**AnyLink-S**

**KDB DAEWOO Securities Open Interface Systems**

**Interface between Client System and OIS**

**(Asynchronous)**

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**1. Introduction**

# 여기에서 연급 하고자 하는 API 는 KDB대우증권의 Open Interface System으로 KDB대우증권에서 제공하는 Trading 관련 서비스를 제공받고자 하는 고객의 Application Programming에 기준이 되는 매뉴얼이다.

# KDB대우증권의 Open Interface System과 고객의 Application 사이의 Communication은 TCP/IP socket 을 바탕으로 이루어진다.

**2. System OverView**

# **Customer**

# **OIS**

# **#Port nnn1**

# **#Port nnn2**

# **#Port nnn4**

# **#Port nnn3**

# **#Port nnn5**

# **Server**

# **Client**

**TCP/IP**

Notes:

1. Open Interface System에는 5가지의 Session이 존재하여 각각의 서비스를 제공하고 있다.

2. Customer Application이 OIS의 서비스를 제공받기 위해서는 5가지 Session에 Connect해야 한다.

**3. Message Description**

**(1). Composition of Interface Message**

# 기본구조 : 주문 인 경우 총 560Byte = 60 + 100 + 300 + 100

# ORDER Session에서는 국내주식주문=261Byte, 해외주식주문=283Byte이나 나머지를 Filler(space)

로 처리해서 Data Body를 400Byte로 고정한다.

# Query Session에서는 Data ID별로 Data Body는 변동된다. N건 요청은 지원하지 않는다.

|  |  |  |  |
| --- | --- | --- | --- |
| Communication Header  (60 byte) | Data Header  (100 byte) | Data Body  (n byte) | Filler  (100 byte) |

# n건 전송시 : Communication Header에 Data Count를 입력하고 Data부 (Data H + Data Body +Filler) 를 반복하여 전송한다. (ORDER Session Only.)

|  |  |  |  |
| --- | --- | --- | --- |
| Comm. H  (60 byte) | Data H 1  (100 byte) | Data Body 1  (n byte) | Filler 1  (100 byte) |

|  |  |  |
| --- | --- | --- |
| … |  |  |

|  |  |  |
| --- | --- | --- |
| Data H n  (100 byte) | Data Body n  (n byte) | Filler n  (100 byte) |

**(2). Communication Header (60 byte)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Item | Length | Description | Remark |
| 01 | Stx | Char[ 1 ] | STX | 0x02 |
| 02 | Version | Char[ 4 ] | Version information | v1.0 |
| 03 | MsgLen | Char[ 6 ] | Total Length of Data | # Comm. Header [60]  + (Data Header (100) + Data Body (300) + Filler (100)) \* DataCnt |
| 04 | ApType | Char[ 6 ] | duty type identifier | Daewoo will announce. |
| 05 | SendingTime | Char[20] | YYYYMMDD  HHMMSSmmmuuu |  |
| 06 | TRcode | Char[ 4 ] | Transaction Code | See below chart. |
| 07 | SeqNo | Char[ 11 ] | Sequence No | # It is a sequence number that starts from 1 when real “DATA” is processed.  # This is to check if the connection is made in an ordinary manner |
| 08 | DataCnt | Char[ 3 ] | Data Count | # It ranges from 01 ~ 100  # It is “000”, when only communication header is used. |
| 09 | Filler | Char[ 5 ] | Filler | Space |

**1) Transaction Code**

|  |  |  |  |
| --- | --- | --- | --- |
| CODE | Type | Origination | Description |
| LINK | Operation Code | Client | Request for connection to designated Port. |
| **LIOK** | Operation Code | OIS | Reply for LINK. |
| **DATA** | Operation Code | Data transmission  system | Request for data process. |
| **POLL** | Operation Code | Client, OIS | Alive check |
| **E001 ~ E008** | Rejection Code | Data reception system | Indicate the erroneous field number in the communication header. |
| **ELNK** | Rejection Code | OIS | Occurs upon receiving LINK code twice. |

**(3). Data Header (100 byte)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Item | Length | Description | Remark |
| 01 | Data ID | Char [ 8 ] | 01=Single Order | ORDER세션과 QUERY세션에서 DATA전송 시 대우증권에서 부여한 SVC ID입력 |
| 02 | Data Length | Char [ 6 ] | 1-Record Length of Data |  |
| 03 | Return Code | Char [ 6 ] | “000000” or “0000” | 거래소코드 E +”0000”  DMA코드 F + “000”  원장코드 G +”00000”  채널코드 K + “000” |
| 04 | Password | Char [ 32 ] |  | LINK전송 = “세션ID”를 평문으로 입력  DATA전송 = “계좌(고객)비밀번호”를 대우증권에서 제시한 방식으로 암호화하여 입력 |
| 05 | Filler | Char [ 48 ] | Filler | Space or ‘0’ |

