



Integrated Trading and Clearing (ITaC)

Project Forum

28 November 2018

Agenda

- ITaC Timeline and Key Dates
- ITaC Decommissioning of NUTRON for Equity & Currency Derivatives Markets
- ITaC Dress rehearsal participation for 2019
- ITaC Data Take-on Process
- Questions?

Project ITaC Count Down

As at 28 Nov 2018

88 business days

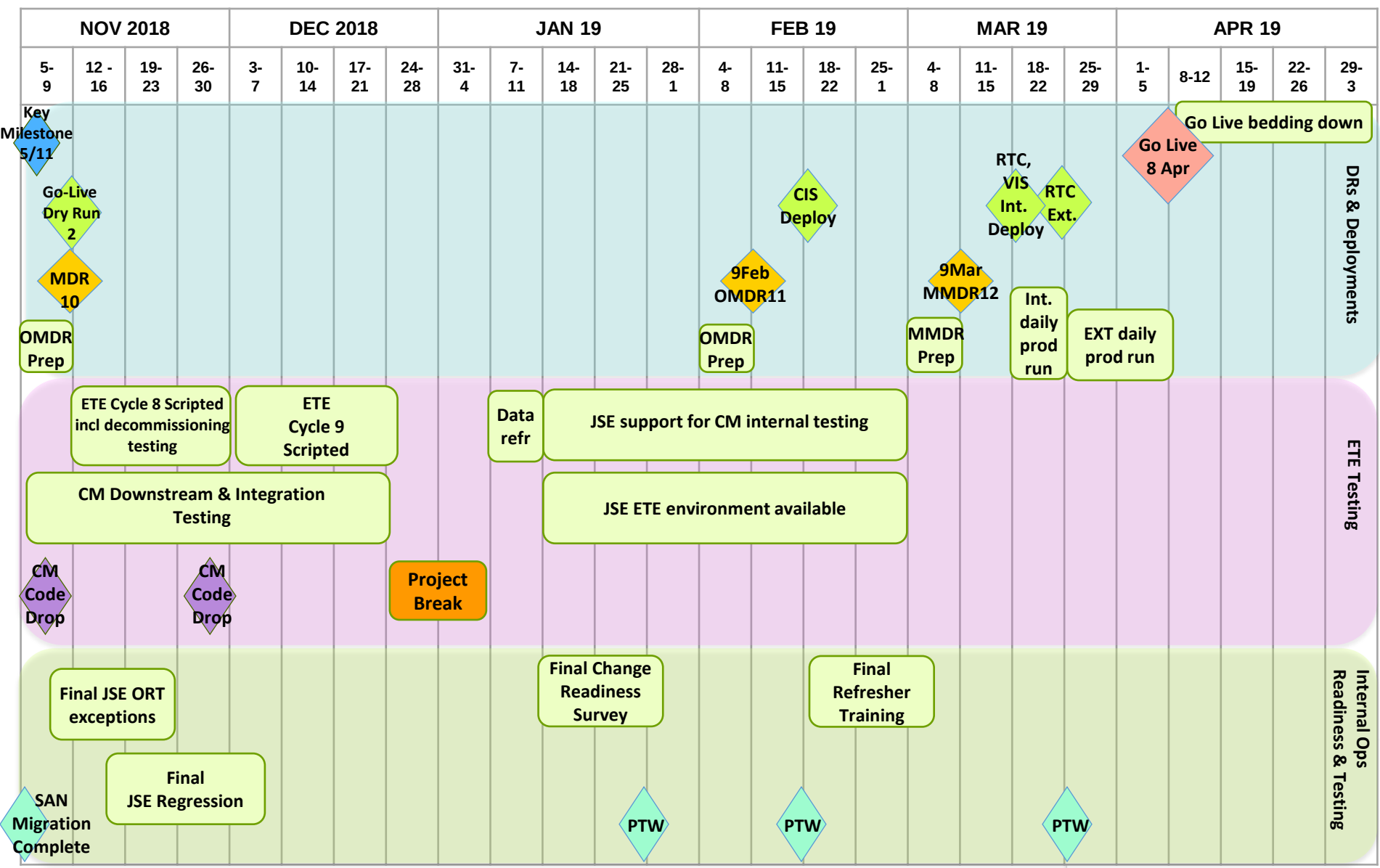
to Go Live

on 8 April 2019



JS

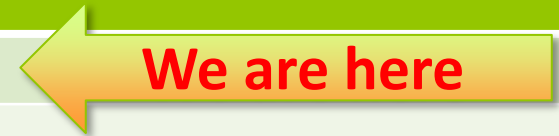
High Level ITaC Timeline



ITaC Key Dates

JSE

Date	Milestone
12 Nov – 3 Dec 2018	ETE Cycle 8 Scripted
12 Nov – 21 Dec 2018	CM Downstream & Integration Testing
4 Dec – 21 Dec 2018	ETE Cycle 9 Scripted
24 Dec – 4 Jan 2019	<i>Project Break</i>
7 Jan – 12 Jan 2019	ETE environment refresh
14 Jan – 1 Mar 2019	JSE ETE environment available (except where indicated otherwise below) JSE Support of CM internal testing
4 – 8 Feb 2019	Dress Rehearsal Prep (ETE not available)
9 Feb 2019	Optional Market Dress Rehearsal (Mandatory for some clients)
4 – 8 Mar 2019	Dress Rehearsal Prep (ETE not available)
9 Mar 2019	Mandatory Market Dress Rehearsal
16 Mar 2019	JSE internal deploy of VIS & RTC into production (not available to clients)
23 Mar 2019	RTC in production available to clients
25 Mar – 5 Apr 2019	External Production Daily Run (daily reference data alignment)
8 April 2019	Go-Live Date



ITaC Key Dates (cont.)



- **Enablement Freeze Period**

- Any new/changed enablements between now and go-live must pass 2 dress rehearsals (9 Feb & 9 Mar 2019)
- 9 Feb 2019 - Enablement change freeze start
- 6 May 2019 - Enablement change freeze end (could be earlier if bedding down period smooth)

- **TraderID Freeze Period**

- Any new Trader ID must be tested in at least one dress rehearsal (9 Feb or 9 Mar)
- 9 Mar 2019 – TraderID freeze start
- 15 Apr 2019 – TraderID freeze end

- **Go Live Bedding Down Period**

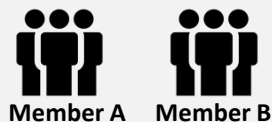
- 8 Apr – 6 May 2019

ITaC EDM & FXM Decommissioning

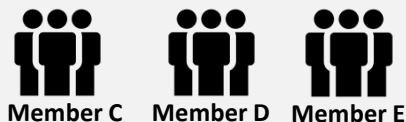


CURRENT

Equity Market



