

# ITaC – MCMT Overview

Overview of the  
approach for Mandatory  
Clearing Member Testing

November 2017



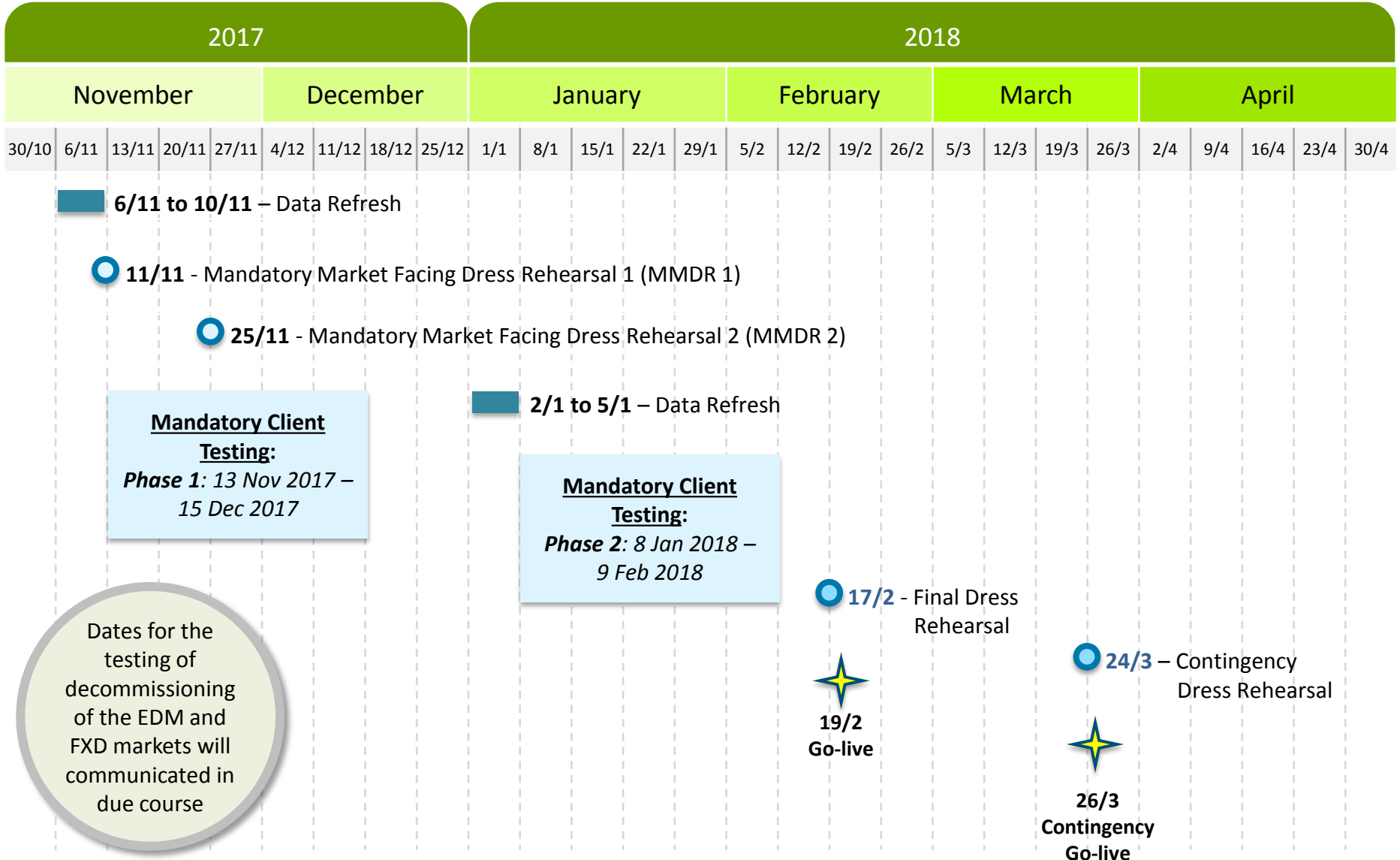
JS III

- Intro and review of key dates
- Mandatory Clearing Member Testing Approach Overview
  - Objectives of the Testing
  - Test scenarios and the Run-Plan
  - Daily lifecycle overview
  - Transactional data pack
  - Testing progress tracking (reporting vs. meetings)
- Questions

The purpose of this workshop is to provide Clearing Members with an explanation of their role in the execution of the Mandatory Clearing Member Testing (MCMT) phase.

