

# Incident Report

Monday November 11, 2019

## MOC and Client Disconnects Incident Report - Nov 11

### Incident Summary:

At 7:25 am we experienced an issue with our primary Order Management Process (OMP) which then dropped all OE FIX sessions for Symbols E-S. This triggered an automated fail-over as per design to our back-up OMP and clients were able to immediately reconnect.

At 9:40 am, we experienced a similar disconnect from the remaining two OMPs supporting symbols A-D and T-Z. These also automatically failed over as per design. Clients were able to reconnect on those sessions immediately.

At 4:00 pm one of our stock groups failed to transition to the Calculated Closing Price ("CCP") Determination market state. As a result, the TSX Market On Close ("MOC") Facility did not run for the securities included in that stock group (see impacted securities below). Between 4:10 and 5:10, we attempted to implement our contingency plan for MOC. As a result of an application consistency issue we were unable to run our MOC contingency in order to produce a MOC price for the 26 impacted securities.

External notification was disseminated throughout the incident. At 5:15 pm we confirmed and published the closing prices for the list of securities impacted as the last board lot sale price.

### Services Impacted:

TSX MOC was not executed on the following securities: (last board lot sale price also included)

Symbol	Last Sale	Symbol	Last Sale
AC	\$48.13	APR.UN	\$11.35
AQN	\$17.94	BAD	\$34.18
BAD	\$34.18	BNS	\$76.50
CDAY	\$71.51	CGO	\$101.89
CGX	\$22.58	CHE.UN	\$10.96
CHP.UN	\$13.46	CHR	\$8.08
CJ	\$2.07	CJR.B	\$5.49
CJT	\$99.76	CLIQ	\$4.35
CLR	\$5.08	CMG	\$7.39
CNL	\$4.07	CPX	\$31.56
CRON	\$10.69	CRR.UN	\$15.87
CRT.UN	\$15.09	CSH.UN	\$14.16
CSU	\$1293.70	CU	\$38.70
DR	\$4.64		

**Problem Analysis:**

Both issues listed above (OE FIX session disconnects and MOC) were introduced with an operating system (OS) upgrade which was applied to messaging middleware appliances within the trading complex over the weekend. We have identified the root cause and will work through the fix over the coming weeks.

**Resolution:**

- 1. The change from the weekend was rolled back this evening. As a result, we do not expect these issues to be present tomorrow.**

2. All data integrity checks have been completed
3. Start-up validation of the entire trading enterprise to be done as per normal

If you need assistance with order or trade reconciliation, please contact the Trading Services desk at 416-947-4357.