CONNECTIVITY GUIDE

HKEX Orion Market Data Platform
Securities Market & Index Datafeed Products (OMD-C)

Version: 2.9
12 October 2026

© Copyright 2026 HKEX
All Rights Reserved

Contents

1. Overview 3

2. Configuration Information 4

2.1 Production Environment Connectivity Details 6
- 2.1.1 OMD Securities Standard (conflated) 6
- 2.1.2 OMD Securities Premium (streaming) 7
- 2.1.3 OMD Securities FullTick (streaming) 8
- 2.1.4 OMD Index (Streaming) 9
- 2.1.5 Conflated Broker Queue 9
- 2.1.6 Odd Lot Order (Streaming) 9
- 2.1.7 Stock Connect Data (Streaming) 10
- 2.1.8 HKEX OMD Retransmission Unicast Connectivity 10
- 2.1.9 HKEX OMD Index Retransmission Unicast Connectivity 10

2.2 Readiness Test Environment Connectivity Details 11
- 2.2.1 OMD Securities Standard (conflated) 11
- 2.2.2 OMD Securities Premium (streaming) 12
- 2.2.3 OMD Securities FullTick (streaming) 13
- 2.2.4 OMD Index (Streaming) 14
- 2.2.5 Conflated Broker Queue 14
- 2.2.6 Odd Lot Order (Streaming) 14
- 2.2.7 Stock Connect Data (Streaming) 15
- 2.2.8 HKEX OMD Retransmission Unicast Connectivity 15
- 2.2.9 HKEX OMD Index Retransmission Unicast Connectivity 15

2.3 OTP-C OCG End-to-End Test Environment Connectivity Details 16
- 2.3.1 OMD Securities Standard (conflated) 16
- 2.3.2 OMD Securities Premium (streaming) 17
- 2.3.3 OMD Securities FullTick (streaming) 18
- 2.3.4 OMD Index (Streaming) 19
- 2.3.5 Conflated Broker Queue 19
- 2.3.6 Odd Lot Order (Streaming) 19
- 2.3.7 Stock Connect Data (Streaming) 20
- 2.3.8 HKEX OMD Retransmission Unicast Connectivity 20

2.4 Individual Client Configuration Details 21

3. Guidelines on SDNet/2 lines / HSN connection 22

3.1 Mode of OMD connection 22

3.2 Bandwidth Requirement 22
- 3.2.1 Production SDNet/2 / HSN and Testing SDNet/2 / HSN for Readiness Test 22
- 3.2.2 Testing SDNet/2 / HSN for OCG End-to-End Test 23

3.3 Sharing of SDNet/2 lines or HSN port set 23

3.4 Bandwidth for shared SDNet/2 lines or HSN port set 24

3.5 SDNet/2 High Performance Option 24

4. Other Guidelines on OMD Connections 25

4.1 Additional Login IDs/Client IP addresses for Unicast Retransmission Service 25

4.2 Installation of SDNet/2 and HSN lines 25
- 4.2.1 SDNet/2 lines 25
- 4.2.2 HSN lines 25

Appendix A – SDNet/2 Accredited Vendors Information 26

Appendix B – Sample Client Configuration Information 27

1. Overview

The target readers of this document are the technical personnel of Market Data Vendors, End-Users, Application Service Providers (“ASPs”) and Independent Software Vendors (“ISVs”) of HKEX Orion Market Data Platform – Securities Market & Index Datafeeds ("OMD-C").

This document aims to provide network configuration information and guidance to assist clients in setting up their networks for making connection to testing and production environments for OMD-C.

OMD-C is available in two testing environments to serve different purposes:

i. Readiness Test Environment is provided for clients to perform Readiness Test on OMD-C so as to enable them to fully test the functional and technical capability of their OMD-C feed handler.

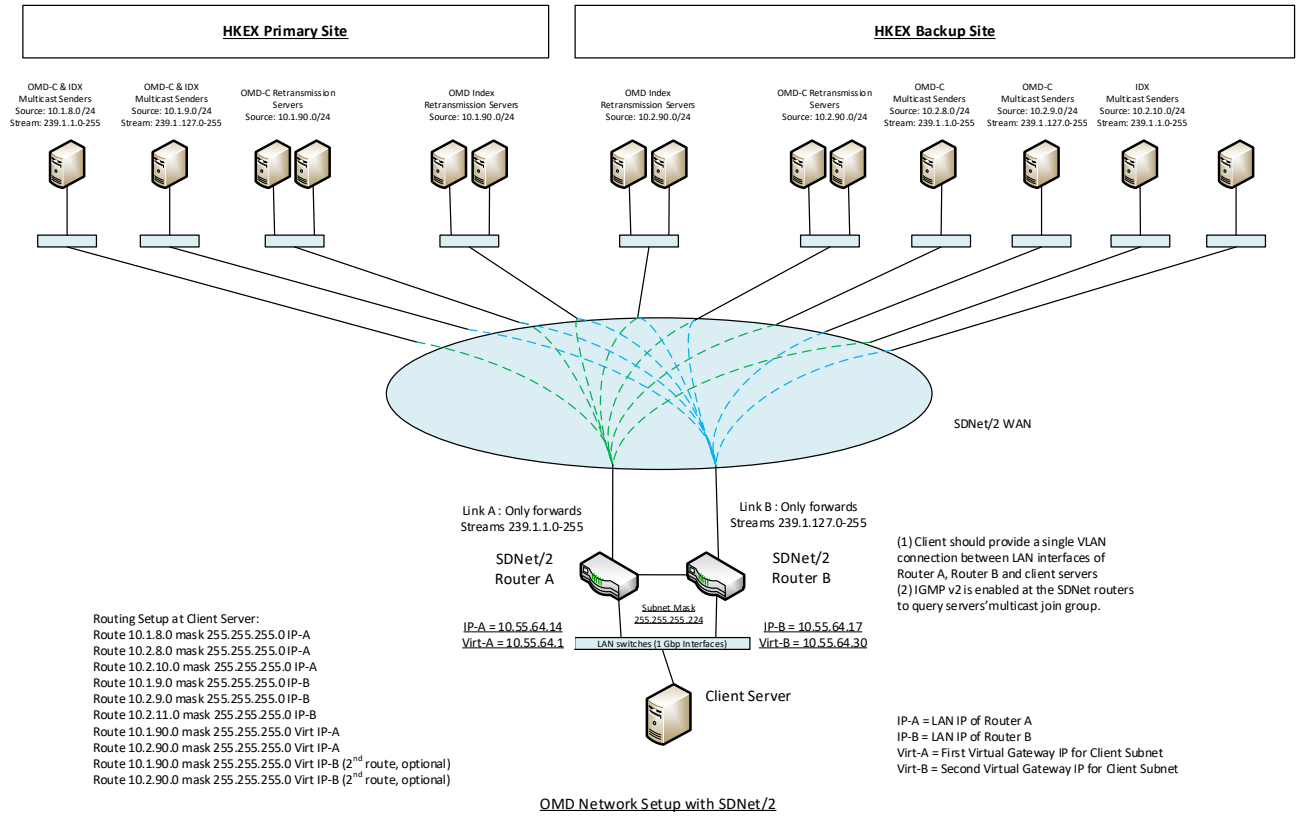
ii. OCG End-to-End Test Environment is provided for Exchange Participants (EPs) to perform the End-to-End Test on the HKEX Orion Central Gateway (OCG). OMD-C is available in this testing environment to facilitate loop test (input order and receive market data) by OCG EPs who plan to receive market data via direct connection to OMD-C.

This document contains:

- Configuration information, i.e. IP addresses of the channels assigned for each of the OMD-C datafeed products in OMD-C Production environment and Readiness Test environment as well as the OCG End-to-End Test Environment
- Guidelines / policies for SDNet/2 and HSN connection

2. Configuration Information

OMD adopts multicast transmission protocol for real-time data transmission with retransmission recovery service running on Unicast. Clients are required to set correct network configurations in order to establish proper connection to the corresponding OMD multicast server and retransmission server. Below is a sample connection diagram which provides an overview of SDNet/2 network connection to OMD for reference.



OMD Network Setup with SDNet/2

For OMD connection via SDNet/2, a client system has to set up routing to the HKEX host subnets as the diagram depicted. To receive multicast stream, IGMP version 2 is employed at the SDNet/2 routers to query the multicast groups which the client system subscribes. The client system should enable the IGMP function and issue join messages to the SDNet/2 routers for the entitled multicast groups.

For OMD connection by co-location at HKEX Host Data Centre (HDC), clients are required to provide their own routers to connect to the HKEX network. The protocols used in HDC network are BGP4 and Multicast PIM sparse mode. For details, please refer to the Interface Specification on Connectivity Services and Timing Service of HKEX Hosting or contact HKEX Hosting Services team via email hostingservices@hkex.com.hk .

