BOLTPLUS Connectivity

Manual

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1 Introduction

As an Exchange Participant, you have a range of alternatives to connect to our markets. BSE Exchange interfaces offer hardware independence, high levels of customization and flexibility. Our portfolio of connectivity alternatives is designed to meet the needs of a variety of users, from low-latency program trading users to cliental trading business models. With this broad offering, you can select which connectivity solution best suits your individual needs. Every business user has different needs, we designed a customized approach to ensure that you can choose the connectivity alternatives based on your unique business needs.

The sections below describe the Interactive interface and various market data interfaces that is offered to the market participants.

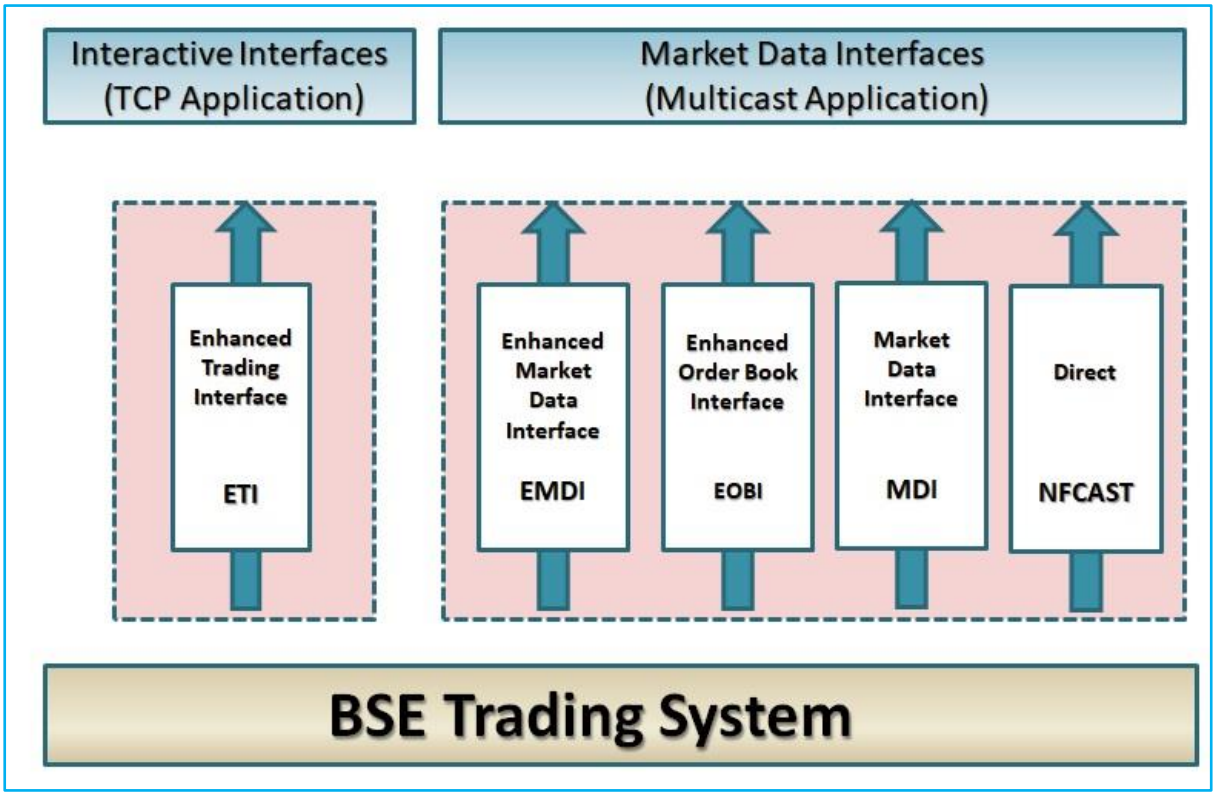

Figure 1: Trading Interface landscape

2 Interactive Interfaces

BSE offers only one interactive interface to connect to BOLTPLUS system. The interface is platform independent and offers wide flexibility in terms of implementation. **The legacy IML interface supported by exchange is discontinued.**

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2.1 BSE Enhanced Trading Interface (BSE ETI)

The BSE ETI is the high-performance, low-latency trading interface designed for Participants that require optimal performance and customization. This interface supports full trading functionality, drop copy and risk alerts. The communication supported in this interface is in binary format.

The ETI is an asynchronous message-based interface. A connection between participants and exchange is established via a TCP/IP connection. The interface is session oriented. A session is established between the participants' machine and ETI gateway.