Post this session, Clearing Member test participants should have a clear view of the approach being taken for MCMT, the scope of the testing, and the activities and processes that they will have to fulfil as part of the test execution effort.

# Review of the key testing dates



Dates for the testing of decommissioning of the EDM and FXD markets will be communicated in due course

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- **MCMT:**

- Stands for *Mandatory Clearing Member Testing*
- This is **scripted testing** and will be structured according to a test schedule - referred to as a “Run Plan” - which will specify the test conditions to be completed per day
- Is intended to test the **full scope of ITaC clearing functionality** over the course of the 2 MCMT test phases (i.e. Phase 1 and 2 may cover different functional scope)
- Provides Clearing Members with an opportunity to test the full operations of their new clearing solutions and downstream interactions
  - Clearing Members have already requested specific transactional and reference data for the execution of test scenarios for their use
- It is imperative that Clearing Members execute this testing using the solutions provided by their software providers
- All Client enablement and Technical Readiness Tests (TRT) to TB50 should be completed prior to the start of MCMT

- **MCMT prerequisites:**

- Signing of the updated JSE Services Agreement (JSA)
- Ordering and configuration of enablements (7 day SLA) – *complete for all CMs*
- Connectivity testing to TB 50 – *complete for all CMs*
- Conformance of software – *complete for all CMs*
- Provision of Test Manager details to JSE – *complete for all CMs*


- **Explanation of the JSE testing environment and data set-up:**

- The JSE will be using a unique environment for the execution of VCMT and MCMT – Test Bed 50 (TB 50)
- This environment will be populated with a subset of converted production data – attributes of this data will be aligned to the current production data
- For MCMT the JSE will facilitate ring fencing of transactional and reference data to allow segregation of testing

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- The JSE will be leveraging test scenarios defined for its internal “Consolidated Testing” phase for the Mandatory testing phase
  - MCMT will cover the entire spectrum of scenarios
- A number of scenarios have been defined under the following functional areas:
  - Corporate Actions
  - Deal Management
  - Client Management
  - Collateral Management
  - End of Day
  - Default Management
  - EOD Schedule Management
  - Commissions
  - Instrument Management
  - Intraday Schedule Management
  - Position Management
  - RTC Market Data
  - RTC Reports
  - Settlement Management
  - Trade Management



An explicit list of business scenarios has been defined with the CMs

- The “**Run Plan**” provides a view of what functions will be tested at which point during the MCMT testing
- The plan has been developed so that some pieces of functionality will be retested through-out the MCMT phase, while other functions or events will be explicitly scheduled (i.e. **FCO**, **EOD reruns** and **Corporate Actions**)
- The run plan has been developed so that the span of instrument types increases over time:
  - i.e. in the first week of testing, only **Index Futures**, **Single-stock Futures** and **Currency Futures** will be tested. In the weeks thereafter, more instrument types will be introduced, leading up to ALL instrument types being tested in Weeks 4 and 5
- Similarly, the testing of the actual functions applied to these instruments will be staggered over a series of weeks:
  - i.e. Deal management will be staggered over a 3 week period - week one will test all permutations of **allocations**, while week 2 will focus on the **assign** functionality, and week 3 will be for **Tripartite** and the “**On behalf-of**” functionality

# MCMT Approach

## Run plan explanation – Instrument sequencing



Instruments	MCMT Phase 1				
	Week 1	Week 2	Week 3	Week 4	Week 5
<b>Equity Derivatives</b>					
<b>Futures</b>					
Index	X	X	X	X	X
Single Stock	X	X	X	X	X
Dividend Neutral		X	X	X	X
International Dividend Neutral		X	X	X	X
International Equity		X	X	X	X
Single Stock (Any days)			X	X	X
International Index			X	X	X
Exotic Option				X	X
<b>Options</b>					
Index	X	X	X	X	X
Single Stock	X	X	X	X	X
Single Stock (Any days)			X	X	X
<b>CFDs</b>					
CFD		X	X	X	X
<b>Baskets</b>					
Futures baskets				X	X
Options baskets				X	X
<b>Currency Derivatives</b>					
<b>Futures</b>					
Forex	X	X	X	X	X
Forex Index		X	X	X	X
Forex (Any days)			X	X	X
Quanto (incl. Any days)				X	X
<b>Options</b>					
Forex	X	X	X	X	X
Forex (Any days)			X	X	X
Quanto (incl. Any days)				X	X
<b>Total</b>	<b>6</b>	<b>11</b>	<b>16</b>	<b>21</b>	<b>21</b>