Since the physical speed of an SDNet/2 circuit is 1Gbps, therefore, the interface of a client end LAN switch and client end servers have to be 1Gbps in order to prevent packet drops of multicast packet burst. To connect with SDNet/2 routers, interface of the LAN switch should be configured with speed as "auto-sense" and duplex mode as "auto-sense" and "auto-negotiation". Then, when the link comes up, the corresponding interface of the LAN switch should learn 1Gbps and full duplex.

The client systems are required to subscribe to the multicast addresses and port IDs for the subscribed OMD products according to multicast channel subscriptions as listed in Section 2.1 for production

environment or as listed in Section 2.2 for Readiness Test environment or as listed in Section 2.3 for OCG End-to-End Test environment. Clients should not subscribe to other multicast addresses and port IDs not specified in this Connectivity Guide or else it could result in receiving non-OMD packets. Clients should ignore any multicast packets outside the channels subscribed to.

The following 3 subsections 2.1, 2.2, 2.3 provide connection details of the OMD-C Production Environment, OMD-C Readiness Test environment, OCG End-to-End Test Environment respectively.

2.1 Production Environment Connectivity Details

2.1.1 OMD Securities Standard (conflated)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Reference Data Channel	Market Definition (10) Security Definition (11) Liquidity Provider (13) Currency Rate (14)	1	A: 239.1.1.1:51000 B: 239.1.127.1:51000	501	A: 239.1.1.11:51000 B: 239.1.127.11:51000
Trading Session Status Channel	Trading Session Status (20)	2	A: 239.1.1.1:51001 B: 239.1.127.1:51001	502	A: 239.1.1.11:51001 B: 239.1.127.11:51001
Securities Value Add Data Channel	Market Turnover (61)	3	A: 239.1.1.1:51002 B: 239.1.127.1:51002	503	A: 239.1.1.11:51002 B: 239.1.127.11:51002
Securities News Channel	News (22)	4	A: 239.1.1.1:51003 B: 239.1.127.1:51003	504	A: 239.1.1.11:51003 B: 239.1.127.11:51003
Securities Level 2 Conflated Channels	Trade Ticker (52) Nominal Price (40) Indicative Equilibrium Price (41) Closing Price (62) Aggregate Order Book Update (53) Statistics (60) Yield (44) Broker Queue (54) VCM Trigger (23) Reference Price (43) Order Imbalance (56) Security Status (21)	10	A: 239.1.1.2:51000 B: 239.1.127.2:51000	510	A: 239.1.1.12:51000 B: 239.1.127.12:51000
Securities DR Signal Channel	Disaster Recovery Signal (105)	9	A: 239.1.1.1:51008 B: 239.1.127.1:51008		

2.1.2 OMD Securities Premium (streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Reference Data Channel	Market Definition (10) Security Definition (11) Liquidity Provider (13) Currency Rate (14)	1	A: 239.1.1.1:51000 B: 239.1.127.1:51000	501	A: 239.1.1.11:51000 B: 239.1.127.11:51000
Trading Session Status Channel	Trading Session Status (20)	2	A: 239.1.1.1: 51001 B: 239.1.127.1:51001	502	A: 239.1.1.11:51001 B: 239.1.127.11:51001
Securities Value Add Data Channel	Market Turnover (61)	3	A: 239.1.1.1:51002 B: 239.1.127.1:51002	503	A: 239.1.1.11:51002 B: 239.1.127.11:51002
Securities News Channel	News (22)	4	A: 239.1.1.1:51003 B: 239.1.127.1:51003	504	A: 239.1.1.11:51003 B: 239.1.127.11:51003
Securities Level 2 Streaming Channels	Trade (50) Trade Cancel (51) Nominal Price (40)	20	A: 239.1.1.3:51000 B: 239.1.127.3:51000	520	A: 239.1.1.13:51000 B: 239.1.127.13:51000
	Indicative Equilibrium Price (41) Closing Price (62)	21	A: 239.1.1.3:51001 B: 239.1.127.3:51001	521	A: 239.1.1.13:51001 B: 239.1.127.13:51001
	Aggregate Order Book Update (53) Statistics (60)	22	A: 239.1.1.3:51002 B: 239.1.127.3:51002	522	A: 239.1.1.13:51002 B: 239.1.127.13:51002
	Yield (44) VCM Trigger (23) Reference Price (43)	23	A: 239.1.1.3:51003 B: 239.1.127.3:51003	523	A: 239.1.1.13:51003 B: 239.1.127.13:51003
	Order Imbalance (56) Security Status (21)	24	A: 239.1.1.3:51004 B: 239.1.127.3:51004	524	A: 239.1.1.13:51004 B: 239.1.127.13:51004
		25	A: 239.1.1.3:51005 B: 239.1.127.3:51005	525	A: 239.1.1.13:51005 B: 239.1.127.13:51005
		26	A: 239.1.1.3:51006 B: 239.1.127.3:51006	526	A: 239.1.1.13:51006 B: 239.1.127.13:51006
		27	A: 239.1.1.3:51007 B: 239.1.127.3:51007	527	A: 239.1.1.13:51007 B: 239.1.127.13:51007
		28	A: 239.1.1.3:51008 B: 239.1.127.3:51008	528	A: 239.1.1.13:51008 B: 239.1.127.13:51008
Securities DR Signal Channel	Disaster Recovery Signal (105)	9	A: 239.1.1.1:51008 B: 239.1.127.1:51008		

Order and trade activities of tradable securities are distributed among channels 20 to 28 on a daily basis, and this may result in heartbeat messages only being disseminated via some of the channels throughout the day if the channels are not assigned for any securities. Nonetheless, clients should always tune in to listen to all channels at all times for order and trade updates.

2.1.3 OMD Securities FullTick (streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Reference Data Channel	Market Definition (10) Security Definition (11) Liquidity Provider (13) Currency Rate (14)	1	A: 239.1.1.1:51000 B: 239.1.127.1:51000	501	A: 239.1.1.11:51000 B: 239.1.127.11:51000
Trading Session Status Channel	Trading Session Status (20)	2	A: 239.1.1.1:51001 B: 239.1.127.1:51001	502	A: 239.1.1.11:51001 B: 239.1.127.11:51001
Securities Full Order Book Channels	Trade (50) Trade Cancel (51) Add Order (30) Modify Order (31) Delete Order (32) Indicative Equilibrium Price (41) VCM Trigger (23) Reference Price (43) Order Imbalance (56) Security Status (21)	30 31 32 33 34 35 36 37 38	A: 239.1.1.4:51000 B: 239.1.127.4:51000 A: 239.1.1.4:51001 B: 239.1.127.4:51001 A: 239.1.1.4:51002 B: 239.1.127.4:51002 A: 239.1.1. 4:51003 B: 239.1.127. 4:51003 A: 239.1.1.4:51004 B: 239.1.127.4:51004 A: 239.1.1.4:51005 B: 239.1.127.4:51005 A: 239.1.1.4:51006 B: 239.1.127.4:51006 A: 239.1.1.4:51007 B: 239.1.127.4:51007 A: 239.1.1.4:51008 B: 239.1.127.4:51008	530 531 532 533 534 535 536 537 538	A: 239.1.1.14:51000 B: 239.1.127.14:51000 A: 239.1.1.14:51001 B: 239.1.127.14:51001 A: 239.1.1.14:51002 B: 239.1.127.14:51002 A: 239.1.1.14:51003 B: 239.1.127.14:51003 A: 239.1.1.14:51004 B: 239.1.127.14:51004 A: 239.1.1.14:51005 B: 239.1.127.14:51005 A: 239.1.1.14:51006 B: 239.1.127.14:51006 A: 239.1.1.14:51007 B: 239.1.127.14:51007 A: 239.1.1.14:51008 B: 239.1.127.14:51008
Securities DR Signal Channel	Disaster Recovery Signal (105)	9	A: 239.1.1.1:51008 B: 239.1.127.1:51008		

Order and trade activities of tradable securities are distributed among channels 30 to 38 on a daily basis, and this may result in heartbeat messages only being disseminated via some of the channels throughout the day if the channels are not assigned for any securities. Nonetheless, clients should always tune in to listen to all channels at all times for order and trade updates.

