Japannext JNX

GLIMPSE Market Data Specification for Bonds

Version 1.2
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1.　　Introduction

This document explains access to the bonds market data services of Japannext PTS via the GLIMPSE protocol. It describes the service's configuration and specifies the application messages. For further information and inquiries regarding market data services or for questions concerning connectivity please contact Japannext PTS Technical Support via email to: ito@japannext.co.jp.

2.　　Overview

The message protocol of GLIMPSE provides the current state of the Japannext PTS execution system. It utilizes the same messages as the Japannext PTS ITCH protocol.

The point-to-point transport layer for GLIMPSE messages is SoupBinTCP.

3.　　Data Types

Integer fields are unsigned big-endian (network byte order) binary encoded numbers.

Signed Integer fields are signed big-endian (network byte order) binary encoded numbers.

Alpha fields are left-justified and padded on the right with spaces.

Price fields are 4 byte Signed Integer fields. When converted to fixed point number format they have 7 whole number digits and 3 decimal places. The maximum representable value is 2,147,483.646 (7FFFFFFE hex) and the minimum representable value is -2,147,483.648 (80000000 hex).

Quantity fields are 4 byte Integer fields with a maximum representable value of 2,147,483,647 (7FFFFFFF hex).

4.　　Service Usage

A client establishes a connection to the GLIMPSE host with a requested sequence number of 1 in the login request packet. The service will respond with a snapshot, sending out messages containing the current state of the Japannext PTS execution system. The final message in the snapshot provides the next sequence number of the real-time ITCH market data feed at the time the snapshot was taken.

5.　　Outbound Sequenced Messages

Outbound messages are generated by the GLIMPSE host and received by the client's application.

5.1　Timestamp – Seconds Message

The timestamp is separated into two parts to improve bandwidth efficiency: the 'seconds' part comes as a standalone Timestamp – Seconds Message and reflects the number of seconds past midnight that the message was generated, and the 'nanoseconds' part comes as a field within individual messages as the number of nanoseconds since the most recent Timestamp – Seconds Message.

A Timestamp – Seconds Message will be sent for every second in which there is at least one other message type sent.

Name	Offset	Length	Type	Comments
Message Type	0	1	Alpha	Value is T = Timestamp – Seconds Message.
Timestamp – Seconds	1	4	Integer	Number of seconds since midnight.

5.2 System Event Message

System Event Messages signal data feed, system and market events.

The snapshot includes only the Start of Messages and End of Messages system events that occurred up to the time the snapshot was taken.

Name	Offset	Length	Type	Comments
Message Type	0	1	Alpha	Value is S = System Event Message.
Timestamp – Nanoseconds	1	4	Integer	Number of nanoseconds since last Timestamp – Seconds Message.
Group	5	4	Alpha	Orderbook group identifier. Blank if system wide event. Values: DJGB = JGB Market
System Event	9	1	Alpha	Refer to the System Events table below.

Table 1: System Events

Event	Description
O	Start of Messages – Always the first message sent in any trading day excepting Timestamp – Seconds Messages.
C	End of Messages – Always the last message sent in any trading day.

5.3 Price Tick Size Message

Price Tick Size Messages define a set of price tick size tables.

Price Tick Size Messages are sent before the Orderbook Directory Messages.

Name	Offset	Length	Type	Comments
Message Type	0	1	Alpha	Value is L = Price Tick Size Message.
Timestamp – Nanoseconds	1	4	Integer	Number of nanoseconds since last Timestamp – Seconds Message.
Price Tick Size Table Id	5	4	Integer	Price tick size table identifier.
Price Tick Size	9	4	Integer	Yield tick size.
Price Start	13	4	Signed Integer	Start of yield range for this yield tick size.

5.4 Orderbook Directory Message

Orderbook Directory Messages provide information about orderbooks available in the Japannext PTS execution system.

Note that reference yields are provided via Order Added Messages.