In order to establish a session with a trading gateway, a TCP/IP connection to a connection gateway must be established first. The connection gateway provides the connection parameters for the assigned primary and secondary gateway to be used for trading purposes. The connectivity to exchange is a 3-step process and the process is described below

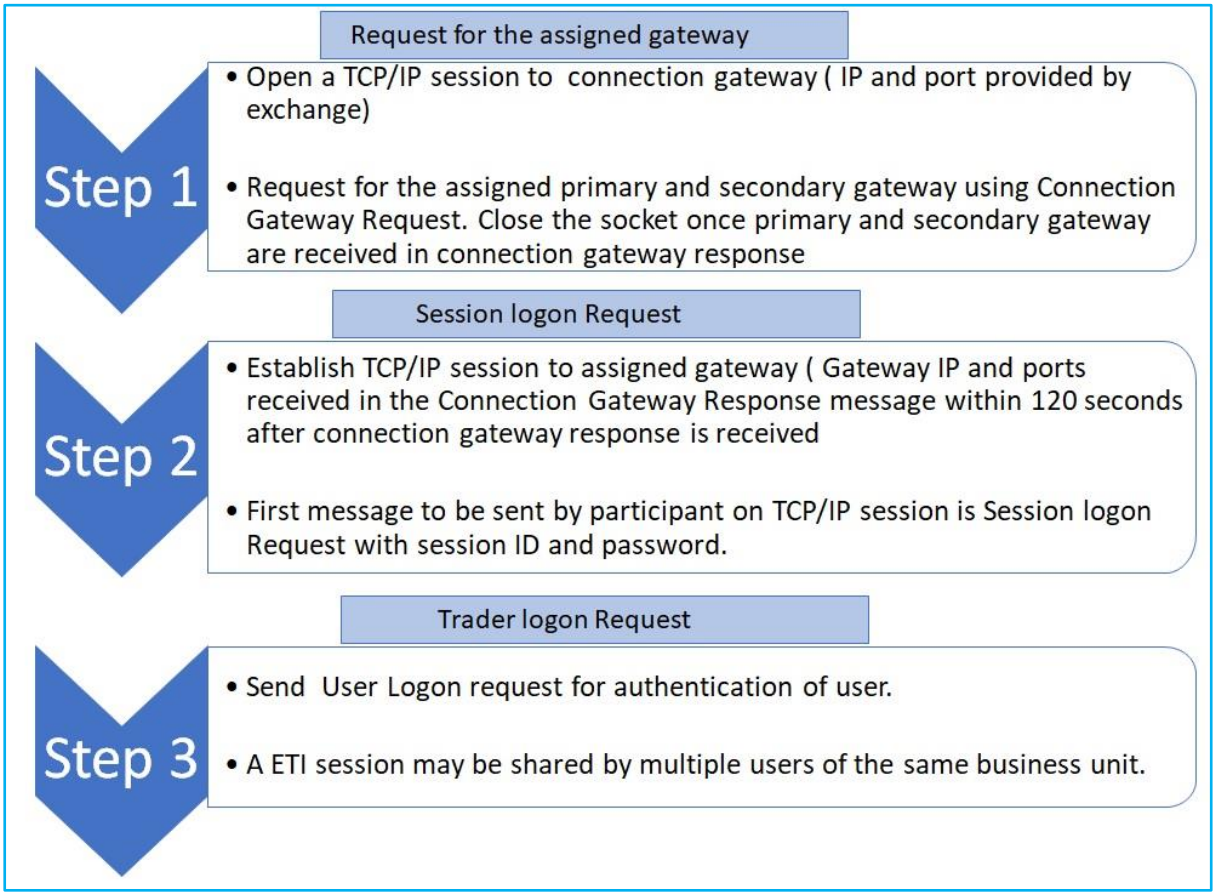

Figure 2: The TCP/IP connection flow of ETI connection

The gateway infrastructure of BSE is built redundantly with set of gateways including a connection gateway, trading gateways for low frequency (LF) sessions and trading gateways for high frequency (HF) sessions.

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For each Session ID a pair of primary and secondary gateway remains constant every day. The pair of gateways are provided to each session in the Connection Gateway Response message. Though the pair remains constant the member application cannot directly connect to primary or secondary gateway. The first connection is mandatorily required to be made to the connection gateway IP published by the exchange.

The pair of primary and secondary gateway may remain constant however periodically, exchange does redistribution of connections on gateways based on the load thus the pair of primary and secondary gateway may or may not change after redistribution.

It is highly recommended that the provision for all gateways are made in member network based on the routes provided in the range provided in the section Routes

3 Market Data Streams

BSE support broadly two category of market data interfaces which are designed for low bandwidth client and high bandwidth clients.

3.1 Low Bandwidth Interfaces

The low bandwidth interfaces include market data interfaces whose bandwidth consumption is capped by exchange to less than 2MBPS. These interfaces provide netted price level data only. They include the following interfaces

3.1.1 BSE Market Data Interface (MDI)

This interface provides netted price level aggregated market data using multicast technology. The data is in FAST FIX format. The data for all partitions are provided on same feed.

3.1.2 BSE Direct NFCAST

This interface provides netted price level aggregated market data using multicast technology. The data is in proprietary binary format. The data for all partitions are provided on same feed.

3.2 High Bandwidth Interfaces

The high bandwidth interfaces include market data interfaces whose bandwidth consumption is not capped by exchange, and it varies from 10 MBPS to 200 MBPS. The feeds are provided partition wise. Each partition will be sent on one set of feed only. These interfaces provide un-netted price level data. They include the following interfaces

3.2.1 BSE Enhanced Market Data Interface (EMDI)

This interface provides un-netted price level aggregated market data using multicast technology. The un-netted data is for a defined price level only. The data is in FAST FIX format.

