

Connectivity Guide

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0.1 Revision History

Date	Version	Notes
10/1/2035	V 1.0	

1. Overview

The Texas Stock Exchange (TXSE) operates from Equinix NY6 in Secaucus, NJ as its primary data center. TXSE's Disaster Recovery (DR) facility is located in Equinix DA11 in Dallas, TX. Backhaul to the DR facility is available from 350 E. Cermak in Chicago, IL. No backhaul to the primary data center is provided.

Connectivity to both production and DR environments is available through cross-connects, circuits, or approved extranet providers. Cross-connects are limited to customers within the respective Equinix campuses, must terminate in a customer cage and cannot connect directly to rooftop infrastructure.

2. Connectivity Methods

Members may connect to TXSE via local cross-connect, telco circuit, or extranet providers.

2.1 Local Cross-Connect

Cross-connects are only available for members with a presence on the Equinix campuses (local members) in Secaucus, NJ (primary) or Dallas, TX (DR). All cross-connects are 10Gb Ethernet via single mode fiber (SMF). Both LR and ER optics are supported; members requiring ER optics will have their exchange-side optics purchased on their behalf with charges passed through to the member.

TXSE recommends redundant physical port connectivity to both primary and DR data centers.

2.2 Telco Circuit

TXSE supports telco carrier circuit connections from carriers with a presence on the Equinix campuses noted above. Circuits will be cross-connected from the local carrier facility to TXSE via the same process used by local members. Members using circuits will therefore experience higher latency than members connected via local cross-connect.

2.3 Extranet Providers

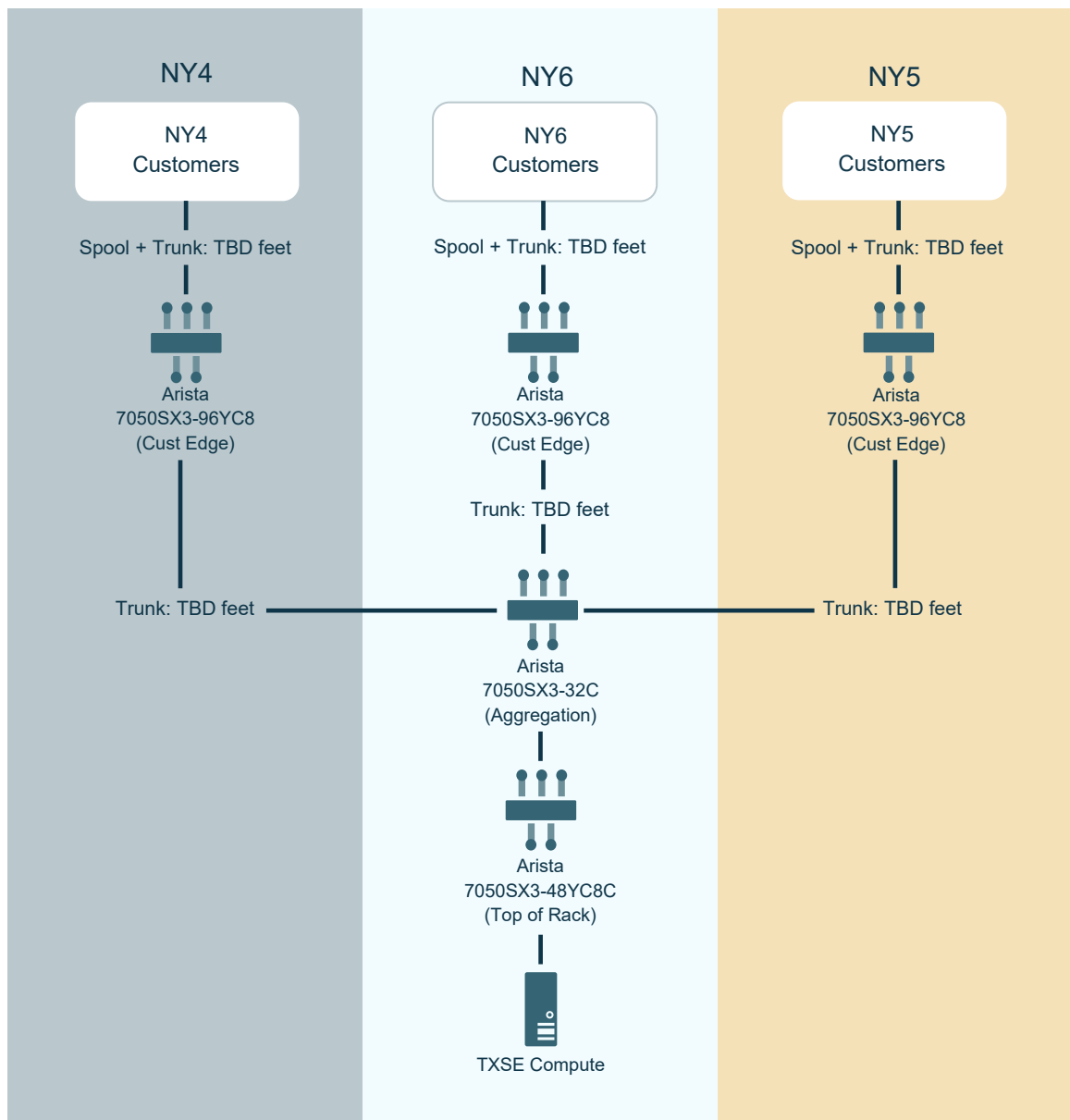
TXSE also supports approved extranet providers. Extranet providers seeking approval should contact noc@txse.com. As with telco circuit connections, extranet providers will be cross-connected from the local carrier facility to TXSE via the same process used by local members. Members using extranet providers will therefore experience higher latency than members connected via local cross-connect.