Equity, Interest Rate Markets, Currency & Commodity Derivatives Markets



From 8 Apr 2019

Equity Market, Equity Derivatives, Currency Derivatives



Interest Rate Markets & Commodity Derivatives Market



Trading & Live Market Data System

NUTRON/Nuclears

Trading & Live Market Data System

Real Time Clearing System for Derivatives

NUTRON/Nuclears

Key Changes for EDM/FXM:

- **NUTRON/Nuclears decommissioned** – Member to choose own software provider
- **Non-Live Market Data**
 - Subscription to data records for Equity & Currency Derivatives received via IDP service
 - Data Products for Interest Rate Derivatives will exclude Currency Derivatives
- **Reports on JSE website** – Only available in PDF mostly after midnight at a new location
- **Ditch Feed** – Equity Derivatives no longer published on this service. Replaced by new real-time MITCH data feed
- **Clearing Member reports** – One combined for Equity & Currency Derivatives, one report for Commodity Derivatives and one for Interest Rate Markets

ITaC Dress Rehearsals – 2019 participation



- **Participation requirements for 9 Feb 2019**
 - Mandatory for all clients:
 - that have not completed full functional testing of their solutions in the End-To-End environment
 - who still have open issues with the software provider that need testing to be resolved or signed off
 - that have any new/changed enablements between now and go-live (required to pass 2 dress rehearsals – 9 Feb and 9 Mar 2019)
- **Participation requirements for 9 March 2019**
 - Mandatory for all clients – Trading Members, Clearing Members and direct live information subscribers (real-time feeds)
 - Final go live readiness test

Agenda

- **ITaC Data Take-on Process for Equity Derivatives & Currency Derivatives**
 - Scope
 - Timing of System Deployments and Impact on Data Take On
 - Instrument Reference Data Migration Approach
 - Transformation Rules for Reference Data
 - RTC User Accounts
 - Position Take On
 - Conversion of Dividend Neutrals
 - Risk Parameters
 - Go Live Cutover Weekend
 - General

