



Mahwah NMS Network Customer FAQs

(Updated July 25, 2023)

NMS Network Customer FAQs

Contents

1.	WHAT IS THE REASON FOR THE NMS NETWORK?	3
2.	WHAT IS THE NMS NETWORK?	3
3.	HOW ARE MULTICAST SERVICES BEING DELIVERED? [updated]	3
4.	WHAT IP ADDRESSING SHOULD I EXPECT? [updated]	3
5.	DOES THE NMS NETWORK REDUCE LATENCY? [updated]	3
6.	DO I HAVE TO CONNECT TO THE NMS NETWORK TO RECEIVE THE NMS FEEDS? [updated]	4
7.	IF I CHOOSE TO DO SO, WHAT IS NEEDED TO CONNECT TO THE NMS NETWORK? [updated]	4
8.	WHAT CONNECTION TYPES ARE SUPPORTED ON THE NMS NETWORK?	4
9.	DO CUSTOMERS HAVE ACCESS TO DR (CERMAK) FROM THEIR MAHWAH NMS NETWORK PORT?	4
10.	WHAT PORT FEES, IF ANY, APPLY TO THE NMS NETWORK?	4
11.	ARE MY NMS NETWORK CONNECTIONS BEING POLICED FOR UNICAST TRAFFIC (RATE LIMITED)? [updated]	5
12.	HOW DO NMS PARTICIPANTS CONNECT TO THE NMS NETWORK?	5

1. WHAT IS THE REASON FOR THE NMS NETWORK?

In 2020, the Consolidated Tape Association (CTA) and the Options Price Reporting Authority (OPRA) changed their previous requirements that the Secure Financial Transaction Infrastructure (SFTI) be used to access CTA and OPRA Multicast Feeds distributed by NMS (collectively, the NMS Feeds). Utilizing low-latency equipment and optimized network topology, the NMS Network now provides additional NMS connectivity options, enabling access to the NMS Feeds in the Mahwah data center (MDC) without using SFTI, although connecting via SFTI continues to be an option.

2. WHAT IS THE NMS NETWORK?

The NMS Network offers ports in the Mahwah data center to access either or both of the NMS Feeds via an independent infrastructure. These ports can accommodate both participant input and subscriber output. Supported connectivity options are 10 or 40 Gigabit Ethernet client access ports.

3. HOW ARE MULTICAST SERVICES BEING DELIVERED? [updated]

CTA and OPRA feeds can be delivered to customer ports as either static or dynamically subscribed services, consistent with that used over other data center transports. Dynamic-subscribed customers will be required to run PIM, operate in Sparse-mode, and define the Rendezvous Point (RP) that will be used exclusively for the CTA and/or OPRA multicast groups. Static-subscribed customers will receive provisioned market data services unsolicited via flooding. The NMS Feeds will be published as duplicate A and B streams and from separate source networks to ensure that they are delivered via diverse paths. Customers are encouraged to order a minimum of two ports to ensure physical resiliency.

4. WHAT IP ADDRESSING SHOULD I EXPECT? [updated]

Each customer using the NMS Network is assigned a new network port and IP address used for peering. Customers should refer to the following document (available via the web) for the IP address details (RPs, sources, groups) for both CTA and OPRA feeds:

<https://www.opraplan.com/document-library>

(Section “Specifications” / Document “Common IP Multicast Distribution Network Specification”)

5. DOES THE NMS NETWORK REDUCE LATENCY? [updated]

The NMS Network uses low-latency network switches and optimized topology to minimize latency, which results in publisher to port one-way latency, across all network hops, of approximately 2.5µs (microseconds). Alternatively, customers may subscribe to NMS feeds from an IP Network port in colocation with a publisher to port one-way latency of approximately 85.8µs (microseconds)

Note: average packet size latencies were measured on 40G ports and latency comparisons may differ depending on customer connectivity choices.

6. DO I HAVE TO CONNECT TO THE NMS NETWORK TO RECEIVE THE NMS FEEDS? [updated]

No. The NMS Feeds continue to be distributed over IP network connections in colocation. The NMS Feeds are not available over LCN network connections. We encourage customers that are colocated in the Mahwah data center to use the NMS Network to access the NMS Feeds.