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3.2.2 BSE Enhanced Order Book Interface (EOBI)

This interface provides every visible order in the order book i.e., tick by tick update is sent in this stream of market data. Most of the functional concepts are like EMDI, however the data is sent in the proprietary binary format.

3.3 Reference Data Interface

3.3.1 BSE Reference Data Interface (RDI)

This interface provides reference data or the master through multicast channel. The data is continuously published on the channel throughout the day. The reference data is also provided through master data file at EOD.

3.4 Comparison Between market data streams:

Attributes	EOBI	EMDI	MDI	Direct NFCAST
Price Level	Full depth	Depth up to configured level (5 Level)	Depth up to configured level (5 Level)	5 level
Price level Aggregation	Every tick is sent as individual update	Unnetted but price level aggregated	Netted Price level aggregated	Netted Price level aggregated
Format	Binary	FAST	FAST	Binary
Bandwidth	High (Approx. 800 MBPS)	High (Approx. 80 MBPS)	Low (Approx. 2.5 MBPS)	Low (Approx. 3 MBPS)
Usage	Algorithmic trading	Algorithmic trading	Used for Terminal based trading application	Used for Terminal based trading application
Recovery	The current pending order book is replayed & should be read again to build the book	The current snapshot up to the configured level is replayed in a separate stream and should be used in case of missed packets	The current snapshot up to the configured level is replayed at regular interval and should be used in case of missed packets	Every update sent is a complete snapshot of 5 level order book, so no separate recovery is required
Availability	Only in BSE Colocation	All networks	All networks	All networks
Composition	Partition wise feed	Partition wise feed	Single feed for all partitions	Single feed for all partitions.

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4 Routes

In order to have network reachability to each of the connectivity described in the document, necessary routes need to be configured in the client network. Below the routes recommended by exchange to be configured in the client network.

4.1 Routes

Segment	Primary Site	DR site	Simulation/ Test
EQUITY	Interactive 10.255.255.1/24 Port: 12906 to 12920 Port: 15906 to 15920 Port: 18906 to 18920 Market Data 137.75.1.1/16	Interactive 10.255.241.1/24 Port: 12906 to 12920 Port: 18906 to 18920 Market Data 138.75.131.0/24	Interactive 10.255.254.1/24 Port: 11406 to 11420 Market Data 137.74.1.1/16 10.255.242.0/24
EQUITY DERIVATIVES	Interactive 10.255.255.1/24 Port: 15906 to 15920 Market Data 137.75.1.1/16	Interactive 10.255.241.1/24 Port: 15906 to 15920 Market Data 138.75.131.0/24	Interactive 10.255.254.1/24 Port: 12406 to 12420 Market Data 137.74.1.1/16 10.255.242.0/24
EQUITY SHORTAGE AUCTION	10.1.101.36 Port: 1001	10.1.101.194 Port:1001	10.1.101.105 Port:1000
CURRENCY DERIVATIVES	Interactive 10.255.255.1/24 Port: 13906 to 13920 Market Data 137.75.1.1/16	Interactive 10.255.241.1/24 Port: 13906 to 13920 Market Data 138.75.131.0/24	Interactive 10.255.254.1/24 Port: 10406 to 10420 Market Data 137.75.1.1/16 10.255.242.0/24

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COMMODITY DERIVATIVES & ELECTRONIC GOLD RECIPTS (EGR)	Interactive 10.255.255.1/26 Port: 14906 to 14920 Market Data 137.75.1.1/16	Interactive 10.255.241.1/26 Port: 14906 to 14920 Market Data 138.75.131.0/24	Interactive 10.255.254.1/26 Port: 15406 to 15420 Market Data 137.75.1.1/16 10.255.242.0/24
Additional Route for members having servers in BSE Colocation	Interactive 10.255.253.1/24 Port: 15906 to 15920 Port: 18906 to 18920 Market Data 10.255.225.1/24	Not applicable	Not applicable

It is highly recommended that the client should allow the above-mentioned routes in their network. The subnet is kept wide enough to provision any new server in future that will be incorporated in the exchange farm **without impacting the settings done at client side. Also note that the exchange may add a new server in the defined range without prior intimation as well.**

5 Connection Parameters

The Various Connection parameter for Interactive and market data feed is mentioned below. The Below section provides all the parameters associated with trading and various set-up such Production, Simulation/ Test and Disaster Recovery.