Scope of Data Take On Equity and Currency Derivatives



- **Reference Data**
 - Instrument Data
 - Member Clients
 - Cash Accounts for Foreign Member Clients
 - Linking of Member Clients to the Clearing Member
 - Sub Accounts
 - Additional Margin Percentages for Member Clients
 - Tripartite Agreements
- **Transactional data**
 - Closing Prices
 - Closing Positions on the last day of trading on NUTRON
 - Cash Collateral Balances on the last day of trading on NUTRON
- **Risk data**
 - Initial Margin Requirements
 - Series Spread Group (SSG) and Class Spread Group (CSG)

Timing of System Deployments and Impact on Data Take On



1

An initial reference data take on will be undertaken from NUTRON to the new Real Time Clearing solution (RTC):

- Instruments (with final ISINs and Instrument IDs)
- Member Clients;
- Cash Accounts for Foreign Member Clients;
- Linking of Member Clients to the Clearing Member; and
- Sub Accounts

No access to RTC will be allowed from 10 Mar to 24 Mar 2019

Members align reference data from 25 Mar 2019

Timing of System Deployments and Impact on Data Take On



2

Weekly alignment of the following reference data from NUTRON to RTC:

- Any new Member Clients created
- Changes to the personal information of Member Clients
- Archiving of Member Clients
- Any cash accounts created or changed
- Any changes in the linking of Member Clients to Clearing Members and
- Any new Sub Accounts created

Daily alignment of the following reference data from NUTRON to RTC:

- Instruments with publication of production client CSV files every day

Timing of System Deployments and Impact on Data Take On



3

On the evening of 5 Apr 2019 (post the production batch run), the following will be migrated from NUTRON to RTC:

- A final delta upload of changes to the instrument and client reference data loaded leading up to 5 Apr
- Additional Margin percentages for Member Clients as at COB 5 Apr
- Tripartite Agreements as at COB 5 Apr
- Closing Positions as at COB 5 Apr
- Closing Prices for 5 Apr and
- Cash Collateral balances as at COB 5 Apr

Instrument Reference Data Migration Approach



- The production instrument data as at the evening of 25 March 2019 including the final Instrument IDs, Contract Codes and ISIN's for all instruments, will be made available in production **from 25 March 2019**
 - From this date onwards, any new instrument reference data created in NUTRON will reflect in the ITaC reference data files on the evening of the day it was available to trade in NUTRON
 - A new mapping spreadsheet, between the NUTRON and ITaC instruments, will also be made available daily, once all the data for the day has been migrated to the ITaC system
 - During this period options will be included in the InstrumentsOption.csv file
 - The final delta of instruments will be added on 5 April 2019, based on what is created in NUTRON during that day

Transformation Rules for Reference Data



- **Criteria used to determine which Member Clients will be migrated**
 - The Client must be Active and in a Verified state
 - Please note: Clients who are not verified but have a closing position associated with them will come across as Active in RTC
 - The Client:
 - Has any position or cash collateral balance as at COB 5 April 2019 or
 - Has no position but has been active in the two years leading up to ITaC Go Live or
 - Has an active Tripartite agreement or
 - Was added on or after 2 January 2019

Transformation Rules for Reference Data



- **Member Clients**

- If any of the following fields are not available in the source reference data prior to migration, default values (as indicated in the [ITaC Guidance Note on Data take-on for EDM and FXM.pdf](#)) will be populated for:
 - Physical address
 - Country of Residence in the case of non-resident Member Clients
 - Telephone Number
 - E-mail address
 - Client's ID Number
 - Passport number of a non-resident Member Client
 - Company registration number in the case of companies

Transformation Rules for Reference Data



- **Cash Accounts for Non-Resident Member Clients**
 - **Mandatory** fields:
 - Bank name
 - Account Number
 - SWIFT Code
 - If the above details are not complete on NUTRON, the cash accounts cannot be migrated
 - Members to verify that these fields are populated **by no later than 8 March 2019** to ensure these are migrated on ITaC Go Live

Transformation Rules for Reference Data



- **Sub Accounts**
 - A Sub Account name cannot be used more than once in the same Trading Member / Branch structure
 - In the event that this does occur, a “1” is suffixed to the position account ID of the Branch sub account