**1) Return code**

|  |  |  |  |
| --- | --- | --- | --- |
| CODE | Type | Origination | Description |
| 0000 | Normal Code | Client, OIS |  |
| K111 | Rejection Code | OIS | Rejection of order data received after market closure. |
| K112 | Rejection Code | OIS | Rejection of data prior to connection by outer institutions. |
| K113 | Rejection Code | OIS | Data ID error |
| K114 | Rejection Code | OIS | Rejection of data reception due to FEP malfunction. |
| K115 | Rejection Code | OIS | Timeout error |
| K118 | Rejection Code | OIS | Invalid Password or Exeeding Permissions |
| K119 | Rejection Code | OIS | Rejection for unregistered account |
| K121 | Rejection Code | OIS | Rejection due to order number Duplication |
| K997 | Rejection Code | OIS | FEP processing malfunction after receiving data. |
| K998 | Rejection Code | OIS | FEP processing malfunction after receiving data. |

**(4). Member’s Discretion (60 byte)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Item | Length | Description | Remark |
| 01 | FEP org | Char [9] | Space | Cannot be amended. |
| 02 | Data type | Char [1] | 1=CASH  3=DERIVATIVES  4=DERIVATIVES(T+1 Session)  A=FOREIGN CASH  D=FOREIGN DERIVATIVES | Cannot be amended.  This field is for distinguishing markets when receiving KRX packet therefore client must comply. |
| 03 | Filler | Char [10] |  | Client may use this field for its own internal classification. |
| 04 | User Define | Char [40] |  | Applicable after consulting with Daewoo. |

# Member’s Discretion is the 35th field of KRX order format.

**4. Session Connection & Flow**

**Interface Description**

# “LINK” message is sent from client for the initial connection to OIS system

# When there is no data transmission to the session for a certain period of time, “POLL” (Alive check) data is sent to both client server and OIS system.

# **4.1 Initial Connection**

# Data Header의 Password필드에 고객별 세션ID를 저장하고 LINK메시지를 전송한다.

# **Use only Communication header and Data header only**

|  |  |
| --- | --- |
| Stx | 0x02 |
| Version | v1.0 |
| Len | 000160 (C.H+D.H) |
| ApType | C115TR |
| Time | YYYYMMDDHHMMSSmmmuuu |
| TRcode | LINK |
| SeqNo | 00000000000 |
| DataCnt | 000 |
| Filler | Space or “00000” |

**OIS (Server) Connecting System(Client)**

LINK

*Stx*/v1.0/000060/C115TR/*Time*/LINK/00000000000/000/00000/D.H

LINK OK (Normal situation)

*Stx*/v1.0/000060/C115TR/*Time*/LIOK/00000000000/000/00000/D.H

# Error cased by Aptype ERROR (Abnormal situation)

LINK

*Stx*/v1.0/000060/C113RR/*Time*/LINK/00000000000/000/00000/D.H

*Stx*/v1.0/000060/C115TR/*Time*/E004/00000000000/000/00000/D.H

# Error against two times transmission of # LINK (Abnormal situation)

*Stx*/v1.0/000060/C115TR/*Time*/ELNK/00000000000/000/00000/D.H

▣ While the session is already up and data’s transmitted, if LINK command is placed again, ELNK message will be sent.

# **4.2 Data Process – ORDER Session**

**# Index Futures order**

**Communication header**

|  |  |
| --- | --- |
| Stx | 0x02 |
| Version | v1.0 |
| Len | 000560 (C.H+D.H+KRX.D+Filler) |
| ApType | C115TR |
| Time | YYYYMMDDHHMMSSmmmuuu |
| TRcode | DATA |
| SeqNo | 00000000001 |
| DataCnt | From 01 ~ 999 at Maximum |
| Filler | Space or “00000” |

**OIS (Server) Connecting System(Client)**

DATA

*Stx*/v1.0/002560/C115TR/*Time*/DATA/**00000000006**/005/00000/D.H1/KRX O.D1

/D.H2/KRX O.D2/ … /D.H5/KRX O.D5

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000011**/001/00000/D.H1/KRX O.D1

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000012**/001/00000/D.H1/KRX O.D1

POLL (OIS Server sends POLL every 30 seconds after LIOK)

*Stx*/v1.0/000060/C115TR/*Time*/POLL/00000000000/000/00000

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000013**/001/00000/D.H1/KRX O.D1

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000014**/001/00000/D.H1/KRX O.D1

If there’s no data flow for 30 seconds, POLL will be sent (last order seq.)