2.1.4 OMD Index (Streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
HKEX Indices Channel	Index Definition (70) Index Data (71)	40	A: 239.1.1.7:51001 B: 239.1.127.7:51001	540	A: 239.1.1.17:51001 B: 239. 1.127.17:51001
HSI Index Channel	Index Definition (70) Index Data (71)	41	A: 239.1.1.5:51000 B: 239.1.127.5:51000	541	A: 239.1.1.15:51000 B: 239.1.127.15:51000
CSI Index Channel	Index Definition (70) Index Data (71)	42	A: 239.1.1.6:51000 B: 239.1.127.6:51000	542	A: 239.1.1.16:51000 B: 239.1.127.16:51000
S&P Index Channel	Index Definition (70) Index Data (71)	43	A: 239.1.1.7:51000 B: 239.1.127.7:51000	543	A: 239.1.1.17:51000 B: 239. 1.127.17:51000
Index DR Signal Channel	Disaster Recovery Signal (105)	49	A: 239.1.1.7:51008 B: 239.1.127.7:51008		

2.1.5 Conflated Broker Queue

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Market Broker Queue Channel	Broker Queue (54)	60	A: 239.1.1.8:51000 B: 239.1.127.8:51000	560	A: 239.1.1.18:51000 B: 239.1.127.18:51000

2.1.6 Odd Lot Order (Streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Market Odd Lot Order Channel	Add Odd Lot Oder (33) Delete Odd Lot Order (34)	70	A: 239.1.1.9:51000 B: 239.1.127.9:51000	570	A: 239.1.1.19:51000 B: 239.1.127.19:51000
		71	A: 239.1.1.9:51001 B: 239.1.127.9:51001	571	A: 239.1.1.19:51001 B: 239.1.127.19:51001
		72	A: 239.1.1.9:51002 B: 239.1.127.9:51002	572	A: 239.1.1.19:51002 B: 239.1.127.19:51002
		73	A: 239.1.1.9:51003 B: 239.1.127.9:51003	573	A: 239.1.1.19:51003 B: 239.1.127.19:51003
		74	A: 239.1.1.9:51004 B: 239.1.127.9:51004	574	A: 239.1.1.19:51004 B: 239.1.127.19:51004
		75	A: 239.1.1.9:51005 B: 239.1.127.9:51005	575	A: 239.1.1.19:51005 B: 239.1.127.19:51005
		76	A: 239.1.1.9:51006 B: 239.1.127.9:51006	576	A: 239.1.1.19:51006 B: 239.1.127.19:51006
		77	A: 239.1.1.9:51007	577	A: 239.1.1.19:51007

			B: 239.1.127.9:51007		B: 239.1.127.19:51007
		78	A: 239.1.1.9:51008 B: 239.1.127.9:51008	578	A: 239.1.1.19:51008 B: 239.1.127.19:51008

2.1.7 Stock Connect Data (Streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Northbound Stock Connect Market Information Channel	Stock Connect Daily Quota Balance (80) Stock Connect Market Turnover (81)	80	A: 239.1.1.121:51000 B: 239.1.127.121:51000	580	A: 239.1.1.121:61000 B: 239.1.127.121:61000
Southbound Stock Connect Market Information Channel	Stock Connect Market Turnover (81)	81	A: 239.1.1.121:51001 B: 239.1.127.121:51001	581	A: 239.1.1.121:61001 B: 239.1.127.121:61001

2.1.8 HKEX OMD Retransmission Unicast Connectivity (For All Non-Index Channels)

A Retransmission Service is provided to recover multicast packet loss in all Non-Index Channels. Functional details of the Retransmission Service are provided in the Interface Specification. Find below the Unicast Addresses to connect to the OMD Retransmission Servers in **OMD-C Production Environment**.

Retransmission Server	IP Unicast Address
Primary server in primary site	10.1.90.82:55455
Secondary server in primary site	10.1.90.83:55455
Primary server in DR site*	10.2.90.82:55455
Secondary server in DR site*	10.2.90.83:55455

* Two servers located in DR site are also active and available for connection. Clients may connect any one of those four retransmission servers, but not concurrently.

2.1.9 HKEX OMD Index Retransmission Unicast Connectivity (For All Index Channels)

A Retransmission Service for Index is provided to recover multicast packet loss in all Index Channels. Functional details of the Retransmission Service are provided in the Interface Specification. Find below the Unicast Addresses to connect to the OMD Retransmission Servers in **OMD-Index Production Environment**.

Retransmission Server	IP Unicast Address
Primary server in primary site	10.1.90.61:55455
Secondary server in primary site	10.1.90.62:55455
Primary server in DR site*	10.2.90.61:55455
Secondary server in DR site*	10.2.90.62:55455

* Two servers located in DR site are also active and available for connection. Clients may connect any one of those four retransmission servers, but not concurrently.

2.2 Readiness Test Environment Connectivity Details

2.2.1 OMD Securities Standard (conflated)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Reference Data Channel	Market Definition (10) Security Definition (11) Liquidity Provider (13) Currency Rate (14)	1	A: 239.1.1.21:51000 B: 239.1.127.21:51000	501	A: 239.1.1.31:51000 B: 239.1.127.31:51000
Trading Session Status Channel	Trading Session Status (20)	2	A: 239.1. 1.21:51001 B: 239.1.127 21:51001	502	A: 239.1.1.31:51001 B: 239.1.127.31:51001
Securities Value Add Data Channel	Market Turnover (61)	3	A: 239.1.1.21:51002 B: 239.1.127.21:51002	503	A: 239.1.1.31:51002 B: 239.1.127.31:51002
Securities News Channel	News (22)	4	A: 239.1.1.21:51003 B: 239.1.127. 21:51003	504	A: 239.1.1.31:51003 B: 239.1.127.31:51003
Securities Level 2 Conflated Channels	Trade Ticker (52) Nominal Price (40) Indicative Equilibrium Price (41) Closing Price (62) Aggregate Order Book Update (53) Statistics (60) Yield (44) Broker Queue (54) VCM Trigger (23) Reference Price (43) Order Imbalance (56) Security Status (21)	10	A: 239.1.1.22:51000 B: 239.1.127.22:51000	510	A: 239.1.1.32:51000 B: 239.1.127.32:51000
Securities DR Signal Channel	Disaster Recovery Signal (105)	9	A: 239.1.1.21:51008 B: 239.1.127.21:51008		

2.2.2 OMD Securities Premium (streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Reference Data Channel	Market Definition (10) Security Definition (11) Liquidity Provider (13) Currency Rate (14)	1	A: 239.1.1.21:51000 B: 239.1.127.21:51000	501	A: 239.1.1.31:51000 B: 239.1.127.31:51000
Trading Session Status Channel	Trading Session Status (20)	2	A: 239.1.1.21: 51001 B: 239.1.127.21:51001	502	A: 239.1.1.31:51001 B: 239.1.127.31:51001
Securities Value Add Data Channel	Market Turnover (61)	3	A: 239.1.1.21:51002 B: 239.1.127.21:51002	503	A: 239.1.1.31:51002 B: 239.1.127.31:51002
Securities News Channel	News (22)	4	A: 239.1.1.21:51003 B: 239.1.127.21:51003	504	A: 239.1.1.31:51003 B: 239.1.127.31:51003
Securities Level 2 Streaming Channels	Trade (50) Trade Cancel (51) Nominal Price (40)	20	A: 239.1.1.23:51000 B: 239.1.127.23:51000	520	A: 239.1.1.33:51000 B: 239.1.127.33:51000
	Indicative Equilibrium Price (41) Closing Price (62)	21	A: 239.1.1.23:51001 B: 239.1.127.23:51001	521	A: 239.1.1.33:51001 B: 239.1.127.33:51001
	Aggregate Order Book Update (53) Statistics (60)	22	A: 239.1.1.23:51002 B: 239.1.127.23:51002	522	A: 239.1.1.33:51002 B: 239.1.127.33:51002
	Yield (44) VCM Trigger (23) Reference Price (43)	23	A: 239.1.1.23:51003 B: 239.1.127.23:51003	523	A: 239.1.1.33:51003 B: 239.1.127.33:51003
	Order Imbalance (56) Security Status (21)	24	A: 239.1.1.23:51004 B: 239.1.127.23:51004	524	A: 239.1.1.33:51004 B: 239.1.127.33:51004
		25	A: 239.1.1.23:51005 B: 239.1.127.23:51005	525	A: 239.1.1.33:51005 B: 239.1.127.33:51005
		26	A: 239.1.1.23:51006 B: 239.1.127.23:51006	526	A: 239.1.1.33:51006 B: 239.1.127.33:51006
		27	A: 239.1.1.23:51007 B: 239.1.127.23:51007	527	A: 239.1.1.33:51007 B: 239.1.127.33:51007
		28	A: 239.1.1.23:51008 B: 239.1.127.23:51008	528	A: 239.1.1.33:51008 B: 239.1.127.33:51008
Securities DR Signal Channel	Disaster Recovery Signal (105)	9	A: 239.1.1.21:51008 B: 239.1.127.21:51008		