Entity	Original Value	New Value
Trading Member	ABCDEF	ABCDEF
Branch	ABCDEF	ABCDEF1

Transformation Rules for Reference Data



- **Instrument Reference Data**

- There is a one to one mapping for all Contracts loaded in MDS with the exception of the following:
 - CFD with SAFEY Base rate will have the same Old System code as the CFD with RODI Base rate e.g. AGLC
 - Cash Settled Dividend Neutrals on a JSE Equity will have a “T” appended to the first 3 letters of the NUTRON Contract Code e.g. AGLT
 - Physically Settled Dividend Neutrals on a JSE Equity will map to the “F” NUTRON Contract Code e.g. AGLF
 - Cash Settled Dividend Neutrals on an IDX will map to the “D” NUTRON Contract Code e.g. SOTD

Take on of Instruments and Positions



- All positions are migrated on a 1:1 basis from NUTRON to RTC with the exception of the Dividend Futures
- Dividend Futures are migrated to a Dividend Neutral and a contra position on the Standard Future
 - For Dividend Futures:
 - a F contract and a Q contract combination is migrated to a Physically Settled Dividend Neutral
 - a F contract and a S contract combination is migrated to a Cash Settled Dividend Neutral
 - In instances where there is not an exact match between the Dividend Future and the Single Stock Future, the difference will be applied to the non-Dividend Neutral Single Stock Future contract
 - Where there is only a Dividend Future contract with no corresponding Single Stock Future, a position will be created in both the Dividend Neutral and Single Stock Future to obtain the correct synthetic exposure
 - Refer to the detailed Annexure slides at the end of this pack for examples

Risk Parameter Take On



- Risk Parameters from the current Clearing System are migrated to RTC

- Per Future

- Initial Margin Requirement (IMR)
- Class Spread Margin Requirement (CSMR)
- Volatility Scanning Range (VSR)

Dividend Neutral Futures are assigned a value of the corresponding standard Future

- Per underlying Spot

- Settlement Margin Requirement (SMR)
- Average Daily Value Traded (ADVT)
- 1-Day VaR

- Margin Thresholds

- Liquidation Period Add-on Threshold : 50,000,000
- Large Exposure Add-on Threshold : 250,000,000

Risk Parameter Take On (cont.)



- Per Class Spread Group (CSG)
 - Series Spread Group (SSG) and Series Spread Margin Requirement (SSMR) values from the current Clearing System are migrated to RTC
 - CSGs of related instruments with the following features are all placed in the same SSG
 - Physically settled
 - Cash Settled
 - Dividend Neutral
 - Anyday-type Expiry

Billing and Invoicing



Billing implications for the ITaC go-live:

- Booking fees will be calculated based on the published fees for the Equity Derivatives and Currency Derivatives markets effective from 1 January 2019
- Discount rules are applied as per the Billing Replication document and reduces the requests for zero fees to be done manually as most of the rules are applied as per the new billing methodology:
 - [ITaC JSE Booking Fee Replication for the Derivative Market.pdf](#)
- Invoices will be produced daily for booking fees and delivered via Infoslips to each of the Clearing Members with effect from 8 April 2019
- At month-end the risk administration fees will be included for the Equity Derivatives and Currency Derivatives markets with values as per the JSE Real Time Clearing System (RTC) Daily Account Summary
- Market Makers will still receive a monthly invoice on the new JSE Clear invoice format and at the end of April 2019 two (2) invoices will be received. One from the existing production system for 1 – 5 April 2019 and the other from 8 – 30 April 2019 from the new JSE billing system
- Reporting for billing from old and new will not be available in a single view and will be reconciled by the JSE Finance division

Go Live Preparation Activities and Cutover Weekend



- In February 2019 we will hold a workshop to walk clients through the detailed Go Live implementation plan and preparation activities including the required signoff checkpoints

Questions?