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5.1 Production: Equity

Interactive Interfaces

Connection Gateway		Host IP	Port
	Primary	10.255.255.6	18909
	Secondary	10.255.255.7	18909

Reference Data Interface

RDI	Incremental		Snapshot	
	227.0.0.11	227.0.0.12	227.0.0.13	227.0.0.14
	12984	12985	12986	12987

Market Data Interfaces (Low Bandwidth)

MDI	Service A	Service B
	227.0.0.19	227.0.0.20
	12994	12995

NFCAST	Equity
	227.0.0.21
	12996

Market Data Interfaces (High Bandwidth)

EMDI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	227.0.0.23	227.0.0.24	227.0.0.25	227.0.0.26
		12923	12924	12925	12926
	Partition 2	227.0.0.27	227.0.0.28	227.0.0.29	227.0.0.30
		12927	12928	12929	12930
	Partition 3	227.0.0.31	227.0.0.32	227.0.0.33	227.0.0.34
		12931	12932	12933	12934
	Partition 4	227.0.0.35	227.0.0.36	227.0.0.37	227.0.0.38
		12935	12936	12937	12938
	Indices	227.0.0.15	227.0.0.16	--	--
		12988	12989	--	--

EOBI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	237.0.0.1	237.0.0.2	237.0.0.3	237.0.0.4
		12901	12902	12903	12904
	Partition 2	237.0.0.5	237.0.0.6	237.0.0.7	237.0.0.8
		12905	12906	12907	12908
	Partition 3	237.0.0.9	237.0.0.10	237.0.0.11	237.0.0.12
		12909	12910	12911	12912
	Partition 4	237.0.0.13	237.0.0.14	237.0.0.15	237.0.0.16
		12913	12914	12915	12916

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5.2 Production: Equity Derivatives

Interactive Interfaces

Connection Gateway		Host IP	Port
	Primary	10.255.255.46	15910
	Secondary	10.255.255.47	15910

Reference Data Interface

RDI	Incremental		Snapshot	
	228.0.0.3	228.0.0.4	228.0.0.5	228.0.0.6
	15903	15904	15905	15906

Market Data Interfaces (Low Bandwidth)

MDI	Service A	Service B
	228.0.0.7	228.0.0.8
	15907	15908

NFCAST	Equity Derivatives
	228.0.0.1
	15901

LPP	Equity Derivatives
	228.0.0.11
	15911

Market Data Interfaces (High Bandwidth)

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EMDI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	228.0.0.13	228.0.0.14	228.0.0.15	228.0.0.16
		15913	15914	15915	15916
	Partition 2	228.0.0.17	228.0.0.18	228.0.0.19	228.0.0.20
		15917	15918	15919	15920
	Partition 3	228.0.0.21	228.0.0.22	228.0.0.23	228.0.0.24
		15921	15922	15923	15924
	Partition 4	228.0.0.25	228.0.0.26	228.0.0.27	228.0.0.28
		15925	15926	15927	15928
	Partition 5	228.0.0.29	228.0.0.30	228.0.0.31	228.0.0.32
		15929	15930	15931	15932
	Partition 6	228.0.0.33	228.0.0.34	228.0.0.35	228.0.0.36
		15933	15934	15935	15936
	Partition 7	228.0.0.37	228.0.0.38	228.0.0.39	228.0.0.40
		15937	15938	15939	15940
	Partition 8	228.0.0.41	228.0.0.42	228.0.0.43	228.0.0.44
		15941	15942	15943	15944
	Partition 9	228.0.0.45	228.0.0.46	228.0.0.47	228.0.0.48
		15945	15946	15947	15948
	Partition 10	228.0.0.49	228.0.0.50	228.0.0.51	228.0.0.52
		15949	15950	15951	15952
	Partition 11	228.0.0.53	228.0.0.54	228.0.0.55	228.0.0.56
		15953	15954	15955	15956
	Partition 12	228.0.0.57	228.0.0.58	228.0.0.59	228.0.0.60
		15957	15958	15959	15960
	Others	228.0.0.9	228.0.0.10	--	--
		15909	15910	--	--

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EOBI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	238.0.0.1	238.0.0.2	238.0.0.3	238.0.0.4
		15901	15902	15903	15904
	Partition 2	238.0.0.5	238.0.0.6	238.0.0.7	238.0.0.8
		15905	15906	15907	15908
	Partition 3	238.0.0.9	238.0.0.10	238.0.0.11	238.0.0.12
		15909	15910	15911	15912
	Partition 4	238.0.0.13	238.0.0.14	238.0.0.15	238.0.0.16
		15913	15914	15915	15916
	Partition 5	238.0.0.17	238.0.0.18	238.0.0.19	238.0.0.20
		15917	15918	15919	15920
	Partition 6	238.0.0.21	238.0.0.22	238.0.0.23	238.0.0.24
		15921	15922	15923	15924
	Partition 7	238.0.0.25	238.0.0.26	238.0.0.27	238.0.0.28
		15925	15926	15927	15928
	Partition 8	238.0.0.29	238.0.0.30	238.0.0.31	238.0.0.32
		15929	15930	15931	15932
	Partition 9	238.0.0.33	238.0.0.34	238.0.0.35	238.0.0.36
		15933	15934	15935	15936
	Partition 10	238.0.0.37	238.0.0.38	238.0.0.39	238.0.0.40
		15937	15938	15939	15940
	Partition 11	238.0.0.41	238.0.0.42	238.0.0.43	238.0.0.44
		15941	15942	15943	15944
	Partition 12	238.0.0.45	238.0.0.46	238.0.0.47	238.0.0.48
		15945	15946	15947	15948

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5.3 Production: Currency Derivatives

Interactive Interfaces

Connection Gateway		Host IP	Port
	Primary	10.255.255.13	13910
	Secondary	10.255.255.12	13910