Name	Offset	Length	Type	Comments
Message Type	0	1	Alpha	Value is R = Orderbook Directory Message.
Timestamp – Nanoseconds	1	4	Integer	Number of nanoseconds since last Timestamp – Seconds Message.
Orderbook Id	5	4	Integer	Bond code per SICC definition.

Name	Offset	Length	Type	Comments
Orderbook Code	9	12	Alpha	International Securities Identification Number (ISIN).
Group	21	4	Alpha	Orderbook group identifier. Values: DJGB = JGB Market
Round Lot Size	25	4	Integer	Number of bonds that represent a round lot.
Price Tick Size Table Id	29	4	Integer	Price tick size table identifier.
Price Decimals	33	4	Integer	Number of decimal places in price fields. Value is 3.
Upper Price Limit	37	4	Signed Integer	Maximum tradable yield.
Lower Price Limit	41	4	Signed Integer	Minimum tradable yield.

5.5   Trading State Message

A Trading State Message message indicates the current trading status of an orderbook.

Trading State Message are sent for all orderbooks which are eligible for trading at the time the snapshot was taken. If there is no Trading State Message for a particular orderbook, clients should assume that the orderbook was suspended at the time the snapshot was taken.

Name	Offset	Length	Type	Comments
Message Type	0	1	Alpha	Value is H = Trading State Message
Timestamp – Nanoseconds	1	4	Integer	Number of nanoseconds since last Timestamp – Seconds Message.
Orderbook Id	5	4	Integer	Bond code per SICC definition.
Group	9	4	Alpha	Orderbook group identifier. Values: DJGB = JGB Market
Trading State	13	1	Alpha	Current trading status. Values: T = Trading V = Suspended

5.6   Order Added Message

An Order Added Message indicates that an order exists in the Japannext PTS execution system's displayable book. This message includes an Order Number which is unique per day per orderbook group.

If the Order Number has a value of zero, this indicates a reference yield update for the orderbook. Reference yield updates are sent after the Orderbook Directory Messages.

Name	Offset	Length	Type	Comments
Message Type	0	1	Alpha	Value is A = Order Added Message.
Timestamp – Nanoseconds	1	4	Integer	Number of nanoseconds since last Timestamp – Seconds Message.
Order Number	5	8	Integer	Reference number of the accepted order. Zero indicates a reference yield update.

Name	Offset	Length	Type	Comments
Buy/Sell Indicator	13	1	Alpha	Side of the order. Values: B = Buy S = Sell Ignore if reference yield update.
Quantity	14	4	Integer	Total number of bonds added to the book. Ignore if reference yield update.
Orderbook Id	18	4	Integer	Bond code per SICC definition.
Group	22	4	Alpha	Orderbook group identifier. Values: DJGB = JGB Market
Price	26	4	Signed Integer	Yield of the order. For a reference yield update, a value of 2,147,483.647 (7FFFFFFF hex) denotes no reference yield available.

5.7 End of Snapshot Message

The End of Snapshot Message provides the next sequence number of the real-time ITCH market data feed at the time the snapshot was taken.

The ITCH market data consumer should begin to process the real-time feed from the sequence number provided in this message.

Name	Offset	Length	Type	Comments
Message Type	0	1	Alpha	Value is G = End of Snapshot Message.
Sequence Number	1	8	Integer	ITCH market data feed sequence number.

Revision History

Date	Version	Description
2016-12-05	1.0	Initial revision.
2017-10-26	1.1	Replaced Order Reference Number field name with Order Number. Replaced Security with Orderbook in message and field names. Replaced Bonds with Quantity in data type descriptor and field names. Replaced Yield with Price in data type descriptor, and message and field names.
2018-01-19	1.2	Renamed messages: Orderbook Directory → Orderbook Directory Message, Orderbook Trading Action → Trading State Message, Add Order Message → Order Added Message. Clarified initial and update reference price mechanisms.