023.03.01Version 2.17.0

1. Add L70 and L80.
2. Add description for 2.15 Cancel on Disconnect (COD).

3. Error code: add 54.

2023.06.21 Version 2.18.0

1. Add documentation and messaging specifications related to FLEX Futures & Options.

2023.07.10 Version 2.18.1

1. TMP RX09 add field: PositionEffect.
2. TMP RX19 add field: application_type.
3. Update 3.3 Error Message Table, adding and adjusting error codes related to FLEX Product Definition request. (Please refer to error codes numbered from 300 to 304, 310 to 319 within "3.3.1 Error Codes" description.)

2023.08.24 Version 2.18.2

1. TMP RX16 add field 'filler' for TMPDC Session.
2. Add description of data fields for bulletin report (R14/RX14).

2023.10.17 Version 2.18.3

1. Update 3.3 Error Message Table, adding and adjusting error codes related to FLEX Product Definition request. (Please refer to error codes numbered 220, 221, 305 within "3.3.1 Error Codes" description.)
2. In the FLEX Order Status Report (RX02), 'rpt_session_seq' replaces the first 4 characters in the filler field, with no change in the message length.
3. Add explanations related to FLEX in section "2.5.5 Application Subsystem".
4. Correct the descriptions related to target_id=3, 4, 8, 9 in RX02.

2023.11.09 Version 2.18.4

1. RX19, RX20 add SecurityRequestType 3 definition (Query). (2.17.6 FLEX Product Definition request message (RX19))
2. Error code: add 306

2024.04.30 Version 2.18.5

1. Adjustment to LX30 Group Notification: Previously, when the L20 version wasn't 0 and the group lacked a last report sequence number (rpt_seq) to transmit, LX30 notification wasn't sent. Now, LX30 notification will be sent regardless. Hence, data with a last end message number of 0 for the group may be transmitted.

2025.03.11 Version 2.18.6

1. In this update, the rules for the Multi-leg Product ID remain unchanged.
2. Update the 3.5 MULTI-LEG PRODUCT ID examples and additional supplement.

2025.08.18 Version 2.18.7

1. Adjusted the description in Section 2.2.5 regarding L40 request logon errors.
2. Revised Section 3.5 on options symbol coding to include weekly equity options and update examples.
3. Added R17 to the list of messages in Section 3.9 Flow Control.