2.2.3 OMD Securities FullTick (streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Reference Data Channel	Market Definition (10) Security Definition (11) Liquidity Provider (13) Currency Rate (14)	1	A: 239.1.1.21:51000 B: 239.1.127.21:51000	501	A: 239.1.1.31:51000 B: 239.1.127.31:51000
Trading Session Status Channel	Trading Session Status (20)	2	A: 239.1.1.21:51001 B: 239.1.127.21:51001	502	A: 239.1.1.31:51001 B: 239.1.127.31:51001
Securities Full Order Book Channels	Trade (50) Trade Cancel (51) Add Order (30) Modify Order (31) Delete Order (32) Indicative Equilibrium Price (41) VCM Trigger (23) Reference Price (43) Order Imbalance (56) Security Status (21)	30	A: 239.1.1.24:51000 B: 239.1.127.24:51000	530	A: 239.1.1.34:51000 B: 239.1.127.34:51000
		31	A: 239.1.1.24:51001 B: 239.1.127.24:51001	531	A: 239.1.1.34:51001 B: 239.1.127.34:51001
		32	A: 239.1.1.24:51002 B: 239.1.127.24:51002	532	A: 239.1.1.34:51002 B: 239.1.127.34:51002
		33	A: 239.1.1.24:51003 B: 239.1.127.24:51003	533	A: 239.1.1.34:51003 B: 239.1.127.34:51003
		34	A: 239.1.1.24:51004 B: 239.1.127.24:51004	534	A: 239.1.1.34:51004 B: 239.1.127.34:51004
		35	A: 239.1.1.24:51005 B: 239.1.127.24:51005	535	A: 239.1.1.34:51005 B: 239.1.127.34:51005
		36	A: 239.1.1.24:51006 B: 239.1.127.24:51006	536	A: 239.1.1.34:51006 B: 239.1.127.34:51006
		37	A: 239.1.1.24:51007 B: 239.1.127.24:51007	537	A: 239.1.1.34:51007 B: 239.1.127.34:51007
		38	A: 239.1.1.24:51008 B: 239.1.127.24:51008	538	A: 239.1.1.34:51008 B: 239.1.127.34:51008
Securities DR Signal Channel	Disaster Recovery Signal (105)	9	A: 239.1.1.21:51008 B: 239.1.127.21:51008		

2.2.4 OMD Index (Streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
HKEX Indices Channel	Index Definition (70) Index Data (71)	40	A: 239.1.1.27:51001 B: 239.1.127.27:51001	540	A: 239.1.1.37:51001 B: 239.1.127.37:51001
HSI Index Channel	Index Definition (70) Index Data (71)	41	A: 239.1.1.25:51000 B: 239.1.127.25:51000	541	A: 239.1.1.35:51000 B: 239.1.127.35:51000
CSI Index Channel	Index Definition (70) Index Data (71)	42	A: 239.1.1.26:51000 B: 239.1.127.26:51000	542	A: 239.1.1.36:51000 B: 239.1.127.36:51000
S&P Index Channel	Index Definition (70) Index Data (71)	43	A: 239.1.1.27:51000 B: 239.1.127.27:51000	543	A: 239.1.1.37:51000 B: 239.1.127.37:51000
Index DR Signal Channel	Disaster Recovery Signal (105)	49	A: 239.1.1.27:51008 B: 239.1.127.27:51008		

2.2.5 Conflated Broker Queue

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Market Broker Queue Channel	Broker Queue (54)	60	A: 239.1.1.28:51000 B: 239.1.127.28:51000	560	A: 239.1.1.38:51000 B: 239.1.127.38:51000

2.2.6 Odd Lot Order (Streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Market Odd Lot Order Channel	Add Odd Lot Oder (33) Delete Odd Lot Order (34)	70	A: 239.1.1.29:51000 B: 239.1.127.29:51000	570	A: 239.1.1.39:51000 B: 239.1.127.39:51000
		71	A: 239.1.1.29:51001 B: 239.1.127.29:51001	571	A: 239.1.1.39:51001 B: 239.1.127.39:51001
		72	A: 239.1.1.29:51002 B: 239.1.127.29:51002	572	A: 239.1.1.39:51002 B: 239.1.127.39:51002
		73	A: 239.1.1.29:51003 B: 239.1.127.29:51003	573	A: 239.1.1.39:51003 B: 239.1.127.39:51003
		74	A: 239.1.1.29:51004 B: 239.1.127.29:51004	574	A: 239.1.1.39:51004 B: 239.1.127.39:51004
		75	A: 239.1.1.29:51005 B: 239.1.127.29:51005	575	A: 239.1.1.39:51005 B: 239.1.127.39:51005
		76	A: 239.1.1.29:51006 B: 239.1.127.29:51006	576	A: 239.1.1.39:51006 B: 239.1.127.39:51006
		77	A: 239.1.1.29:51007	577	A: 239.1.1.39:51007

			B: 239.1.127.29:51007		B: 239.1.127.39:51007
		78	A: 239.1.1.29:51008 B: 239.1.127.29:51008	578	A: 239.1.1.39:51008 B: 239.1.127.39:51008

2.2.7 Stock Connect Data (Streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Northbound Stock Connect Market Information Channel	Stock Connect Daily Quota Balance (80) Stock Connect Market Turnover (81)	80	A: 239.1.1.122:51000 B: 239.1.127.122:51000	580	A: 239.1.1.122:61000 B: 239.1.127.122:61000
Southbound Stock Connect Market Information Channel	Stock Connect Market Turnover (81)	81	A: 239.1.1.122:51001 B: 239.1.127.122:51001	581	A: 239.1.1.122:61001 B: 239.1.127.122:61001

2.2.8 HKEX OMD Retransmission Unicast Connectivity (For All Non-Index Channels)

A Retransmission Service is provided to recover multicast packet loss in all Non-Index Channels. Functional details of the Retransmission Service are provided in the Interface Specification. Find below the Unicast Addresses to connect to the OMD Retransmission Servers in **OMD-C Readiness Test Environment**.

Retransmission Server	IP Unicast Address
Primary server in primary site	10.1.90.41:55455
Secondary server in primary site	10.1.90.42:55455
Primary server in DR site*	10.2.90.41:55455
Secondary server in DR site*	10.2.90.42:55455

* Two servers located in DR site are only active and available for connection in DR site failover scenario.

2.2.9 HKEX OMD Index Retransmission Unicast Connectivity (For All Index Channels)

A Retransmission Service for Index is provided to recover multicast packet loss in all Index Channels. Functional details of the Retransmission Service are provided in the Interface Specification. Find below the Unicast Addresses to connect to the OMD Retransmission Servers in **OMD-Index Readiness Test Environment**.

Retransmission Server	IP Unicast Address
Primary server in primary site	10.1.90.36:55455
Primary server in DR site*	10.2.90.36:55455

* Server located in DR site is also active and available for connection. Clients may connect any one of those retransmission servers, but not concurrently.

2.3 OTP-C OCG End-to-End Test Environment Connectivity Details

2.3.1 OMD Securities Standard (conflated)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Reference Data Channel	Market Definition (10) Security Definition (11) Liquidity Provider (13) Currency Rate (14)	1	A: 239.1.1.81:53550 B: 239.1.127.81:53550	501	A: 239.1.1.81:63550 B: 239.1.127.81:63550
Trading Session Status Channel	Trading Session Status (20)	2	A: 239.1.1.81:53551 B: 239.1.127 81:53551	502	A: 239.1.1.81:63551 B: 239.1.127.81:63551
Securities Value Add Data Channel	Market Turnover (61)	3	A: 239.1.1.81:53552 B: 239.1.127.81:53552	503	A: 239.1.1.81:63552 B: 239.1.127.81:63552
Securities News Channel	News (22)	4	A: 239.1.1.81:53553 B: 239.1.127.81:53553	504	A: 239.1.1.81:63553 B: 239.1.127.81:63553
Securities Level 2 Conflated Channels	Trade Ticker (52) Nominal Price (40) Indicative Equilibrium Price (41) Closing Price (62) Aggregate Order Book Update (53) Statistics (60) Yield (44) Broker Queue (54) VCM Trigger (23) Reference Price (43) Order Imbalance (56) Security Status (21)	10	A: 239.1.1.82:53550 B: 239.1.127.82:53550	510	A: 239.1.1.82:63550 B: 239.1.127.82:63550
Securities DR Signal Channel	Disaster Recovery Signal (105)	9	A: 239.1.1.81:53558 B: 239.1.127.81:53558		