POLL

*Stx*/v1.0/000060/C115TR/*Time*/POLL/**00000000014**/00/00000000

**OIS (Server) Connecting System(Client)**

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000015**/001/00000/D.H1/KRX O.D1

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000016**/001/00000/D.H1/KRX O.D1

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000017**/001/00000/D.H1/KRX O.D1

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000018**/001/00000/D.H1/KRX O.D1

**# Error Occurrence: Sequence number Mismatch**

**Session will be disconnected by OIS System**

**OIS’s last processed Seq. upon error restoration = 16**

**Client reconnects session**

**LINK**

*Stx*/v1.0/000060/C115TR/*Time*/**LINK**/**00000000018**/000/00000

↖Client’s last transmission Seq

*Stx*/v1.0/000060/C115TR/*Time*/**LIOK**/**00000000016**/000/00000

↖OIS’s last reception Seq

**🡪 Client transmits data starting from OIS System’s Last Seq. + 1.**

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000017**/001/00000/D.H1/KRX O.D1

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000018**/001/00000/D.H1/KRX O.D1

# **4.3 Data Process – ACK/EXEC Session**

**# Index Future execution, amendment/cancellation confirmation**

**(in case of Index Futures execution)**

**Communication header**

|  |  |
| --- | --- |
| Stx | 0x02 |
| Version | v1.0 |
| Len | 000560 (C.H+D.H+KRX.D+Filler) |
| ApType | C145TS |
| Time | YYYYMMDDHHMMSSmmmuuu |
| TRcode | DATA |
| SeqNo | 00000000001 |
| DataCnt | From 01 ~ 999 at Maximum |
| Filler | Space or “00000” |

**OIS (Server) Connecting System(Client)**

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000011**/001/00000/D.H/KRX EX.D

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000012**/001/00000/D.H/KRX EX.D

POLL (Client sends POLL every 30 seconds after LINK)

*Stx*/v1.0/000060/C145TS/*Time*/POLL/00000000000/000/00000

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000013**/001/00000/D.H/KRX EX.D

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000014**/001/00000/D.H/KRX EX.D

If there’s no data flow for 30 seconds, POLL will be sent (last order seq.)

POLL

*Stx*/v1.0/000060/C145TS/*Time*/POLL/00000000014/000/00000

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000015**/001/00000/D.H/KRX EX.D

**OIS (Server) Connecting System(Client)**

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000016**/001/00000/D.H/KRX EX.D

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000017**/001/00000/D.H/KRX EX.D

**# Error Occurrence: Sequence number Mismatch**

**Session will be disconnected by Client**

**Client’s last processed Seq. upon error restoration = 15**

**Client reconnects session**

**LINK**

*Stx*/v1.0/000060/C145TS/*Time*/LINK/**00000000015**/000/00000

↖Client Last Seq

*Stx*/v1.0/000060/C145TS/*Time*/LIOK/**00000000017**/000/00000

↖OIS’s Last Seq

**🡪 OIS System transmits data starting from Client’s Last Seq. + 1.**

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000016**/001/00000/D.H/KRX EX.D

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000017**/001/00000/D.H/KRX EX.D

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000018***/*001/00000/D.H/KRX EX.D