Reference Data Interface

RDI	Incremental		Snapshot	
	229.0.0.11	229.0.0.12	229.0.0.13	229.0.0.14
	10984	10985	10986	10987

Market Data Interfaces (Low Bandwidth)

MDI	Service A	Service B
	229.0.0.19	229.0.0.20
	10994	10995

NFCAST	Currency
	229.0.0.21
	10996

Market Data Interfaces (High Bandwidth)

EMDI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	229.0.0.23	229.0.0.24	229.0.0.25	229.0.0.26
		10923	10924	10925	10926

EOBI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	236.0.0.1	236.0.0.2	236.0.0.3	236.0.0.4
		10901	10902	10903	10904

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5.4 Production: Commodities Derivatives & Electronic Gold Receipts (EGR)

Interactive Interfaces

Connection Gateway		Host IP	Port
	Primary	10.255.255.12	14910
	Secondary	10.255.255.13	14910

Reference Data Interface

RDI	Incremental		Snapshot	
	229.0.0.69	229.0.0.70	229.0.0.71	229.0.0.72
	14969	14970	14971	14972

Market Data Interfaces (Low Bandwidth)

MDI	Service A	Service B
	229.0.0.67	229.0.0.68
	14967	14968

NFCAST	Commodity	EGR
	229.0.0.65	229.0.0.66
	14965	14966

Market Data Interfaces (High Bandwidth)

EMDI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	229.0.0.73	229.0.0.74	229.0.0.75	229.0.0.76
		14973	14974	14975	14976

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5.5 Disaster Recovery: Equity

Interactive Interfaces

Connection Gateway		Host IP	Port
	Primary	10.255.241.10	18909
	Secondary	10.255.241.11	18909

Reference Data Interface

RDI	Incremental		Snapshot	
	227.0.0.11	227.0.0.12	227.0.0.13	227.0.0.14
	12984	12985	12986	12987

Market Data Interfaces (Low Bandwidth)

MDI	Service A	Service B
	227.0.0.19	227.0.0.20
	12994	12995

NFCAST	Equity
	227.0.0.21
	12996

Market Data Interfaces (High Bandwidth)

EMDI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	227.0.0.23	227.0.0.24	227.0.0.25	227.0.0.26
		12923	12924	12925	12926
	Partition 2	227.0.0.27	227.0.0.28	227.0.0.29	227.0.0.30
		12927	12928	12929	12930
	Partition 3	227.0.0.31	227.0.0.32	227.0.0.33	227.0.0.34
		12931	12932	12933	12934
	Partition 4	227.0.0.35	227.0.0.36	227.0.0.37	227.0.0.38
		12935	12936	12937	12938
	Indices	227.0.0.15	227.0.0.16	--	--
		12915	12916	--	--

EOBI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	237.0.0.1	237.0.0.2	237.0.0.3	237.0.0.4
		12901	12902	12903	12904
	Partition 2	237.0.0.5	237.0.0.6	237.0.0.7	237.0.0.8
		12905	12906	12907	12908
	Partition 3	237.0.0.9	237.0.0.10	237.0.0.11	237.0.0.12
		12909	12910	12911	12912
	Partition 4	237.0.0.13	237.0.0.14	237.0.0.15	237.0.0.16
		12913	12914	12915	12916

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5.6 Disaster Recovery: Equity Derivatives

Interactive Interfaces

Connection Gateway		Host IP	Port
	Primary	10.255.241.16	15910
	Secondary	10.255.241.17	15910

Reference Data Interface

RDI	Incremental		Snapshot	
	228.0.0.3	228.0.0.4	228.0.0.5	228.0.0.6
	15903	15904	15905	15906

Market Data Interfaces (Low Bandwidth)

MDI	Service A	Service B
	228.0.0.7	228.0.0.8
	15907	15908

NFCAST	Equity Derivatives
	228.0.0.1
	15901

LPP	Equity Derivatives
	228.0.0.11
	15911

Market Data Interfaces (High Bandwidth)

EMDI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	228.0.0.13	228.0.0.14	228.0.0.15	228.0.0.16
		15913	15914	15915	15916
	Partition 2	228.0.0.17	228.0.0.18	228.0.0.19	228.0.0.20
		15917	15918	15919	15920
	Partition 3	228.0.0.21	228.0.0.22	228.0.0.23	228.0.0.24
		15921	15922	15923	15924
	Partition 4	228.0.0.25	228.0.0.26	228.0.0.27	228.0.0.28
		15925	15926	15927	15928
	Partition 5	228.0.0.29	228.0.0.30	228.0.0.31	228.0.0.32
		15929	15930	15931	15932
	Partition 6	228.0.0.33	228.0.0.34	228.0.0.35	228.0.0.36
		15933	15934	15935	15936
	Partition 7	228.0.0.37	228.0.0.38	228.0.0.39	228.0.0.40
		15937	15938	15939	15940
	Partition 8	228.0.0.41	228.0.0.42	228.0.0.43	228.0.0.44
		15941	15942	15943	15944
	Partition 9	228.0.0.45	228.0.0.46	228.0.0.47	228.0.0.48
		15945	15946	15947	15948
	Partition 10	228.0.0.49	228.0.0.50	228.0.0.51	228.0.0.52
		15949	15950	15951	15952
	Partition 11	228.0.0.53	228.0.0.54	228.0.0.55	228.0.0.56
		15953	15954	15955	15956
	Partition 12	228.0.0.57	228.0.0.58	228.0.0.59	228.0.0.60
		15957	15958	15959	15960