# MCMT Approach

## Run plan explanation – High-level summary for Phase 1 testing



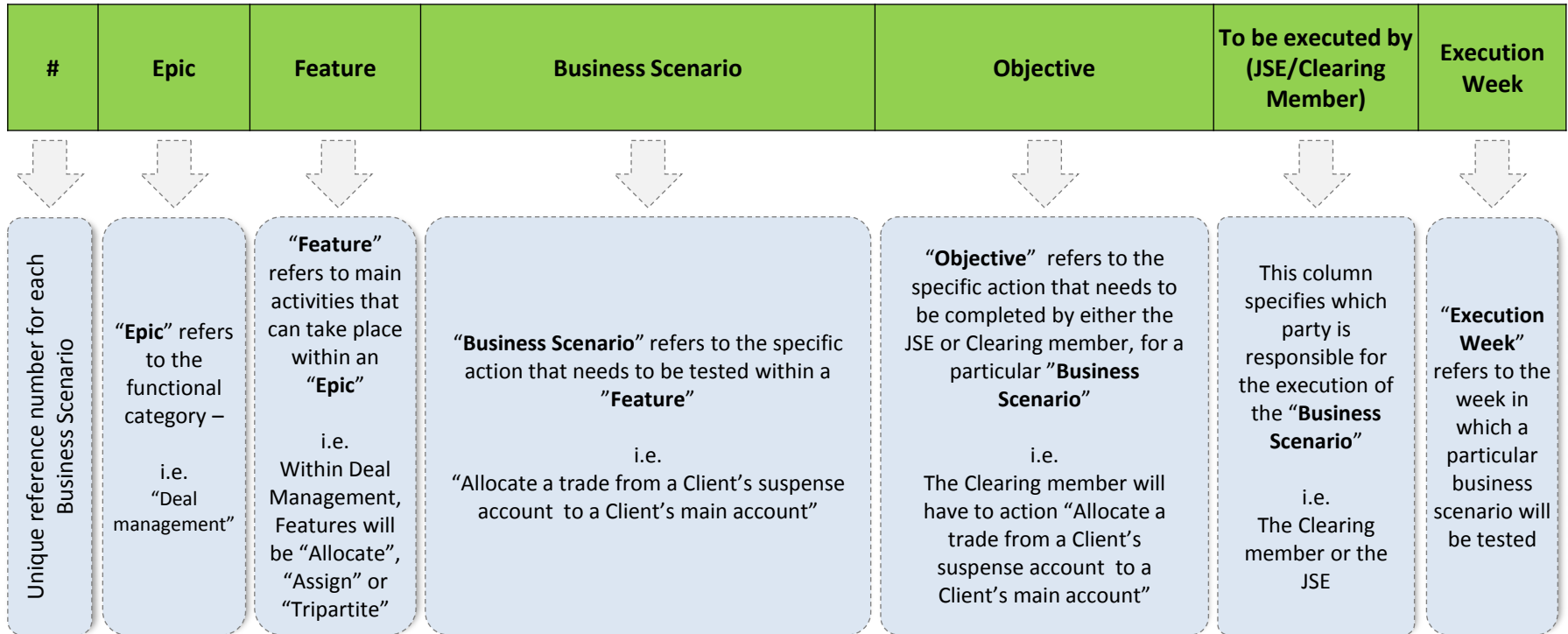
	Instruments added per week	MON	TUES	WED	THUR	FRI
<b>WEEK 1</b>	Index Futures, Single-stock Futures and Currency Futures			<u>Epics to be tested:</u> Billing / Client Management / Deal Management / EOD Management / Instrument Management / J-SPAN / Margin Calculation / Reference Data Management / Market Data / Settlement Management/ Trade Management / User Management		
<b>WEEK 2</b>	Dividend Neutrals, International Equities, CFDs and Forex Index			<u>Epics to be tested:</u> Billing / Client Management / Deal Management / EOD Management / Instrument Management / Margin Calculation / Position Management / Settlement Management/ Trade Management		
<b>WEEK 3</b>	Single Stock Any days, International Index and Forex Any days	<u>Epics to be tested:</u> Billing / Collateral Management / Deal Management / EOD Management / Intraday Risk monitoring / Late EOD Valuations / Position Management / Market Data / Settlement Management/ Trade Management				
<b>WEEK 4</b>	Exotic Options, Baskets and Quantos	<u>Epics to be tested:</u> Billing / Client Management / Corporate Actions / Default Management / EOD Management / Futures Close-out / Position Management / Market Data / Settlement Management/ Trade Management				
<b>WEEK 5</b>	None	<u>Epics to be tested:</u> Futures Close-out / Position Management / <i>Spill-over from previous weeks</i>				

