Cboe Latency Equalization
Secaucus, NJ

**See NY5 Expanded View**
* Average one-way latency based on 128byte packet size
Cboe Latency Equalization
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- Cboe/Equinix Latency Equalization Infrastructure, provides an equal optical length of fiber to customers connecting in the NY4, NY5, or NY6 Secaucus, NJ data centers.

- Fiber cross connects to customer cages are run from Equinix Latency Equalized Hubs using equal lengths of single-mode fiber to each customer cage. The additional slack fiber is stored on the Cboe side of the cross connect. Regardless of the customer's distance from the Equinix Latency Equalized Hub, the fiber spool length is identical.

- NY6 – NY5 cross connects use fiber trunks that are engineered to be the same optical distance as NY4 – NY5, even though NY6 is physically closer to NY5.

- Latency Equalized Hubs within NY4/NY5/NY6 are connected via fiber trunks to the gateway servers in the NY5 data center. Since the NY5 Latency Equalized Hub is much closer to the gateway servers, these fiber trunks connect through additional lengths of fiber to replicate the distance between NY4 to NY5. It is imperative that customers order cross connects only in their local data centers. For example, the Letter of Authorization (LOA) for a customer cage located in NY4 will specify a NY4 demarcation. In this scenario, attempting to order a NY4-to-NY5 cross connect would greatly increase your fiber distance and overall latency to the matching engine in NY5 – duplicating the latency equalized engineered distance.

- Customers with cages outside of NY4/NY5/NY6 Secaucus campus or WAN connections should order cross connects to the NY4 Latency Equalized Hub for the lowest latency.

- Every customer fiber path and trunk is tested end-to-end using a proprietary Optical Backscatter Reflectometer (OBR).

- Total one-way latency represented is measured from the customer fiber handoff to the Environment ToR switch egress point, prior to the Gateway server NIC, based on the average using 128byte packet size.

- Finally, the fiber patch between assigned demarcation point and the Cboe outside network device is adjusted to a custom length, ensuring the total fiber optical length is within acceptable tolerances.
Secaucus, NJ Latency Equalization
NY5 Expanded View

NY4/NY5/NY6 PoP

Cboe NY5

Customer Access Switches

Customer LE Spool

Data Center Core Switches

Environment Core Switches (Equities & non-C1 Options only)

Top of Rack Switches

Feed Servers

BOE/FIX Gateway Servers

Matching Engines

TAP

Corvil

Hardware Timestamp

Unicast

Multicast

Market Data Generation

Inside Switches

Unicast

Multicast

Feed Servers