Cboe Latency Equalization
Secaucus, NJ

Customer Cage NY4

Equinix NY4 Spool Hub

Cboe NY4 Cage PoP

NY4 – NY5 Laterals

Cboe NY5 Gateway Server

11µ RTT

Customer Cage NY5

Equinix NY5 Spool Hub

Edge Devices

NY4 – NY5 Fiber Distance Replication

Cboe NY5 Cage

Cboe NY5 Gateway Server

11µ RTT

Customer Cage NY6

Cboe NY6 Cage Spool Hub & PoP

NY6 – NY5 Laterals

Cboe NY5 Gateway Server

Coming April 1, 2024

11µ RTT
Cboe Latency Equalization
Secaucus, NJ

- 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. The NY6 Equinix Latency Equalized Hub is housed within the Cboe NY6 cage.

- 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 roundtrip latency represented is measured from the customer fiber handoff to the Environment ToR switch egress point, prior to the Gateway server NIC.

- 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.