# MCMT Approach

## Run plan explanation – Interpreting the document



- The “Run Plan” document is a spreadsheet featuring the following content:



Test Execution Feedback			Re-test Execution Feedback	
Executed? (Y/N)	Pass / Fail / N/A	Fail Reason	Scenario Retested (Pass/Fail)	Fail Reason



These columns will be used for tracking the testing outcomes per Business Scenarios

# MCMT Approach

## Run plan explanation – Document snapshot

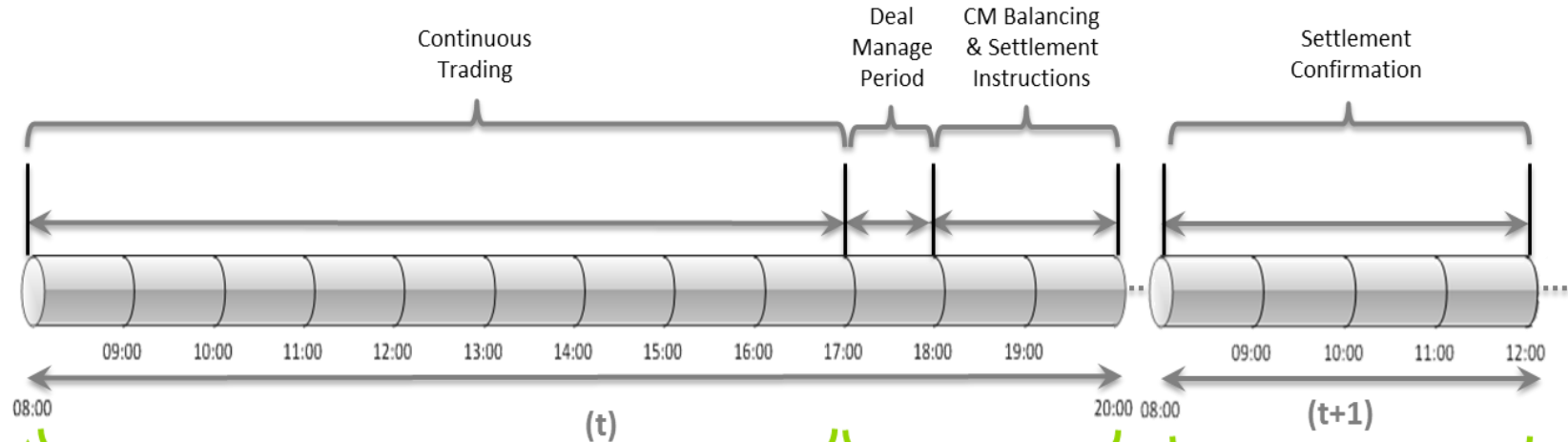


	B	C	D	E	F	G	H
1	<b>JSE Integrated Trading and Clearing (ITaC) Project 1B:</b>						
2	<b>Test scenarios and Run Plan for MCMT</b>						
5	No.	Epic	Feature	Business Scenario	Objective	To be executed by (JSE/Clearing Memb)	Execution Week
112	107	Deal Management	Allocate Trade	To allocate a trade from a Branch Client suspense account to multiple Branch Client main accounts	CM to listen and verify	JSE	1
113	108	Deal Management	Allocate Trade	To allocate a trade from a Branch House main account to multiple Branch Client main accounts	CM to listen and verify	JSE	1
114	109	Deal Management	Assign trade	TM requests a trade assign (give-up) from his House main account to a different TM's House main account, and the counterparty TM rejects the assign request.	CM to action	Clearing Member	2
115	110	Deal Management	Allocate Trade	To allocate a trade from a Branch House sub account to multiple Branch Client main accounts	CM to listen and verify	JSE	1
116	111	Deal Management	Allocate Trade	To allocate a trade to multiple Branch Client main accounts after a trade sub account modification has taken place.	CM to listen and verify	JSE	1
117	112	Deal Management	Assign trade	TM requests a trade assign from his House suspense account to a different TM's Branch main account	CM to action	Clearing Member	2
118	113	Deal Management	Principle Correction	Correct trade allocation from Branch Client main account to Branch main account	CM to action	Clearing Member	1
119	114	Deal Management	Principle Correction	Correct trade allocation from Client sub account to House main account	CM to action	Clearing Member	1
120	115	Deal Management	Principle Correction	Correct trade allocation from Branch Client main account to Branch sub account	CM to action	Clearing Member	1
121	116	Deal Management	Principle Correction	Correct trade allocation from Branch Client sub account to Branch main account	CM to action	Clearing Member	1
122	117	Deal Management	Trade sub account Modification	To move an existing trade from a House sub account to a House main account	CM to action	Clearing Member	2
123	118	Deal Management	Allocate Trade	To allocate accumulated trades from Client suspense account to multiple Client sub accounts	CM to action	Clearing Member	1
124	119	Deal Management	Assign trade	TM requests a trade assign (give-up) from his House main account to a different TM's House main account, and the counterparty TM accepts (take-up) the assign request.	CM to action	Clearing Member	2
125	120	Deal Management	Trade sub account Modification	To move an existing trade from Client suspense account to House main account	CM to action	Clearing Member	2
126	121	Deal Management	Accumulate trades	Accumulate sell-side trades - Member Client Accounts	CM to action	Clearing Member	1