2.4 VPN/Cloud

Virtual Private Network (VPN) and/or Cloud-based connectivity is available exclusively for test/certification traffic. Members may not access production or DR markets via VPN or cloud.

3. Latency Equalization

TXSE is committed to fair access between members. For this reason, latency equalization is implemented via equal-length fiber optic cables between TXSE's matching engine and members in NY4, NY5 and NY6. Latency equalization is not used in the DR data center.



4. Network Protocols

- **Layer 3 (IP) protocol:** TXSE uses IPv4 as its exclusive layer 3 transport protocol. IPv6 is not supported. To avoid potential address conflicts, it is recommended that members use public/registered address space to communicate with TXSE systems. Private address space will be assigned to members upon request, but members may not specify a particular private range. Members are responsible for mitigating any conflicts between their private address space and the TXSE-assigned private space.
- **Unicast routing protocol:** TXSE uses BGP as its exclusive dynamic unicast routing protocol. Static routing is available for members who are unable to use BGP, but this is not recommended. In the event of routing/failover issues involving static routes, TXSE will not compromise the reliability of its network by reconfiguring static customer routing intra-day.

To avoid potential Autonomous System Number (ASN) conflicts, it is recommended that members use public/registered ASNs. Private ASNs will be assigned to members upon request, but members may not specify a particular ASN. Members are responsible for mitigating any conflicts between their private ASNs and the TXSE-assigned private ASN.

- **Multicast routing protocol:** TXSE uses PIM-SM as its exclusive dynamic multicast routing protocol. Static IGMP group configurations are available for members who are unable to use PIM-SM, but this is not recommended. In the event of unwanted or missing multicast traffic due to static IGMP, TXSE will not compromise the reliability of its network by reconfiguring static IGMP groups intra-day.

5. Network Access Caveats

- TXSE reserves the right to shut down without notice member physical ports which disrupt normal exchange operations via excessive transmissions.
- TXSE reserves the right to capture traffic traversing member physical ports for troubleshooting or other purposes.
- TXSE reserves the right to filter inbound and outbound traffic and/or route advertisements on member physical ports to prevent unnecessary or unauthorized traffic from entering TXSE's network.