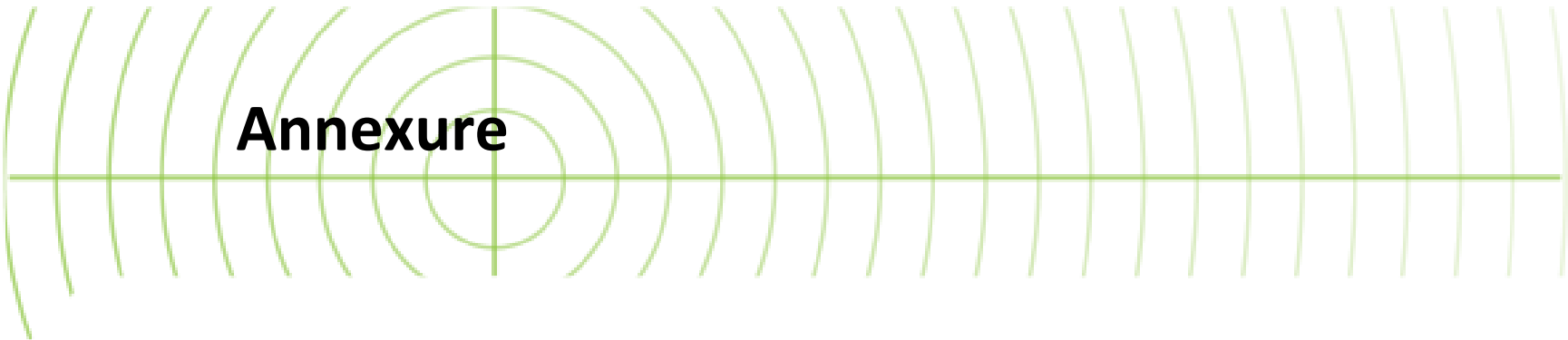
Please refer all queries to the
JSE Client Service Centre (CSC)



CustomerSupport@jse.co.za



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Annexure

Conversion of Dividend Neutrals



- Dividend Neutral Futures are currently stored as 2 records in the NUTRON database:

Clearing Member	Trading Member	Member Client	Position Account	Instrument ID	Expiry Date	Short Name	Notes	Closing Position
ABC	DEF	ABC101	ABC101	1011169	21-12-2018	RDFF	Dividend Future	-1740
ABC	DEF	ABC101	ABC101	1010284	21-12-2018	RDFQ	Single Stock Future	-1740

- There are three possible scenarios when converting the NUTRON Dividend Neutral Futures to the ITaC Dividend Neutrals:

F to Q Match

RDFF
RDFQ

F to S Match

RDFF
RDFS

**F to Q and
F to S
Combination**

Conversion of Dividend Neutrals



- There are two types of Dividend Future contracts that are impacted:
 - Single Stock Dividend Futures – These contracts are created as Dividend Neutral Contracts; and
 - International Equity Dividend Futures – These contracts are created as Cash Settled Dividend Neutral Contracts

Conversion of Dividend Neutrals



1. Match all F contracts to a Q contract or an S contract where the Closing Position is equal
2. Migrate the Q and S positions to RTC
3. Match the F contracts (Dividend Future) to a Q contract (Physically Settled Single Stock Future):
 - If the quantity of the Dividend Future is less than or equal to the quantity of the Physically Settled Single Stock Future then migrate the Dividend Neutral using the quantity of the Dividend Future as a **Physically Settled Dividend Neutral**
 - If the quantity of the Dividend Future is greater than the quantity of the Physically Settled Single Stock Future, then update the Quantity of the Dividend Future to that of the Physically Settled Single Stock Future. The difference is then “reserved” so that a comparison to a Cash Settled Single Stock Future can be done
4. Create a contra transaction in the Q contract (equal and opposite position)
5. Match the ‘F’ Contract (Dividend Future) to the ‘S’ contract (Cash Settled Single Stock Future):
 - If the quantity of the Dividend Future is less than or equal to the quantity of the Cash Settled Single Stock Future then migrate the Dividend Neutral using the quantity of the Dividend Future as a Cash Settled Dividend Neutral
 - If the quantity of the Dividend Future is greater than the quantity of the Cash Settled Single Stock Future, then update the Quantity of the Dividend Future to that of the Cash Settled Single Stock Future. The difference is then “reserved” so that the difference can be applied against the Physically Settled Single Stock Future
6. Create a contra transaction in the ‘S’ contract (equal and opposite position)
7. Convert any balances in the ‘F’ contract to a Physically Settled Dividend Neutral
8. Create a contra transaction in the ‘Q’ contract (equal and opposite position)

