

# ASX Market Connectivity

## LCC and High Capacity OI Session



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### ASX CoLo Liquidity Cross Connect – Faster, Simpler access to ASX

- 1 Gbit Ethernet
- No customer ASX gateways, switches, or routers
- Supports up to 500 transactions per second per LCC
- Seamless fail-over teamed connection available

#### Lean, Fast, Simple: A Direct Connection for CoLo

The introduction of ASX Trade brings with it the ability to offer a truly direct connection to ASX Trade; a Liquidity Cross-Connect (LCC).

An LCC is a 1 Gbit auto-negotiate Ethernet connection from ASX Trade (ASX TradeMatch, ASX VolumeMatch) to a patch panel in a Participant's ASX CoLo rack. No further ASX network infrastructure is required. This simplicity reduces the latency between a Participant's system and ASX Trade, and allows the Participant to free up valuable CoLo space and power by retiring their existing ASX equipment.

#### Robust

Where a Participant has up to 10 LCCs, ASX will to the extent possible ensure that no two of those LCCs share a single point of failure. So, in the event that one entry point becomes unavailable, the others will remain available.

Individual connection robustness is available via the optional Redundant Teamed Connection (RTC), which can be added individually to each LCC. The RTC duplicates the network connection of its associated LCC, but takes a different physical path between different termination ports on the ASX Trade entry point and the Participant's CoLo rack patch panel.

#### Ordering and Service Delivery

Participants will be able to order up to three LCCs per allocated CoLo rack.

Each LCC will be delivered to the first available port in the first rack in a Participant's allocated CoLo space. The Participant can then connect the LCC to their own infrastructure in any of their racks.

LCCs and RTCs can be ordered by submitting to ASX Market Access the appropriate order form available from Market Access.

#### Key Technical Information

- 1 Gbit Ethernet, auto-negotiate
- LCC presented to CoLo Participant as a port in the rack patch panel
- Rack power requirement: zero W
- Rack space required: 1 RU (patch panel)
- Supports up to 500 TPS throughput
- Relative latency reduction: up to 10 times faster than existing Gateway

### High Capacity Open Interface Session

To support emerging Participant needs, ASX offers Trading Participants a new OI session with significantly greater through-put capacity than is currently available. The new OI Session, known as a "High Capacity OI Session", will support up to 50 Transactions per Second (TPS) compared to 10 TPS supported by existing OI Sessions ("Standard OI Session").

The High Capacity OI Session will be able to enter the following order-related transactions at a rate of 50 TPS:

- MO31 – order entry
- MO33 – order alteration
- MO4 – order deletion

All other transactions, for example quoting transactions, will continue to use a maximum of 10 TPS even on a High Capacity Open Interface session.

The High Capacity OI Session will be available from 10 January 2011 for use in both Distributed and CoLo connectivity models.

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## Transaction Throughput on a High Capacity Open Interface Session

High Capacity and Standard Open Interface sessions are kept to their respective TPS limits by delaying the passage to ASX Trade of the 11th or 51st (as appropriate) transaction in a given second. For example if a High Capacity session sends 50 order-related transactions in 750 ms, then the 51st transaction will be delayed for 250 ms until the next second window.

While a High Capacity session can send both order-related and non-order-related transactions, it is still only a single session. This means that when both transaction types are sent on the one session, the first transaction to trigger a delay will delay all types of transaction.

For example, if a High Capacity session were to send 10 non-order-related transactions in 250 ms, it could then continue to send up to 40 order-related transactions over the remaining 750 ms. If, however, the session tries to send an 11th non-order-related transaction in that 750 ms, then **all** further transactions will be delayed until the end of that second. The same is true if it is an order-related transaction that triggers the delay.

To avoid any difficulties, ASX recommends that the High Capacity Open Interface Sessions be used exclusively for order-related transactions.

## Ordering

Requests for the High Capacity OI session should be placed with Market Control using the ASX Trade Workstation and Open Interface Request Form which will be made available in October.

### PRICING INFORMATION

Liquidity Cross Connect	\$1,100 per month per connection
Redundant Teamed Connection	\$150 per month per connection
LCC/RTC Installation/decommission	\$500* per connection
High Capacity OI Session	\$2,800 per month per session

\* LCC and RTC installation is free until 8 November 2010.

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