127	122	Deal Management	Tripartite Trade Allocation	TM requests to allocate a tripartite trade from his Client suspense account to a different TM's Client and the Client sub account is selected when the counterparty TM accepts the request.	CM to action	Clearing Member	3
128	123	Deal Management	Tripartite Trade Allocation	TM Branch requests to allocate a tripartite trade from his Branch Client suspense account to a different TM's Branch Client and the Branch client Sub account is selected when the counterparty TM Branch accepts the request.	CM to action	Clearing Member	3
129	124	Deal Management	Accumulate trades	Accumulate sell-side trades - TM house accounts	CM to action	Clearing Member	1
130	125	Deal Management	Trade sub account Modification	To move an existing trade from Client suspense account to House main account	CM to action	Clearing Member	2

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# MCMT Approach

## Daily lifecycle overview



### Start of Day (SoD)

- Data Downloads:
  - Instruments
  - MtM Prices (t-1)
  - Public Member Codes
  - Public Branch Codes
  - Fee Parameters

### Intra-Day

- Trade, Deal, Position Updates
- Deal Management & Commissions
- Collateral – Intra-day Rebalancing
- Intraday Risk Monitoring
- Reference and Pricing Data
- Next-day Trade Reporting

### End of Day (EoD)

- Final Deal Management & Commission Entry
- Contract Expiries and Allocations (Futures and Options)
- Margin Calculations
- Clearing Member Balancing 1 & 2
- EoD Re-Runs
- Collateral Calculation and Pledging
- Default Management
- Position Transfers
- Corporate Actions
- Billing
- Payment Instructions

### Next Day

- SWIFT Payment Confirmations



Intra-day	
<p><u>Throughout the day:</u></p> <ul style="list-style-type: none"> <li>• Deal management</li> <li>• Position and open interest* updates</li> <li>• Client maintenance</li> <li>• New contracts</li> <li>• Securities collateral substitutions and top-ups</li> <li>• Post-trade risk monitoring</li> </ul>	<p><u>At certain times in the day:</u></p> <ul style="list-style-type: none"> <li>• Collateral intraday batch process including securities and cash withdrawals</li> <li>• ZAR and/or FX margins and fees payments (by specified time)</li> <li>• Benchmark rates published</li> <li>• Early valuations prices published</li> </ul>
End of Day	
<p><u>Daily EOD margin and fees processes:</u></p> <ul style="list-style-type: none"> <li>• Calculate &amp; publish closing prices</li> <li>• Calculate margins, fees &amp; commissions</li> <li>• Balance to Clearing Members</li> <li>• Pledging of securities collateral against initial margin</li> <li>• Calculate ZAR and FX cash payment amounts</li> </ul>	<p><u>Monthly:</u></p> <ul style="list-style-type: none"> <li>• Interest on cash</li> </ul> <p><u>Ad hoc:</u></p> <ul style="list-style-type: none"> <li>• Portfolio transfers</li> <li>• Corporate actions</li> </ul>
End of Day - Preparation for Next Day	
<p><u>Member Data:</u></p> <ul style="list-style-type: none"> <li>• Member and client reference data</li> <li>• Final EOD positions</li> <li>• Deal updates generated to affect the position changes associated with portfolio transfers and/or corporate actions</li> </ul>	<p><u>Other Data:</u></p> <ul style="list-style-type: none"> <li>• Member reference data (Counterparty codes)</li> <li>• Clearing reference data e.g. Initial Margin Requirements (IMRs)</li> <li>• Volatility surfaces</li> </ul>