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	Others	228.0.0.9	228.0.0.10	--	--
		15909	15910	--	--

		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
EOBI	Partition 1	238.0.0.1	238.0.0.2	238.0.0.3	238.0.0.4
		15901	15902	15903	15904
	Partition 2	238.0.0.5	238.0.0.6	238.0.0.7	238.0.0.8
		15905	15906	15907	15908
	Partition 3	238.0.0.9	238.0.0.10	238.0.0.11	238.0.0.12
		15909	15910	15911	15912
	Partition 4	238.0.0.13	238.0.0.14	238.0.0.15	238.0.0.16
		15913	15914	15915	15916
	Partition 5	238.0.0.17	238.0.0.18	238.0.0.19	238.0.0.20
		15917	15918	15919	15920
	Partition 6	238.0.0.21	238.0.0.22	238.0.0.23	238.0.0.24
		15921	15922	15923	15924
	Partition 7	238.0.0.25	238.0.0.26	238.0.0.27	238.0.0.28
		15925	15926	15927	15928
	Partition 8	238.0.0.29	238.0.0.30	238.0.0.31	238.0.0.32
		15929	15930	15931	15932
	Partition 9	238.0.0.33	238.0.0.34	238.0.0.35	238.0.0.36
		15933	15934	15935	15936
	Partition 10	238.0.0.37	238.0.0.38	238.0.0.39	238.0.0.40
		15937	15938	15939	15940
	Partition 11	238.0.0.41	238.0.0.42	238.0.0.43	238.0.0.44
		15941	15942	15943	15944
	Partition 12	238.0.0.45	238.0.0.46	238.0.0.47	238.0.0.48
		15945	15946	15947	15948

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5.7 Disaster Recovery: Currency Derivatives

Interactive Interfaces

Connection Gateway		Host IP	Port
	Primary	10.255.241.26	13910
	Secondary	10.255.241.27	13910

Reference Data Interface

RDI	Incremental		Snapshot	
	229.0.0.11	229.0.0.12	229.0.0.13	229.0.0.14
	10984	10985	10986	10987

Market Data Interfaces (Low Bandwidth)

MDI	Service A	Service B
	229.0.0.19	229.0.0.20
	10994	10995

NFCAST	Currency
	229.0.0.21
	10996

Market Data Interfaces (High Bandwidth)

EMDI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	229.0.0.23	229.0.0.24	229.0.0.25	229.0.0.26
		10923	10924	10925	10926

EOBI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	236.0.0.1	236.0.0.2	236.0.0.3	236.0.0.4
		10901	10902	10903	10904

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5.8 Disaster Recovery: Commodities Derivatives & Electronic Gold Receipts (EGR)

Interactive Interfaces

Connection Gateway		Host IP	Port
	Primary	10.255.241.27	14910
	Secondary	10.255.241.26	14910

Reference Data Interface

RDI	Incremental		Snapshot	
	229.0.0.69	229.0.0.70	229.0.0.71	229.0.0.72
	14969	14970	14971	14972

Market Data Interfaces (Low Bandwidth)

MDI	Service A	Service B
	229.0.0.67	229.0.0.68
	14967	14968

NFCAST	Commodity	EGR
	229.0.0.65	229.0.0.66
	14965	14966

Market Data Interfaces (High Bandwidth)

EMDI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	229.0.0.73	229.0.0.74	229.0.0.75	229.0.0.76
		14973	14974	14975	14976

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5.9 Simulation/ Test: Equity

Interactive Interfaces

Connection Gateway		Host IP	Port
	Primary	10.255.254.6	11407
	Secondary	10.255.254.40	11407

Reference Data Interface

RDI	Incremental		Snapshot	
	226.1.0.5	226.1.0.6	226.1.0.7	226.1.0.8
	11405	11406	11407	11408

Market Data Interfaces (Low Bandwidth)

Equity

MDI	Service A	Service B
	226.1.0.2	226.1.0.3
	11402	11403

NFCAST	Equity
	226.1.0.1
	11401

Market Data Interfaces (High Bandwidth)

EMDI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	226.1.0.13	226.1.0.14	226.1.0.15	226.1.0.16
		11413	11414	11415	11416
	Partition 2	226.1.0.17	226.1.0.18	226.1.0.19	226.1.0.20
		11417	11418	11419	11420
	Partition 3	226.1.0.21	226.1.0.22	226.1.0.23	226.1.0.24
		11421	11422	11423	11424
	Partition 4	226.1.0.25	226.1.0.26	226.1.0.27	226.1.0.28
		11425	11426	11427	11428
	Indices	226.1.0.9	226.1.0.10	--	--
		11409	11410	--	--