# **4.4 Re-connection Process – ORDER Session**

**# Re-connection process after Network/System Error occurrence**

**4.4)-1. In case Data is received at OIS. (e.g.: Index Futures Order )**

**# In case Last Sequence is correct.**

**OIS (Server) Connecting System(Client)**

**DATA**

*Stx*/v1.0/000560/C115TR/*Time*/DATA/00000000015/001/00000/D.H1/KRX O.D1

**DATA**

*Stx*/v1.0/000560/C115TR/*Time*/DATA/00000000016/001/00000/D.H1/KRX O.D1

**# Error Occurrence: Socket Disconnection**

**OIS’s last processed Seq. upon error restoration = 16**

**Client’s last processed Seq. upon error restoration = 16**

**LINK**

*Stx*/v1.0/000060/C115TR/*Time*/LINK/00000000016/001/00000

↖Client’s last transmission Seq

*Stx*/v1.0/000060/C115TR/*Time*/LIOK/00000000016/001/00000

↖OIS’s last reception Seq

**DATA**

*Stx*/v1.0/000560/C115TR/*Time*/DATA/00000000017/001/00000/D.H1/KRX O.D1

**DATA**

*Stx*/v1.0/000560/C115TR/*Time*/DATA/00000000018/001/00000/D.H1/KRX O.D1

**# In case Client’s Last Sequence is larger than OIS’s Last Sequence**

**OIS (Server) Connecting System(Client)**

**DATA**

*Stx*/v1.0/000560/C115TR/*Time*/DATA/00000000015/001/00000/D.H1/KRX O.D1

**DATA**

*Stx*/v1.0/000560/C115TR/*Time*/DATA/00000000016/001/00000/D.H1/KRX O.D1

**# Error Occurrence: Socket Disconnection**

**OIS’s last processed Seq. upon error restoration = 14**

**Client’s last processed Seq. upon error restoration = 16**

**LINK**

*Stx*/v1.0/000060/C115TR/*Time*/LINK/00000000016/000/00000

↖Client’s last transmission Seq

*Stx*/v1.0/000060/C115TR/*Time*/LIOK/00000000014/000/00000

↖OIS’s last reception Seq

**🡪 Client transmits data from OIS Last Seq. + 1.**

**DATA**

*Stx*/v1.0/000560/C115TR/*Time*/DATA/00000000015/001/00000/D.H1/KRX O.D1

**DATA**

*Stx*/v1.0/000560/C115TR/*Time*/DATA/00000000016/001/00000/D.H1/KRX O.D1

**# In case Client’s Last Sequence is smaller than OIS’s Last Sequence.**

**OIS (Server) Connecting System(Client)**

**DATA**

*Stx*/v1.0/000560/C115TR/*Time*/DATA/00000000019/001/00000/D.H1/KRX O.D1

**DATA**

*Stx*/v1.0/000560/C115TR/*Time*/DATA/00000000020/001/00000/D.H1/KRX O.D1

**# Error Occurrence: Socket Disconnection**

**OIS’s last processed Seq. upon error restoration = 20**

**Client’s last processed Seq. upon error restoration = 16**

**LINK**

*Stx*/v1.0/000060/C115TR/*Time*/LINK/00000000016/000/00000

↖Client’s last transmission Seq

**ERROR**

*Stx*/v1.0/000060/C115TR/*Time*/E006/00000000020/000/00000

↖OIS’s last reception Seq

**🡪 If error occurred from the Client side (i.e. fail over etc.), Sequence**

**needs to be matched manually.**

**🡪 OIS closes socket and waits for reconnection.**

**🡪 Client adjusts to Daewoo’s last reception sequence number and**

**reconnects, resends LINK.**

**🡪 Socket Re-connect**

**LINK**

*Stx*/v1.0/000060/C115TR/*Time*/LINK/00000000020/000/00000

↖Client last transmission Seq

*Stx*/v1.0/000060/C115TR/*Time*/LIOK/00000000020/000/00000

↖OIS’s last reception Seq

**DATA**

*Stx*/v1.0/000560/C115TR/*Time*/DATA/00000000021/001/00000/D.H1/KRX O.D1

**DATA**

*Stx*/v1.0/000560/C115TR/*Time*/DATA/00000000022/001/00000/D.H1/KRX O.D1

# **4.5 Re-connection Process – ACK/EXEC Session**

**4.5)-1. In case Data is transmitted from OIS (e.g. : Index Futures Execution)**

**# In case Last Sequence is correct.**

**OIS (Server) Connecting System(Client)**

**DATA**

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000025/001/00000/D.H/KRX EX.D

**DATA**

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000026/001/00000/D.H/KRX EX.D

**# Error Occurrence: Socket Disconnection**

**OIS’s last processed Seq. upon error restoration = 26**

**Client’s last processed Seq. upon error restoration = 26**

**LINK**

*Stx*/v1.0/0060/C145TS/*Time*/LINK/00000000026/000/00000

↖Client’s final reception Seq

*Stx*/v1.0/000060/C145TS/*Time*/LIOK/00000000026/000/00000

↖OIS’s final transmission Seq

# **DATA**

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000027/001/00000/D.H/KRX EX.D

# **DATA**

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000028/001/00000/D.H/KRX EX.D

**# In case Client’s Last Sequence is smaller than OIS’s Last Sequence.**

**OIS (Server) Connecting System(Client)**

**DATA**

*Stx*/v1.0/000560/C145TS/*Time*/DATA/000000000015/001/00000/D.H/KRX EX.D

**DATA**

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000016/001/00000/D.H/KRX EX.D

**DATA**

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000017/001/00000/D.H/KRX EX.D