2.3.2 OMD Securities Premium (streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Reference Data Channel	Market Definition (10) Security Definition (11) Liquidity Provider (13) Currency Rate (14)	1	A: 239.1.1.81:53550 B: 239.1.127.81:53550	501	A: 239.1.1.81:63550 B: 239.1.127.81:63550
Trading Session Status Channel	Trading Session Status (20)	2	A: 239.1.1.81:53551 B: 239.1.127.81:53551	502	A: 239.1.1.81:63551 B: 239.1.127.81:63551
Securities Value Add Data Channel	Market Turnover (61)	3	A: 239.1.1.81:53552 B: 239.1.127.81:53552	503	A: 239.1.1.81:63552 B: 239.1.127.81:63552
Securities News Channel	News (22)	4	A: 239.1.1.81:53553 B: 239.1.127.81:53553	504	A: 239.1.1.81:63553 B: 239.1.127.81:63553
Securities Level 2 Streaming Channels	Trade (50) Trade Cancel (51) Nominal Price (40)	20	A: 239.1.1.83:53550 B: 239.1.127.83:53550	520	A: 239.1.1.83:63550 B: 239.1.127.83:63550
	Indicative Equilibrium Price (41) Closing Price (62)	21	A: 239.1.1.83:53551 B: 239.1.127.83:53551	521	A: 239.1.1.83:63551 B: 239.1.127.83:63551
	Aggregate Order Book Update (53) Statistics (60)	22	A: 239.1.1.83:53552 B: 239.1.127.83:53552	522	A: 239.1.1.83:63552 B: 239.1.127.83:63552
	Yield (44) VCM Trigger (23) Reference Price (43)	23	A: 239.1.1.83:53553 B: 239.1.127.83:53553	523	A: 239.1.1.83:63553 B: 239.1.127.83:63553
	Order Imbalance (56) Security Status (21)	24	A: 239.1.1.83:53554 B: 239.1.127.83:53554	524	A: 239.1.1.83:63554 B: 239.1.127.83:63554
		25	A: 239.1.1.83:53555 B: 239.1.127.83:53555	525	A: 239.1.1.83:63555 B: 239.1.127.83:63555
		26	A: 239.1.1.83:53556 B: 239.1.127.83:53556	526	A: 239.1.1.83:63556 B: 239.1.127.83:63556
		27	A: 239.1.1.83:53557 B: 239.1.127.83:53557	527	A: 239.1.1.83:63557 B: 239.1.127.83:63557
		28	A: 239.1.1.83:53558 B: 239.1.127.83:53558	528	A: 239.1.1.83:63558 B: 239.1.127.83:63558
Securities DR Signal Channel	Disaster Recovery Signal (105)	9	A: 239.1.1.81:53558 B: 239.1.127.81:53558		

2.3.3 OMD Securities FullTick (streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Reference Data Channel	Market Definition (10) Security Definition (11) Liquidity Provider (13) Currency Rate (14)	1	A: 239.1.1.81:53550 B: 239.1.127.81:53550	501	A: 239.1.1.81:63550 B: 239.1.127.81:63550
Trading Session Status Channel	Trading Session Status (20)	2	A: 239.1.1.81:53551 B: 239.1.127.81:53551	502	A: 239.1.1.81:63551 B: 239.1.127.81:63551
Securities Full Order Book Channels	Trade (50) Trade Cancel (51) Add Order (30) Modify Order (31) Delete Order (32) Indicative Equilibrium Price (41) VCM Trigger (23) Reference Price (43) Order Imbalance (56) Security Status (21)	30	A: 239.1.1.84:53550 B: 239.1.127.84:53550	530	A: 239.1.1.84:63550 B: 239.1.127.84:63550
		31	A: 239.1.1.84:53551 B: 239.1.127.84:53551	531	A: 239.1.1.84:63551 B: 239.1.127.84:63551
		32	A: 239.1.1.84:53552 B: 239.1.127.84:53552	532	A: 239.1.1.84:63552 B: 239.1.127.84:63552
		33	A: 239.1.1.84:53553 B: 239.1.127.84:53553	533	A: 239.1.1.84:63553 B: 239.1.127.84:63553
		34	A: 239.1.1.84:53554 B: 239.1.127.84:53554	534	A: 239.1.1.84:63554 B: 239.1.127.84:63554
		35	A: 239.1.1.84:53555 B: 239.1.127.84:53555	535	A: 239.1.1.84:63555 B: 239.1.127.84:63555
		36	A: 239.1.1.84:53556 B: 239.1.127.84:53556	536	A: 239.1.1.84:63556 B: 239.1.127.84:63556
		37	A: 239.1.1.84:53557 B: 239.1.127.84:53557	537	A: 239.1.1.84:63557 B: 239.1.127.84:63557
		38	A: 239.1.1.84:53558 B: 239.1.127.84:53558	538	A: 239.1.1.84:63558 B: 239.1.127.84:63558
Securities DR Signal Channel	Disaster Recovery Signal (105)	9	A: 239.1.1.81:53558 B: 239.1.127.81:53558		

2.3.4 OMD Index (Streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
HKEX Indices Channel	Index Definition (70) Index Data (71)	40	A: 239.1.1.87:53551 B: 239.1.127.87:53551	540	A: 239.1.1.87:63551 B: 239.1.127.87:63551
HSI Index Channel	Index Definition (70) Index Data (71)	41	A: 239.1.1.85:53550 B: 239.1.127.85:53550	541	A: 239.1.1.85:63550 B: 239.1.127.85:63550
CSI Index Channel	Index Definition (70) Index Data (71)	42	A: 239.1.1.86:53550 B: 239.1.127.86:53550	542	A: 239.1.1.86:63550 B: 239.1.127.86:63550
S&P Index Channel	Index Definition (70) Index Data (71)	43	A: 239.1.1.87:53550 B: 239.1.127.87:53550	543	A: 239.1.1.87:63550 B: 239.1.127.87:63550
Index DR Signal Channel	Disaster Recovery Signal (105)	49	A: 239.1.1.87:53558 B: 239.1.127.87:53558		

2.3.5 Conflated Broker Queue

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Market Broker Queue Channel	Broker Queue (54)	60	A: 239.1.1.88:53550 B: 239.1.127.88:53550	560	A: 239.1.1.88:63550 B: 239.1.127.88:63550

2.3.6 Odd Lot Order (Streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Securities Market Odd Lot Order Channel	Add Odd Lot Oder (33) Delete Odd Lot Order (34)	70	A: 239.1.1.89:53550 B: 239.1.127.89:53550	570	A: 239.1.1.89:63550 B: 239.1.127.89:63550
		71	A: 239.1.1.89:53551 B: 239.1.127.89:53551	571	A: 239.1.1.89:63551 B: 239.1.127.89:63551
		72	A: 239.1.1.89:53552 B: 239.1.127.89:53552	572	A: 239.1.1.89:63552 B: 239.1.127.89:63552
		73	A: 239.1.1.89:53553 B: 239.1.127.89:53553	573	A: 239.1.1.89:63553 B: 239.1.127.89:63553
		74	A: 239.1.1.89:53554 B: 239.1.127.89:53554	574	A: 239.1.1.89:63554 B: 239.1.127.89:63554
		75	A: 239.1.1.89:53555 B: 239.1.127.89:53555	575	A: 239.1.1.89:63555 B: 239.1.127.89:63555
		76	A: 239.1.1.89:53556 B: 239.1.127.89:53556	576	A: 239.1.1.89:63556 B: 239.1.127.89:63556

	77	A: 239.1.1.89:53557 B: 239.1.127.89:53557	577	A: 239.1.1.89:63557 B: 239.1.127.89:63557
	78	A: 239.1.1.89:53558 B: 239.1.127.89:53558	578	A: 239.1.1.89:63558 B: 239.1.127.89:63558

2.3.7 Stock Connect Data (Streaming)

		Real-time Market Data Services		Refresh Snapshot Data Services	
Multicast Service	**Contents**	**Channel ID**	**Multicast Channel Subscriptions**	**Channel ID**	**Multicast Channel Subscriptions**
Northbound Stock Connect Market Information Channel	Stock Connect Daily Quota Balance (80) Stock Connect Market Turnover (81)	80	A: 239.1.1.125:53550 B: 239.1.127.125:53550	580	A: 239.1.1.125:63550 B: 239.1.127.125:63550
Southbound Stock Connect Market Information Channel	Stock Connect Market Turnover (81)	81	A: 239.1.1.125:53551 B: 239.1.127.125:53551	581	A: 239.1.1.125:63551 B: 239.1.127.125:63551

2.3.8 HKEX OMD Retransmission Unicast Connectivity (For All Non-Index Channels)

A Retransmission Service is provided to recover multicast packet loss in all Non-Index Channels. Functional details of the Retransmission Service are provided in the Interface Specification. Find below the Unicast Address to connect to the OMD Retransmission Servers in **OTP-C OCG End-to-End Test Environment**.

	IP Unicast Address
Retransmission Server	10.1.90.105:55455

2.3.9 HKEX OMD Index Retransmission Unicast Connectivity (For All Index Channels)

A Retransmission Service for Index is provided to recover multicast packet loss in all Index Channels. Functional details of the Retransmission Service are provided in the Interface Specification. Find below the Unicast Addresses to connect to the OMD Retransmission Servers in **OTP-C OCG End-to-End Test Environment** .