EOBI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	226.1.0.45	226.1.0.46	226.1.0.47	226.1.0.48
		11445	11446	11447	11448
	Partition 2	226.1.0.49	226.1.0.50	226.1.0.51	226.1.0.52
		11449	11450	11451	11452
	Partition 3	226.1.0.53	226.1.0.54	226.1.0.55	226.1.0.56
		11453	11454	11455	11456
	Partition 4	226.1.0.57	226.1.0.58	226.1.0.59	226.1.0.60
		11457	11458	11459	11460

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5.10 Simulation/ Test: Equity Derivatives

Interactive Interfaces

Connection Gateway		Host IP	Port
	Primary	10.255.254.40	12410
	Secondary	10.255.254.6	12410

Reference Data Interface

RDI	Incremental		Snapshot	
	226.1.1.5	226.1.1.6	226.1.1.7	226.1.1.8
	12405	12406	12407	12408

Market Data Interfaces (Low Bandwidth)

MDI	Service A	Service B
	226.1.1.2	226.1.1.3
	12402	12403

NFCAST	Equity Derv
	226.1.1.1
	12401

LPP	Equity Derv
	226.1.3.61
	11461

Market Data Interfaces (High Bandwidth)

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		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
EMDI	Partition 1	226.1.1.9	226.1.1.10	226.1.1.11	226.1.1.12
		12409	12410	12411	12412
	Partition 2	226.1.1.13	226.1.1.14	226.1.1.15	226.1.1.16
		12413	12414	12415	12416
	Partition 3	226.1.1.17	226.1.1.18	226.1.1.19	226.1.1.20
		12417	12418	12419	12420
	Partition 4	226.1.1.21	226.1.1.22	226.1.1.23	226.1.1.24
		12421	12422	12423	12424
	Partition 5	226.1.1.25	226.1.1.26	226.1.1.27	226.1.1.28
		12425	12426	12427	12428
	Partition 6	226.1.1.29	226.1.1.30	226.1.1.31	226.1.1.32
		12429	12430	12431	12432
	Partition 7	226.1.1.33	226.1.1.34	226.1.1.35	226.1.1.36
		12433	12434	12435	12436
	Partition 8	226.1.1.37	226.1.1.38	226.1.1.39	226.1.1.40
		12437	12438	12439	12440
	Partition 9	226.1.1.41	226.1.1.42	226.1.1.43	226.1.1.44
		12441	12442	12443	12444
	Partition 10	226.1.1.45	226.1.1.46	226.1.1.47	226.1.1.48
		12445	12446	12447	12448
	Partition 11	226.1.1.49	226.1.1.50	226.1.1.51	226.1.1.52
		12449	12450	12451	12452
	Partition 12	226.1.1.53	226.1.1.54	226.1.1.55	226.1.1.56
		12453	12454	12455	12456

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EOBI

	Incremental		Snapshot	
	Service A	Service B	Service A	Service B
Partition 1	226.1.1.62	226.1.1.63	226.1.1.64	226.1.1.65
	12462	12463	12464	12465
Partition 2	226.1.1.66	226.1.1.67	226.1.1.68	226.1.1.69
	12466	12467	12468	12469
Partition 3	226.1.1.70	226.1.1.71	226.1.1.72	226.1.1.73
	12470	12471	12472	12473
Partition 4	226.1.1.74	226.1.1.75	226.1.1.76	226.1.1.77
	12474	12475	12476	12477
Partition 5	226.1.1.78	226.1.1.79	226.1.1.80	226.1.1.81
	12478	12479	12480	12481
Partition 6	226.1.1.82	226.1.1.83	226.1.1.84	226.1.1.85
	12482	12483	12484	12485
Partition 7	226.1.1.86	226.1.1.87	226.1.1.88	226.1.1.89
	12486	12487	12488	12489
Partition 8	226.1.1.90	226.1.1.91	226.1.1.92	226.1.1.93
	12490	12491	12492	12494
Partition 9	226.1.1.94	226.1.1.95	226.1.1.96	226.1.1.97
	12494	12495	12496	12497
Partition 10	226.1.1.98	226.1.1.99	226.1.1.100	226.1.1.101
	12498	12499	22400	22401
Partition 11	226.1.1.102	226.1.1.103	226.1.1.104	226.1.1.105
	22402	22403	22404	22405
Partition 12	226.1.1.106	226.1.1.107	226.1.1.108	226.1.1.109
	22406	22407	22408	22409

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5.11 Simulation/ Test: Currency Derivatives

Interactive Interfaces

Connection Gateway		Host IP	Port
	Primary	10.255.254.6	10408
	Secondary	10.255.254.6	10409

Reference Data Interface

RDI	Incremental		Snapshot	
	226.1.3.5	226.1.3.6	226.1.3.7	226.1.3.8
	10405	10406	10407	10408

Market Data Interfaces (Low Bandwidth)

MDI	Service A	Service B
	226.1.3.2	226.1.3.3
	10402	10403

NFCAST	Currency
	226.1.3.1
	10401

Market Data Interfaces (High Bandwidth)

