Fusion FI Production Connectivity Details – IP Subnets and Ports – VASBY and STOCKHOLM SOUTH

Below connectivity details pertain to **Fusion FI Production** environment.
For protocols where only subnet/range is specified, the specific IP address will be included in each member's account details available via Member Portal or from MAC@nasdaq.com.

BGP/Routing

VASBY/Primary site – Nasdaq advertises three networks: **204.190.152.0/24** and the ITCH A- and B- multicast source subnets **204.190.152.32/29** (A-feed), **204.190.152.40/29** (B-feed).

STOCKHOLM SOUTH/DR site – Nasdaq advertises three networks: **204.190.154.0/24** and the A- and B- multicast source subnets **204.190.154.32/29** (A-feed), **204.190.154.40/29** (B-feed).

Unicast services VASBY and STOCKHOLM SOUTH datacenters

Protocol / Service	IP ranges – Site A (VASBY) All primary and secondary ports (Co-Lo), All primary ports (non-Co-Lo)	IP ranges – Site B (Future STOCKHOLM SOUTH) All secondary ports (non-Co-Lo)	Port Range
FIX Order Entry	**204.190.152.128/25**	**204.190.154.128/25**	**8500-8699**
FIX Drop	**204.190.152.128/25**	**204.190.154.128/25**	**6500-6699**

Multicast services – Site A (VASBY datacenter)

VASBY – ITCH Multicast (Extranet, Direct Connect, NODE, Co-Lo 1G):

ITCH Multicast Fixed Income (1G)[1] - Site A (VASBY)	Primary - A Flow	Secondary/Failover - B Flow	Port / Port Range
ITCH Multicast UDP	Source IP address: **204.190.152.32** (within subnet **204.190.152.32/29**) Destination IP address and port in direction to client: Multicast group address: **233.213.44.32** **UDP Port: 18511**	Source IP address: **204.190.152.40** (within subnet **204.190.152.40/29**) Destination IP address and port in direction to client: Multicast group address: **233.213.44.34** **UDP Port: 18512** **(VASBY B Flow not sent to NODE)**	
ITCH Re-request UDP	IP address: **204.190.152.64** **UDP Port: 16132**	IP address: **204.190.152.72** **UDP Port: 16132**	**16132**
ITCH Re-request TCP	**204.190.152.64 - 204.190.152.71**	**204.190.152.72 - 204.190.152.79**	**16130-16139**
GLIMPSE TCP (ITCH)	**204.190.152.64 - 204.190.152.71**	**204.190.152.72 - 204.190.152.79**	**16330-16339**
Rendezvous Point (RP) - PIM-SM join message **Extranet providers, Direct Connect and Co-Lo 1G in VASBY**	RP-A: **159.79.85.192/32**	RP-B: **159.79.85.193/32**	

General Communication: This content contains non-sensitive information

Multicast services – Site B (STOCKHOLM SOUTH datacenter)

STOCKHOLM SOUTH – ITCH Multicast (Extranet, Direct Connect, NODE):

ITCH Multicast Fixed Income (1G)[1] - Site B (STOCKHOLM SOUTH)	Primary - A Flow	Secondary/Failover - B Flow	Port / Port Range
ITCH Multicast UDP	Source IP address: **204.190.154.32** (within subnet **204.190.154.32/29**) Destination IP address and port in direction to client: Multicast group address: **233.213.44.144** **UDP** Port: **18611** **(STOCKHOLM SOUTH A Flow not sent to NODE)**	Source IP address: **204.190.154.40** (within subnet **204.190.154.40/29**) Destination IP address and port in direction to client: Multicast group address: **233.213.44.146** **UDP** Port: **18612**	
ITCH Re-request UDP	IP address: **204.190.154.64** **UDP** Port: **16132**	IP address: **204.190.154.72** **UDP** Port: **16132**	**16132**
ITCH Re-request TCP	**204.190.154.64** - **204.190.154.71**	**204.190.154.72** - **204.190.154.79**	**16130-16139**
GLIMPSE TCP (ITCH)	**204.190.154.64** - **204.190.154.71**	**204.190.154.72** - **204.190.154.79**	**16330-16339**
Rendezvous Point (RP) - PIM-SM join message **Extranet providers, Direct Connect in STOCKHOLM SOUTH**	RP-A: **159.79.85.194/32**	RP-B: **159.79.85.195/32**	

[1] For general information on ITCH Multicast setup, please consult the **INET ITCH UDP Multicast presentation (Cash Equity)** at
https://www.nasdaq.com/solutions/european-market-connectivity

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