	IP Unicast Address
Retransmission Server	10.1.90.37:55455

2.4 Individual Client Configuration Details

Individual clients will be provided with the following configuration details for each set of product feed subscription:

- One Retransmission User ID (Username)
- The subnet and subnet mask of the client segment
- Two unicast client allowable IP addresses for connection with re-transmission servers[1]
- Two physical IP addresses and two Virtual IP address of SDNet/2 routers[2]
- HSRP/VRRP groups used by SDNet/2 routers

Individual client testing configuration information will be provided separately prior to the Readiness Test or OCG End-to-End Test whilst the client specific production configuration information will be provided upon the client's successful completion of the Readiness Test and prior to the Market Rehearsals/Post Release Test. Please refer to Appendix B for an example of Client Configuration information.

[1] Only one unicast client allowable IP addresses for connection with re-transmission servers will be assigned for clients connecting to the OCG End-to-End Test environment

[2] Only one physical IP addresses and one Virtual IP address of SDNet/2 routers will be assigned for clients connecting to the OCG End-to-End Test environment

3. Guidelines on SDNet/2 lines / HSN connection

3.1 Mode of OMD connection

- For resilience purpose, at least 2 SDNet/2 or HSN lines are required for OMD connection either for individual OMD datafeed product or sharing among different OMD datafeed products.
- The set of 2 SDNet/2 lines is required to locate in the same location. If clients require receiving OMD data in multiple locations, 1 set of 2 SDNet/2 lines are required to install in each location.

3.2 Bandwidth Requirement

Full suite of OMD-C datafeed products and respective estimated bandwidth requirements are as follows.

3.2.1 Production SDNet/2 / HSN and Testing SDNet/2 / HSN for Readiness Test

Minimum Bandwidth Allocation Between Multicast and Unicast in Each Datafeed

Datafeed	Minimum Multicast Allocation (i.e. Real Time & Refresh) with Any Combination / All of the Following Complimentary Datafeed(s) a) Odd Lot Order (OLO) b) Index Feed (INDEX)[1] c) Stock Connect Market Feed (SCM)	Minimum Unicast Allocation[2] (i.e. Retransmission)
Securities Standard (SS)	15 Mbps	0.2 Mbps
Securities Premium (SP)[3] - <u>without</u> Conflated Broker Queue (CBQ)[4]	41 Mbps	0.2 Mbps
Securities Premium (SP)[3] + Conflated Broker Queue (CBQ)[4]	48 Mbps	0.2 Mbps
Securities FullTick (SF)[3] - <u>without</u> Conflated Broker Queue (CBQ)[4]	51 Mbps	0.2 Mbps
Securities FullTick (SF)[3] + Conflated Broker Queue (CBQ)[4]	58 Mbps	0.2 Mbps

[1] Update rates of individual indices depend on respective index providers.
[2] If more than 1 datafeed is subscribed in Production or Readiness Test Environment, the minimum bandwidth required for unicast is still 0.2 Mbps.
[3] SP and SF Clients have to subscribe to lines with High Performance Option (HPO) to avoid potential data loss in the event of busty traffic that could happen in the production environment.
[4] CBQ is only eligible for SP and SF subscribers as conflated broker queue information is already provided in SS

3.2.2 Testing SDNet/2 / HSN for OCG End-to-End Test

Minimum Bandwidth Allocation Between Multicast and Unicast in Each Datafeed

Datafeed	Minimum Multicast Allocation (i.e. Real Time & Refresh) with Any Combination / All of the Following Complimentary Datafeed(s) a) OLO b) INDEX c) SCM d) CBQ	Minimum Unicast Allocation[1] (i.e. Retransmission)
SS	1.936 Mbps	0.064 Mbps
SP	1.936 Mbps	0.064 Mbps
SF	1.936 Mbps	0.064 Mbps

3.3 Sharing of SDNet/2 lines or HSN port set

Clients may opt to use separated sets or same set of SDNet/2 lines/ HSN ports for receiving data of different OMD datafeed products but clients should note the following policies on sharing of SDNet/2 for OMD datafeed products:

- Sharing of same set of production SDNet/2 circuits for **more than one OMD datafeed products across different markets** (i.e. securities market datafeed and derivatives market datafeed) **is allowed.**

- Sharing of the same SDNet/2 / HSN circuits for both product and testing purposes is **NOT ALLOWED**.

- **Exchange Participants** who would like to **share the same SDNet/2 circuits with trading traffic (orders and trades) and market data traffic** are however **only** allowed to do so if all the traffic **on** the circuits belongs to **the same market** (i.e. either securities market or derivatives market). OMD-Index, which is market neutral, can be carried on the same circuits with securities market or derivatives market. For example, Exchange Participants of cash market may use the same SDNet/2 circuits for their access to OMD-C SS, OMD-Index and OCG[2].

- <u>Clients should note and consider the followings if they are going to adopt shared line mode</u>:
  i) In case of failure/interruption of the shared circuits, all datafeed products using this set of circuits will be affected.
  ii) Troubleshooting for network related issues (e.g. performance, latency or packet loss etc.) will be much more difficult and time consuming and assistance from network carriers and HKEX will be limited in such troubleshooting. Clients must accept this risk in making the line sharing decision.
  iii) Due to the difference in operating hours and testing windows between securities and derivatives markets, clients should make sure any maintenance/testing of one of the systems does not affect the rest of the systems sharing the same set of circuits.

---

[1] If more than 1 datafeed is subscribed in End-to-End Environment, the minimum bandwidth required for unicast is still 0.064 Mbps.

[2] Should OCG Exchange Participants wish to share the same set of OMD-C SDNet lines with their OCG connection, they should refer to the Connectivity Guide of HKEX Orion Central Gateway Platform for the details of the relevant SDNet lines sharing arrangement.

3.4 Bandwidth for shared SDNet/2 lines or HSN port set

i) Shared SDNet/2 / HSN circuits must have sufficient bandwidth to support the data transmission of multiple products/devices. Please see below examples for reference:

Example 1: Sharing of a set of SDNet/2 lines for OMD SP and OMD SF in Production Environment:-
The estimated bandwidth requirements for multicast are 41 Mbps for SP and 51 Mbps for SF, minimum bandwidth for unicast of multiple datafeeds is 0.2 Mbps, a set of SDNet/2 lines with 100 Mbps will be required.
(Actual total bandwidth requirement is 92.2 Mbps and minimum incremental bandwidth threshold is 10 Mbps for SDNet/2 lines of 10 Mbps - 100 Mbps)

Example 2: Sharing of a set of SDNet/2 lines for OMD SS and SP in OCG End to End Environment:-
The estimated bandwidth requirements for multicast are 1.936 Mbps for SS and 1.936 Mbps for SP (with no optional feed), minimum bandwidth for unicast of multiple datafeeds is 0.064 Mbps,
(Actual total bandwidth requirement for Market Data would be is 3.936 Mbps. If OCG session is included in the shared circuit, please also consider the bandwidth requirement for the OCG session for total bandwidth requirement of SDNet/2 lines.)

Example 3: Sharing of a set of SDNet/2 lines for OMD DF[1], OMD-C SS in Production Environment:-
The estimated bandwidth requirements for multicast of are 78 Mbps (34+44 Mbps) for OMD-D DF (SOM & Non-SOM) and 15 Mbps for OMD-C SS, minimum bandwidth for unicast are 1 Mbps for of OMD-D datafeed and 0.2 Mbps for OMD-C datafeed. The bandwidth for the common set of SDNet/2 lines will therefore be 100 Mbps.
(Actual total bandwidth requirement is 94.2 Mbps and minimum incremental bandwidth threshold is 10Mbps for SDNet/2 lines of 10Mbps - 100Mbps)

ii) Clients can allocate bandwidth of the shared lines to different products as they wish as long as the bandwidth allocated to each datafeed product meets the estimated bandwidth requirement specified.

3.5 SDNet/2 High Performance Option

High Performance Option of SDNet/2 lines which transmits data in relatively higher packet rates is required for clients who subscribe to OMD streaming feeds, i.e. SP and SF. Please refer to Appendix A for details on high performance options provided by different SDNet/2 providers.

[1] For OMD-D connectivity information, please refer to the Connectivity Guide of OMD Derivatives Market Datafeed Products (OMD-D).

4. Other Guidelines on OMD Connections

4.1 Additional Login IDs/Client IP addresses for Unicast Retransmission Service

Direct connection clients will get one set of login ID with two IP addresses for retransmission service per OMD-C datafeed subscription. That means, clients subscribing to one set of SP feed and one set of SF feed will get two login IDs each with two IP addresses. These login IDs would be generic ID where each ID can be used to recover either the SP and SF missing data rather than tied to the respective datafeed product associated with that login ID provided that the same pair of SDNet/2 or HSN circuits is used for receiving the data from both SP and SF.

Exchange Participants who are entitled to receive two sets of complimentary SS feed via two different pairs of circuits would also be entitled to one complimentary login ID per set of SS feed which is also a generic ID.