**# Error Occurrence: Socket Disconnection**

**OIS’s last processed Seq. upon error restoration = 17**

**Client’s last processed Seq. upon error restoration = 15**

**LINK**

*Stx*/v1.0/000060/C145TS/*Time*/LINK/00000000015/000/00000

↖Client Last Seq

*Stx*/v1.0/000060/C145TS/*Time*/LIOK/00000000017/000/00000

↖OIS’s Last Seq

**🡪 OIS transmits data starting from Client Last Seq. + 1.**

# **DATA**

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000016/001/00000/D.H/KRX EX.D

**DATA**

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000017/001/00000/D.H/KRX EX.D

**# In case Client’s Last Sequence is larger than OIS’s Last Sequence**

**OIS (Server) Connecting System(Client)**

**DATA**

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000015/001/00000/D.H/KRX EX.D

**DATA**

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000016/001/00000/D.H/KRX EX.D

**DATA**

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000017/001/00000/D.H/KRX EX.D

**# Error Occurrence: Socket Disconnection**

**OIS’s last processed Seq. upon error restoration = 15**

**Client’s last processed Seq. upon error restoration = 17**

**LINK**

*Stx*/v1.0/000060/C145TS/*Time*/LINK/**00000000017**/000/00000

↖Client Last Seq

**ERROR**

*Stx*/v1.0/000060/C145TS/*Time*/E006/00000000015/000/00000

↖OIS Last Seq

**🡪 If an error occurred from OIS server (i.e. fail over etc.),**

**Sequence needs to be matched manually.**

**🡪 OIS closes Socket and waits for client’s reconnection.**

**🡪 OIS adjusts to Client’s last reception sequence number**

**and reconnects, resends LINK.**

**🡪 Socket Re-connect**

**LINK**

*Stx*/v1.0/000060/C145TS/*Time*/LINK/00000000017/000/00000

↖Client Last Seq

*Stx*/v1.0/000060/C145TS/*Time*/LIOK/00000000017/000/00000

↖OIS Last Seq

### DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000018/001/00000/D.H/KRX EX.D

### DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/00000000019/001/00000/D.H/KRX EX.D

# **4.6 Polling Process – Alive Check**

# Polling data will be sent between both sessions if there is no data flow for 30 seconds.

# If there’s no data received in 35 seconds (polling time 30 seconds + fudge factor 5 seconds), session will be disconnected.

**Communication header**

|  |  |
| --- | --- |
| Stx | 0x02 |
| Version | v1.0 |
| Len | 0060 |
| ApType | C115TR |
| Time | YYYYMMDDHHMMSSmmmuuu |
| TRcode | POLL |
| SeqNo | 00000000001 |
| DataCnt | 00 |
| Filler | Space or “00000000” |

**4.6)-1 In case of Order**

**OIS (Server) Connecting System(Client)**

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000047**/001/00000/D.H1/KRX O.D1

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000048**/001/00000/D.H1/KRX O.D1

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000049**/001/00000/D.H1/KRX O.D1

:

:

Failed to generate data for 30 seconds from client

POLL

*Stx*/v1.0/000060/C115TR/*Time*/**POLL**/**00000000049**/000/00000

↖Client last processed Seq

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000050**/001/00000/D.H1/KRX O.D1

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000051**/001/00000/D.H1/KRX O.D1

:

Generate POLL data for Every time after 30 seconds from OIS

POLL

*Stx*/v1.0/000060/C115TR/*Time*/**POLL**/**00000000000**/000/00000

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000052**/001/00000/D.H1/KRX O.D1

DATA

*Stx*/v1.0/000560/C115TR/*Time*/DATA/**00000000053**/001/00000/D.H1/KRX O.D1

**4.6)-2 Order confirmation, execution, amendment/cancellation, market operation**

**(e.g.: Index Futures execution)**

**OIS (Server) Connecting System(Client)**

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000051**/001/00000/D.H/KRX EX.D

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000052**/001/00000/D.H/KRX EX.D

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000053**/001/00000/D.H/KRX EX.D

Failed to generate data for 30 seconds from OIS

POLL

*Stx*/v1.0/000060/C145TS/*Time*/POLL/00000053/000/00000

↖OIS’s last processed Seq

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000054**/001/00000/D.H/KRX EX.D

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000055**/001/00000/D.H/KRX EX.D

Generate POLL data for Every time after 30 seconds from Client

POLL

*Stx*/v1.0/000060/C115TR/*Time*/**POLL**/**00000000000**/000/00000

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000056**/001/00000/D.H/KRX EX.D

DATA

*Stx*/v1.0/000560/C145TS/*Time*/DATA/**00000000057**/001/00000/D.H/KRX EX.D