7. IF I CHOOSE TO DO SO, WHAT IS NEEDED TO CONNECT TO THE NMS NETWORK? [updated]

For customers that are colocated in the Mahwah data center: Such customers need to request connectivity to the NMS Network (see question 10 below), in accordance with their service and bandwidth requirements (e.g., 10Gbps or 40Gbps ports).

For NMS Feeds data recipients that are not currently colocated in the Mahwah data center but want to connect to the NMS Network: Such customers need to purchase such connectivity (see question 10 below), and also need to procure their own telecommunications circuits into the Mahwah data center, which could then be provisioned and cross-connected via local fiber into NMS Network ports as described above.

To connect to the new NMS Network, customers need to submit a Purchase Order to ICE Data Services. All connectivity requests should be coordinated through your ICE Global Network representative or via iceglobalnetwork-info@ice.com.

8. WHAT CONNECTION TYPES ARE SUPPORTED ON THE NMS NETWORK?

Native 10 and 40 Gigabit Ethernet Access ports are being supported on the NMS Network. Physical network connections to the NMS Network ports are provided over structured fiber infrastructure and dependent on access method: Multi-Mode (MMF) using an MTP/MPO connection for colocation connections and Single-Mode (SMF) using an LC connection for customers using telecommunications circuits. A list of approved Carrier Providers is available from your ICE Global Network representative or via iceglobalnetwork-info@ice.com. Customers are responsible to supply the appropriate optical transceivers (SFP+/QSFP) depending upon the size of their NMS Network ports.

9. DO CUSTOMERS HAVE ACCESS TO DR (CERMAK) FROM THEIR MAHWAH NMS NETWORK PORT?

Yes, customers have access to NMS Feeds (CTA/OPRA) running out of the Disaster Recovery location from their NMS Network connection/s in Mahwah.

10. WHAT PORT FEES, IF ANY, APPLY TO THE NMS NETWORK?

A customer that is colocated at the Mahwah data center that has purchased either an LCN or IP network connection will not be charged for corresponding NMS Network connections of equal size or smaller. A colocation customer that needs more NMS Network connections than the number of LCN or IP network connections they have in colocation will be charged the rates in the following table, which are the same rates as the current charges for the IP network connections of the same size in colocation.

Type of Service	Amount of Charge
NMS Network port - 10Gbps	\$10,000 per connection initial charge plus \$11,000 monthly per connection
NMS Network port - 40Gbps	\$10,000 per connection initial charge plus \$18,000 monthly per connection

Customers that are not colocated in the Mahwah data center may purchase connections to the NMS Network. These customers will be charged for NMS Network connections at the same rates shown in the table above. Such customers will need to procure their own telecommunications circuits to connect to the NMS Network.

11. ARE MY NMS NETWORK CONNECTIONS BEING POLICED FOR UNICAST TRAFFIC (RATE LIMITED)? [Updated]

Unicast traffic on NMS Network connections is not being policed (bandwidth limited). The Securities Industry Automation Corporation (SIAC) distributes nightly reports to all Participants that includes TCP zero windows and TCP retransmission data. Any questions on those reports should be referred to SIAC.

12. HOW DO NMS PARTICIPANTS CONNECT TO THE NMS NETWORK?

The NMS Network utilizes dedicated input-enabled leaf switches for Participants in the CTA and/or OPRA Plans (NMS Participants). Ports on these input-enabled leaf switches allow NMS Participants to receive multicast and to connect to both input and retransmission unicast services. For system resiliency, integrity, and security, these input-enabled leaf switches are only available to NMS Participants, or Service Providers acting on behalf of NMS Participants and for the sole use of such NMS Participants. Other subscribers will be connected to different leaf switches in order to receive multicast and access retransmission service.

Revision History

Date	Changes
2019	Initial version
2020 08	Added / updated information on pricing of port fees; clarified timing of new network for Participants and Subscribers; updated latency statistics.
2021 04	Added information about connecting to NMS feeds via the Mahwah Access Center and other data centers.
2023 05	Updated information about multicast delivery, IP addressing, and latency; updated to reflect closure of Mahwah Access Center and discontinuation of availability of NMS feeds over LCN network connections; added information specific to NMS Participants.
2023 06	Updated to add Revision History.
2023 07	Updated FAQ #11