To facilitate different clients' internal setup or operational requirement, an additional set of login ID and with/without IP addresses for retransmission service can be offered to clients at a cost on a per request basis.

4.2 Installation of SDNet/2 and HSN lines

4.2.1 SDNet/2 lines

Clients are required to contact the SDNet/2 Accredited Vendors for installation of SDNet/2 lines for OMD connection. Details of the SDNet/2 Accredited Vendors and reference costs charged by different SDNet/2 Accredited Vendors can be found in Appendix A.

4.2.2 HSN lines

Clients who will use HKEX's Hosting Service for OMD connection should contact our Hosting Service team directly for details on the HSN lines.

Appendix A – SDNet/2 Accredited Vendors Information

SDNet/2 services are provided by Accredited Vendors for the provision of circuits from EP/CP/IV locations to HKEX's data centres.

To become an Accredited Vendor, the Vendor's SDNet/2 service must comply with the technical requirements set out by HKEX. The compliance of these technical requirements ensures the Accredited Vendor will deliver a stable, reliable and high quality networking services to the EPs/CPs/IVs.

Two Accredited Vendors have been selected and accredited to provide SDNet/2 network services. These vendors are (in alphabetical order):

- Hong Kong Telecommunications (HKT) Limited (also known as PCCW)
- HKBN Enterprise Solutions HK Limited (HKBNES)

For details of SDNet/2 circuit price information / technical specification / service level, please refer to Price Information / Technical Specification / Service Level of SDNet/2 posted on HKEX website.

Appendix B – Sample Client Configuration Information

Client End Network Information (Sample):

1	Network	SDNet/2
2	Client Name	*CLIENT1*
3	OMDC LAN Subnet	*10.55.64.0*
4	OMDC LAN Subnet Mask	*255.255.255.224*
5	Client Allowable IP Address 1 for retransmission	*10.55.64.2*
6	Client Allowable IP Address 2 for retransmission	*10.55.64.29*
7	Primary Circuit Number	*808311*
8	Subscriber Router A LAN IP Address (IP-A)	*10.55.64.14*
9	Secondary Circuit Number	*808312*
10	Subscriber Router B LAN IP Address (IP-B)	*10.55.64.17*
11	Subscriber OMDC LAN 1st Virtual Gateway IP Address (Virt-A)	*10.55.64.1*
12	HSRP Group Number used by SDNet/2 Router for Virt-A	*14*
13	Subscriber OMDC LAN 2nd Virtual Gateway IP Address (Virt-B)	*10.55.64.30*
14	HSRP Group Number used by SDNet/2 Router for Virt-B	*17*
15	Multicast Protocol used by SDNet/2 Routers	*IGMPv2*
16	SDNet/2 Router Physical Interface for OMDC	*Please refer to the port assignment provided by the network carrier*
17	SDNet/2 Router Port Speed for OMDC	*Auto Sense up to 1Gbps*
18	SDNet/2 Router Port Duplex Mode for OMDC	*Auto Negotiation*
19	IP address ranges usable by Clients for Multicast transmission (IP addresses outside these ranges reserved) Note: Clients can use same set of addresses for Unicast retransmission for the multicast transmission)	*10.55.64.9-13* *10.55.64.18-22*

Host End Network Information (non-IDX source) (Sample):

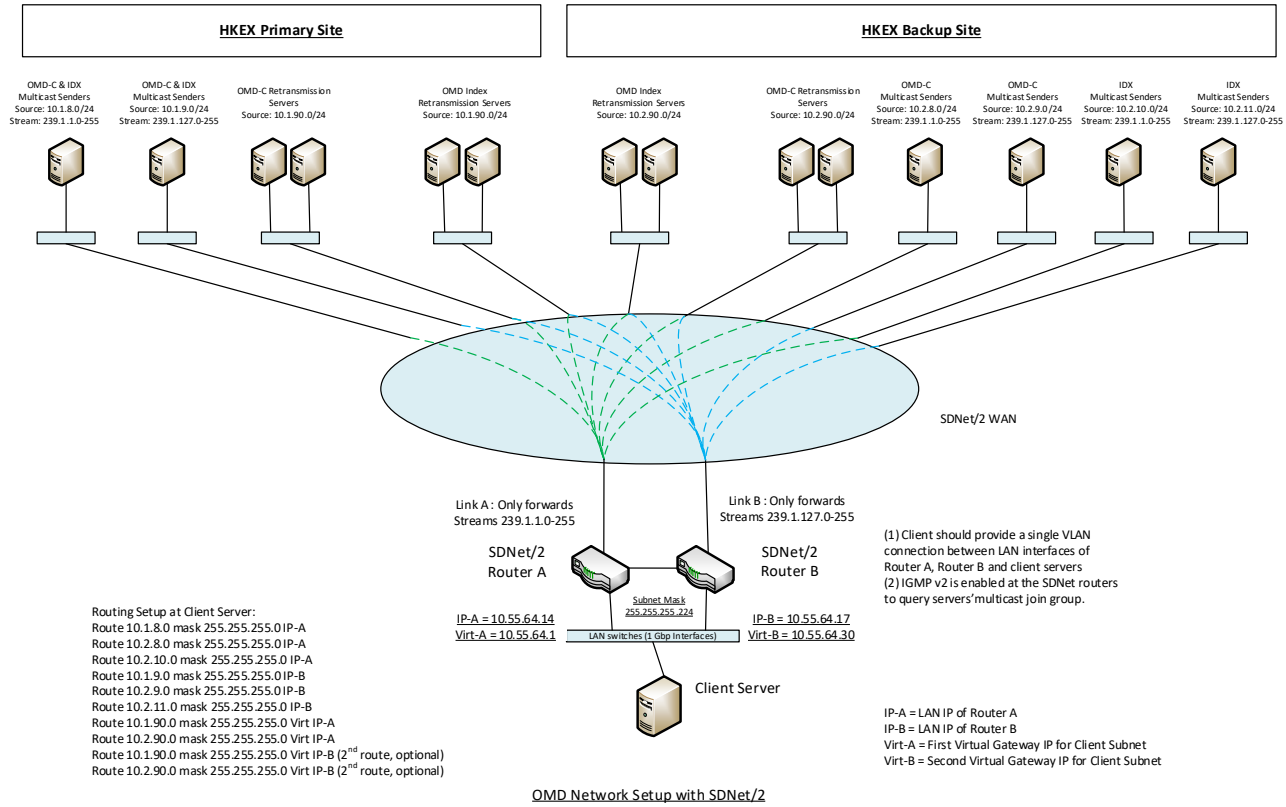
1	Multicast Source Segment of Stream A in Primary Site forwarded by Client SDNet/2 Router A	*10.1.8.0/24*
2	Multicast Source Segment of Stream A in Backup Site forwarded by Client SDNet/2 Router A	*10.2.8.0/24*
3	Multicast Source Segment for multicast stream B in Primary Site forwarded by Client SDNet/2 Router B	*10.1.9.0/24*
4	Multicast Source Segment for multicast stream B in Backup Site forwarded by Client SDNet/2 Router B	*10.2.9.0/24*
5	Primary Site Primary Retransmission Server IP Address	*Please refer to the latest OMD-C Connectivity Guide for the information*
6	Primary Site Primary Retransmission Server TCP Port Number	
7	Primary Site Secondary Retransmission Server IP Address	
8	Primary Site Secondary Retransmission Server TCP Port Number	
9	Backup Site Primary Retransmission Server IP Address	
10	Backup Site Primary Retransmission Server TCP Port Number	
11	Backup Site Secondary Retransmission Server IP Address	
12	Backup Site Secondary Retransmission Server TCP Port Number	

IDX SUBSCRIBER ONLY

Host End Network Information (IDX source) (Sample):

1	Multicast Source Segment of Stream A in Primary Site forwarded by Client SDNet/2 Router A	*10.1.8.0/24*
2	Multicast Source Segment of Stream A in Backup Site forwarded by Client SDNet/2 Router A	*10.2.10.0/24*
3	Multicast Source Segment for multicast stream B in Primary Site forwarded by Client SDNet/2 Router B	*10.1.9.0/24*
4	Multicast Source Segment for multicast stream B in Backup Site forwarded by Client SDNet/2 Router B	*10.2.11.0/24*
5	Primary Site Primary Index Retransmission Server IP Address	

6	Primary Site Primary Index Retransmission Server TCP Port Number	*Please refer to the latest OMD-C Connectivity Guide - OMD Index Retransmission Unicast Connectivity for the information*
7	Primary Site Secondary Index Retransmission Server IP Address	
8	Primary Site Secondary Index Retransmission Server TCP Port Number	
9	Backup Site Primary Index Retransmission Server IP Address	
10	Backup Site Primary Index Retransmission Server TCP Port Number	
11	Backup Site Secondary Index Retransmission Server IP Address	
12	Backup Site Secondary Index Retransmission Server TCP Port Number	



OMD Network Setup with SDNet/2

DOCUMENT HISTORY

<table>
<tr><th>Document Version</th><th>Date</th><th>Change Description</th></tr>
<tr><td>1.0</td><td>30 Jul 2012</td><td>First issue</td></tr>
<tr><td>1.1</td><td>31 Oct 2012</td><td>Section 2.1.1, 2.2.1 – include Broker Queue (54) message in Securities Level 2 Conflated Channels

Section 2.1.2, 2.2.2 – remove News (22) from Securities Status Channel

Section 2.2.1 – update the correct Line A multicast IP address for Securities Status Channel

Section 2 – add some descriptive reference on network connection to OMD

Section 3 & 4 – add some guidelines on SDNet lines or HSN connection, e.g. estimated bandwidth requirements, sharing of SDNet/2 or HSN, additional RTS login ID/IP address for Retransmission etc</td></tr>
<tr><td>1.2</td><td>7 Mar 2013</td><td>Section 2 – (i) add description on the requirement of the interface of the LAN switch to set speed as auto-sense” and duplex mode as “auto-sense” and “auto-negotiation”; (ii) update the sample connection diagram for the LAN switch and the link between routers A & B; (iii) add note not to subscribe to multicast addresses & port IDs not specified in the Connectivity Guide.