Start Time	System Event	Functionality Available
<b>Post end of previous day (19h00 to 01H00 next day)</b>		
<b>01h00</b>	System offline	None
<b>06h00</b>	<ul style="list-style-type: none"> <li>• RTC is available for Login</li> <li>• Previous day Reference Data published</li> </ul>	<ul style="list-style-type: none"> <li>• Previous Reference Data downloads</li> <li>• Client Maintenance</li> </ul>
<b>Market Open (08H00 to 15H00)</b>		
<b>08h00</b>	<ul style="list-style-type: none"> <li>• Current Business Date is set</li> <li>• Trades from the trading system can be received by RTC</li> <li>• Publication of start-of-day reference prices (and every 15 minutes thereafter)</li> </ul>	<ul style="list-style-type: none"> <li>• Reference Data downloads</li> <li>• Client Maintenance</li> <li>• Trade Management</li> <li>• Commissions Management</li> <li>• Position and risk updates</li> </ul>
<b>11h00</b>	<ul style="list-style-type: none"> <li>• Collateral Intra-day rebalancing</li> <li>• Benchmark rates published</li> <li>• Early valuations prices published</li> <li>• Intraday Margin Call (optional)</li> </ul>	<ul style="list-style-type: none"> <li>• New Tradeable Instruments</li> <li>• Reference price publication</li> </ul>
<b>13h00</b>	No more on-book trades from the trading system can be inserted, only trade (deal) management can be done	<ul style="list-style-type: none"> <li>• Reference Data downloads</li> <li>• Client Maintenance</li> <li>• Trade Management</li> <li>• Commissions Management</li> <li>• Position and Risk Update</li> </ul>
<b>End of Trade Management (15h00)</b>		
<b>15h00</b>	Trade Management state ends	Reference Data downloads
<b>End-of-Day (15h30 to 19H00)</b>		
<b>15h30</b>	<ul style="list-style-type: none"> <li>• Remove pending give-up instructions</li> <li>• Options and future expiration</li> <li>• Initial and Variation Margin calculation results</li> <li>• CM Balancing 1</li> <li>• Securities Collateral process</li> <li>• Fee calculations</li> <li>• CM Balancing 2</li> <li>• Generation of payment of instructions (incl. payments from derivatives markets on legacy systems)</li> <li>• Member and client transfers</li> <li>• Corporate Actions</li> </ul>	<ul style="list-style-type: none"> <li>• Client loading</li> <li>• Reference Data updates</li> <li>• Position and Risk Updates</li> <li>• Market data updates</li> <li>• Publication of account summaries</li> <li>• Settlement Event updates</li> </ul>
<b>Post End-of-Day (19h00 to 01H00)</b>		
<b>19h00</b>	<ul style="list-style-type: none"> <li>• Client Management</li> <li>• IDP publishes EOD reference data</li> </ul>	<ul style="list-style-type: none"> <li>• Client maintenance</li> <li>• Reference Data downloads</li> <li>• EOD Reference Data available on IDP site (counterparty IDs, risk parameters and stressed prices reports)</li> </ul>