Scenario 1: F = Q Contract



Scenario: An 'F' Contract (Dividend Future) is equal to a matched 'Q' Contract (Physically Settled Single Stock Future)

Step	Pre Conversion			Post Conversion		
	F contract	Q contract	S contract	Physically Settled Dividend Neutral	Q contract	S contract
Starting position	1 000	1 000				
0 – Migrate where F = Q				1000	0	0

Scenario 2: $F < Q$ Contract



Scenario: An 'F' Contract (Dividend Future) has fewer positions than the 'Q' Contract (Physically Settled Single Stock Future)

Step	Pre Conversion			Post Conversion		
	F contract	Q contract	S contract	Physically Settled Dividend Neutral	Q contract	S contract
Starting position	3 000	4 000	0			
0 – Migrate where $F = Q$ (or S)				0	0	0
1 – Migrate the 'Q' and 'S' positions					4 000	
2 – Match the F to Q contract				3 000		
3 – Create a contra 'Q' txn					-3 000	
NET POSITION				3 000	1 000	

Scenario 3: F > Q Contract



Scenario: An 'F' Contract (Dividend Future) has more positions than the 'Q' Contract (Physically Settled Single Stock Future)

Step	Pre Conversion			Post Conversion		
	F contract	Q contract	S contract	Physically Settled Dividend Neutral	Q contract	S contract
Starting position	5 000	4 000	0			
0 – Migrate where F = Q (or S)				0	0	0
1 – Migrate the 'Q' and 'S' positions					4 000	
2 – Match the F to Q contract				4 000		
3 – Create a contra 'Q' txn					-4 000	
NET POSITION				4 000	0	0

Scenario 4: F = S Contract



Scenario: An 'F' Contract (Dividend Future) is equal to a matched 'S' Contract (Cash Settled Single Stock Future)

Step	Pre Conversion			Post Conversion		
	F contract	Q contract	S contract	Cash Settled Dividend Neutral	Q contract	S contract
Starting position	2 000		2 000			
0 – Migrate where F = S				2 000	0	0

Scenario 5: $F < S$ Contract



Scenario: An 'F' Contract (Dividend Future) has fewer positions than the 'S' Contract (Cash Settled Single Stock Future)

Step	Pre Conversion			Post Conversion		
	F contract	Q contract	S contract	Cash Settled Dividend Neutral	Q contract	S contract
Starting position	3 000	0	4 000			
0 – Migrate where $F = Q$ (or S)				0	0	0
1 – Migrate the 'Q' and 'S' positions						4 000
2 – Match the F to Q contract						
3 – Create a contra 'Q' txn						
4 – Match the F to S contract				3 000		
5 – Create a contra 'S' txn						-3 000
NET POSITION				3 000		1 000

Scenario 6: F > S Contract



Scenario: An 'F' Contract (Dividend Future) has more positions than the 'S' Contract (Cash Settled Single Stock Future)

Step	Pre Conversion			Post Conversion		
	F contract	Q contract	S contract	Cash Settled Dividend Neutral	Q contract	S contract
Starting position	5 000	0	4 000			
0 – Migrate where F = Q (or S)				0	0	0
1 – Migrate the 'Q' and 'S' positions						4 000
2 – Match the F to Q contract						
3 – Create a contra 'Q' txn						
4 – Match the F to S contract				4 000		
5 – Create a contra 'S' txn						-4 000
NET POSITION				4 000		0

Scenario 7: F Contract is Matched to a Q Contract and an S Contract



Scenario: An ‘F’ Contract (Dividend Future) is matched to a ‘Q’ Contract (Physically Settled Single Stock Future) and an ‘S’ Contract (Cash Settled Single Stock Future)

Step	Pre Conversion			Post Conversion			
	F contract	Q contract	S contract	Physically Settled Dividend Neutral	Cash Settled Dividend Neutral	Q contract	S contract
Starting position	1 600	900	400				
0 – Migrate where F = Q (or S)				0	0	0	0
1 – Migrate the ‘Q’ and ‘S’ positions						900	400
2 – Match the F to Q contract				900			
3 – Create a contra ‘Q’ txn						-900	
4 – Match the F to S contract					400		
5 – Create a contra ‘S’ txn							-400
6 – Convert balance against Physically Settled Div Neutral				300			
7 – Create a contra ‘Q’ txn						-300	
NET POSITION				1 200	400	-300	0