Section 2.1.7 – update the production IP Unicast Address in the table

Section 2.2 – update the section heading

Appendix B – update the Client Sample Configuration Sheet to include the sample connection diagram & clarify on the setup</td></tr>
<tr><td>1.3</td><td>24 May 2013</td><td>Section 1 – added overview for OCG End-to-End Test Environment

Section 2.3 – newly added for OCG End-to-End Test Environment Connectivity Details

Section 2.4 (previously 2.3) and Section 3.2 – amended for above

Section 4.1 – clarify the policy on usage of login ID for retransmission service</td></tr>
<tr><td>1.4</td><td>5 Aug 2015</td><td><table><tr><th>Effective Date</th><th>Changes</th></tr><tr><td>Phrase 1 of CAS on 25 Jul 2016

VCM on 22 Aug 2016</td><td>Introduction of Closing Auction Session (CAS) & Volatility Control Mechanism (VCM)
Section 2.1, 2.2, 2.3 – added new messages VCM Trigger (23), Reference Price (43) and Order Imbalance (56) for SS, SP & SF</td></tr></table></td></tr>
<tr><td>1.5</td><td>15 Dec 2015</td><td><table><tr><th>Effective Date</th><th>Changes</th></tr><tr><td>Immediate</td><td>Update of Information
• Appendix A – SDNet/2 Accredited Vendors Information</td></tr></table></td></tr>
</table>

1.6	19 Feb 2016	**Effective Date** / **Changes** 6 Mar 2017: **Introduction of a new Disaster Recovery (DR) mechanism** • Section 2 (across sub-sections) – Add information on the new dedicated channel for the new Disaster Recovery Signal (105) message Immediate: **Update of Information** • Section 3.3 and Section 3.4 – Remove MDF3.8 related information
1.7	4 Aug 2016	**Effective Date** / **Changes** 29 Aug 2016: **Launch of new Indices** • Section 2.1.4, 2.2.4 and 2.3.4 – Add TR Index Channel
1.8	03 Feb 2017	**Effective Date** / **Changes** 24 Jul 2017: **Launch of Stock Connect Market Feed** • Section 2.1.7, 2.2.7 and 2.3.7 – Add Stock Connect Daily Quota Balance and Stock Connect Market Turnover Channels • Section 3.2 – Add bandwidth requirement for Datafeed with Stock Connect Market Feed (SCM)
1.9	25 Apr 2017	**Effective Date** / **Changes** 24 Jul 2017: **Launch of Stock Connect Market Feed** • Update the Section 2.1.7 and 2.2.7 – Update Stock Connect Daily Quota Balance and Stock Connect Market Turnover multicast IP address.
1.10	30 Jun 2017	**Effective Date** / **Changes** 24 July 2017: **Launch of Orion Trading Platform – Securities Market (OTP-C)** • Section 2.1.2 and 2.1.3 – Add clarification notes on distribution of order and trade information among multiple channels • Section 2.3 – Heading amended to specify it is for the AMS/3 OCG E2E environment • Section 2.4 – Added for connectivity details of OMD-C in the OTP-C OCG E2E environment
2.0	3 Jul 2017	**Effective Date** / **Changes** 5 Feb 2018: **Launch of Orion Trading Platform – Securities Market (OTP-C)** • Section 2.1 and 2.2 – Update Security Status (21) to be disseminated in channel 10 for SS, channels 20 – 28 for SP and channels 30 – 38 for SF • Section 2.3 – Remove the connectivity details of AMS/3 OCG E2E environment (Superseded with OTP-C OCG E2E environment)

2.1	12 Sep 2018	**Effective Date**	**Changes**
		22 Oct 2018	**Bandwidth increase for Securities Standard (SS) and Securities FullTick (SF) Datafeed:** • Section 3.2.1 – Update the bandwidth requirement for Securities Standard (SS) and Securities FullTick (SF) Datafeed and add the details of bandwidth allocation between multicast and unicast in production in each datafeed
		Immediate	**Clarifications and housekeeping changes:** • Section 2.1.1-3, 2.2.1-2 and 2.3.1-3 – Update Multicast Service name for Channel ID 2 and 502 • Section 2.3.2 – Update multicast port for Channel ID 2 Line A • Appendix A – Update the full name of HGC • Appendix A – Update the link for the Price Information / Technical Specification / Service Level of SDNet/2
2.2	10 May 2019	**Effective Date**	**Changes**
		Immediate	**Update of Information** • Section 3.2.1 and 3.2.2 – Update bandwidth requirement for Conflated Broker Queue (CBQ) and update the details of bandwidth allocation between multicast and unicast for each data feed • Section 3.4 – Include more examples for bandwidth requirement calculation
2.3	20 May 2020	**Effective Date**	**Changes**
		18 Jan 2021	**Update of Information** • Section 2.1.8 and 2.2.8 – Add a remark for retransmission server at DR site
		Immediate	**Update of Information** • Appendix A – Remove HGC Global Communications Limited and rename Wharf T&T Limited to HKBN Enterprise Solutions HK Limited
2.4	2 August 2021	**Effective Date**	**Changes**
		29 Nov 2021	**Update of Information** • Section 3.2.1 – Update the bandwidth requirement for Securities Premium (SP) • Section 3.4 – Update the bandwith of SP with new requirement
2.5	24 April 2023	**Effective Date**	**Changes**
		Immediate	**Housekeeping** • Sections 2.1.8, 2.2.8, 2.3.8 & 3.4 – Remove the wording “HKEX” • Section 1 - Add description for target readers
2.6	15 August 2023	**Effective Date**	**Changes**
		25 Sep 2023	**Remove HKEX Gold Futures Indices** • Sections 2.1.4, 2.2.4, 2.3.4 – Remove TR Index Channel

<table>
<tr><td>2.7</td><td>21 May 2024</td><td>
<table>
<tr><th>Effective Date</th><th>Changes</th></tr>
<tr><td>Upon the launch of OMD Index Feed Enhancement</td><td>Enhancement of OMD Index Datafeed
• Sections 2.1.8 - 2.1.9, 2.2.8 - 2.2.9 and 2.3.8 - 2.3.9 – New OMD-Index Retransmission servers connections detail
• Appendix B – Updated OMD Index connectivity details in Sample Client Configuration Information</td></tr>
</table>
</td></tr>
<tr><td>2.8</td><td>21 Aug 2026</td><td>
<table>
<tr><th>Effective Date</th><th>Changes</th></tr>
<tr><td>Immediate</td><td>Housekeeping
• Sections 3.5 – Updated the content for HPO</td></tr>
<tr><td>Upon the launch of HKEX Indices</td><td>Introduction of HKEX Indices
• Sections 2.1.4, 2.2.4 and 2.3.4 – Add Channel 40 for HKEX Indices Channel</td></tr>
<tr><td>31 Oct 2026</td><td>Removal of S&P Indices
• Sections 2.1.4, 2.2.4 and 2.3.4 – Remove Channel 43 for S&P Indices Channel</td></tr>
</table>
</td></tr>
<tr><td>2.9</td><td>12 Oct 2026</td><td>
<table>
<tr><th>Effective Date</th><th>Changes</th></tr>
<tr><td>Immediate</td><td>Clarification
• Section 2.2.8 – Clarification on the availability of retransmission servers in DR site in Readiness Test Environment</td></tr>
<tr><td>Immediate</td><td>Retain Channel 43 and 543 for future S&P Index
• Sections 2.1.4, 2.2.4 and 2.3.4 – Retain Channel 43 and 543 for S&P Indices Channel</td></tr>
</table>
</td></tr>
</table>