EMDI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	226.1.3.13	226.1.3.14	226.1.3.15	226.1.3.16
		10413	10414	10415	10416

EOBI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	226.1.3.33	226.1.3.34	226.1.3.35	226.1.3.36
		10433	10434	10435	10436

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5.12 Simulation/ Test: Commodities Derivatives & Electronic Gold Receipts (EGR)

Interactive Interfaces

Connection Gateway		Host IP	Port
	Primary	10.255.254.6	15408
	Secondary	10.255.254.6	15409

Reference Data Interface

RDI	Incremental		Snapshot	
	226.1.2.5	226.1.2.6	226.1.2.7	226.1.2.8
	15405	15406	15407	15408

Market Data Interfaces (Low Bandwidth)

MDI	Service A	Service B
	226.1.2.3	226.1.2.4
	15403	15404

NFCAST	Commodity	EGR
	226.1.2.1	226.1.2.2
	15401	15402

Market Data Interfaces (High Bandwidth)

EMDI		Incremental		Snapshot	
		Service A	Service B	Service A	Service B
	Partition 1	226.1.2.9	226.1.2.10	226.1.2.11	226.1.2.12
		15409	15410	15411	15412

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6 Change Log

<table>
<tr><th>Sr. No.</th><th>Version</th><th>Date</th><th>Description</th></tr>
<tr><td>1.</td><td>1.0</td><td>25th September 2020</td><td>Original Document</td></tr>
<tr><td>2.</td><td>1.1</td><td>13th November 2021</td><td>New Multicast IP 227.0.0.17 and 227.0.0.18 added for Equity Derivative segment in MDI Feed.</td></tr>
<tr><td>3.</td><td>1.2</td><td>1st April 2022</td><td>Production: New Multicast IP 228.0.0.21 added for EGR in commodities derivatives segment.

Simulation/ Test: New Multicast IP 226.1.1.2 added for EGR in commodities derivatives segment.

Simulation/ Test Secondary Connection Gateway IP changed as follows for all segments.
<table><tr><th>OLD IP</th><th>New IP</th></tr><tr><td>10.255.254.7</td><td>10.255.254.40</td></tr></table></td></tr>
<tr><td>4</td><td>1.3</td><td>16th May 2023</td><td>The Generic route section is removed.

The section Specific routes renamed as Routes and range of each route updated.</td></tr>
<tr><td>5</td><td>1.4</td><td>10th July 2023</td><td>Partition 5 and 6 multicast Ip ports added for EOBI and EMDI in Equity and Equity Derivatives segment in Production, Simulation/ Test, and Disaster Recovery</td></tr>
<tr><td>6</td><td>1.5</td><td>10th August 2023</td><td>Partition 7 and 8 multicast Ip ports added for EOBI and EMDI in Equity and Equity Derivatives segment in Production, Simulation/ Test, and Disaster Recovery</td></tr>
<tr><td>7</td><td>1.6</td><td>10th October 2023</td><td>Segregation of equity and equity derivatives segment. Changes in following sections

(a) Section 4.1 Routes: Routes added for equity derivatives segment.

(b) Section 5.3 Production: Equity Derivatives
Section 5.6 Disaster Recovery: Equity Derivatives
Section 5.10: Simulation/ Test: Equity Derivatives</td></tr>
</table>

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			New sections added for IP ports of equity derivatives segment in Production, DR and Simulation/ Test. Multicast IP and ports change in production and DR for Commodities derivatives and EGR segment. Section 5.4 and section 5.8
8	1.7	27th Nov 2023	(Section 5.2) Change in IP of MDI Service B low bandwidth (Section 5.6) Connection Gateway parameters for DR Equity Derivatives
9	1.8	6th Dec 2023	(Section 4.1) Change in Routes of Simulation/ Test Equity and Derivatives (Section 5.9, Section 5.10) Connection Gateway Parameters change for Equity and Derivatives in Simulation/ Test
10	1.9	15th Dec 2023	(Section 5.7, Section 5.8) Connection Gateway Parameters change for Currency Derivatives and Commodities derivatives and EGR in Disaster Recovery.
11	1.10	10th Jun 2024	Partition 9 and 10 multicast IP ports added for EOBI and EMDI in Equity Derivatives segment in Production, Simulation/ Test, and Disaster Recovery
12	1.11	8th July 2024	Connection gateway parameters revised for Encryption channel in all segments.
13	1.12	1st Oct 2024	Connection gateway ports revised for DR Currency and Simulation/ Test all segments
14	1.12.1	4th Nov 2024	EMDI ports updated to 12988 and 12989 respectively Equity production
15	1.12.2	18th Nov 2024	LPP multicast parameters have been added to Equity Derivatives sections
16	1.13	16th December 2024	a. Partition 11 and 12 multicast Ip ports added for EOBI and EMDI in equity and equity derivatives segment in production, Simulation/ Test, and Disaster Recovery. b. Updated Routes for DR and Simulation in Section 4.1
17	1.14	10th July 2025	Introduced Multicast IP for Indices in Simulation/ Test: Equity
18	1.14.1	5th Aug 2025	Connection gateway parameters revised in Simulation/ Test for Currency and Commodity segments

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