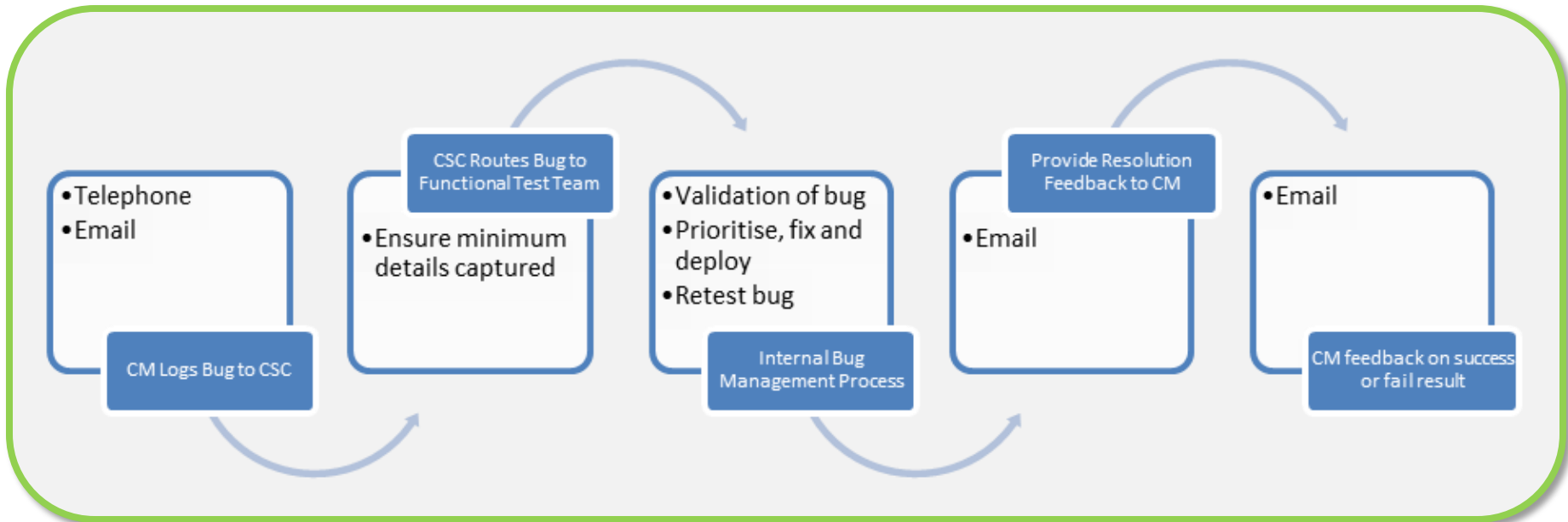
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- The transactional data pack provides Clearing Members with a view of the trades that will be generated on a particular day of testing
- The pack will be sent to the test managers at the start of each day of testing, via email
- The data pack includes an extensive range of attributes for each trade in the pack, including details such as:
  - Instrument ID
  - Instrument class
  - The Trading Engine Symbol
  - Firm / Client / Capacity codes (for Buys and Sells)
  - Strike Price / Call / Put (for Options)
  - Etc.

If the CMs would like additional trades added to the pack, they will be required to request these 2 days prior to their planned text execution date (as the trade generations requires a 2 day lead-time)

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- Explanation of how defects are to be logged and categorised:
  - CMs are required to log any problems encountered with the JSE CSC team
    - All issues reported will be analysed by the JSE and allocated to the relevant team for further analysis and feedback
    - This will ensure tracking of the issues reported and feedback provided
    - CSC Contacts: 011-520-7777 / [customersupport@jse.co.za](mailto:customersupport@jse.co.za)
  - General questions should also be logged using the same process



- Clearing Members will be required to **document their test progress on the Run Plan document** (reflecting both test completion, and Pass vs. Failed status)
- Populated Run Plans (summarising the progress for the week), will be sent to the JSE at the **end of each week** in the testing schedule
  - The JSE will collate this information and generate stats reflecting overall market progress
- Daily progress tracking calls:
  - JSE will conduct **daily one-on-one** calls with participants to assess the outcomes of the daily testing / assist in query resolution – at a minimum, Clearing Member Test Managers must attend
  - A schedule of when each Clearing member will be called will be sent out in due course
- Weekly progress meetings:
  - A weekly group conference call will take place at the **start of each testing week**, to give a market-wide status update of the progress achieved in the previous week (based on consolidated RunPlan information)
  - The update will include a log of any common issues / defects reported
  - At a minimum, Clearing Member Test Managers, Project Managers and Responsible Officers must attend

### Clearing Members

VS.

### JSE

- Explanation of the key Clearing Member testing resources:
  - The role of the **Clearing Member test manager** is be the single point of interaction with the JSE
  - Responsible for test progress tracking
    - The Run Plan will be used for documenting testing progress per Business Scenario
  - Logging of defects
  - Issue escalation

- Explanation of the key JSE testing resources:
  - The JSE's **Clearing Testing Coordinator** will be responsible for daily progress monitoring and resolution of non-technical queries (not defects)
    - All formal defects / issues must be logged via the CSC
  - The coordinator will also be responsible for the dissemination of weekly progress summary reports



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