JSE

ITaC INTEGRATE ACCELERATE GROW

Integrated Trading and Clearing (ITaC)

Client Forum

29 August 2018

ITaC INTEGRATE ACCELERATE GROW

Agenda

- ITaC Key Dates
- ITaC Conceptual Training
- ITaC End-To-End (ETE) Testing update
- ITaC Dress Rehearsal 18 August 2018 results feedback
- ITaC User Readiness reports
- Questions?

ITaC Key Dates

JSE

Date	Milestone
~~14 Jul 2018~~	~~Mandatory Market Dress Rehearsal (MMDR)~~
~~16 Jul – 26 Jul 2018~~	~~ETE Testing – Cycle 2 Structured~~
~~30 Jul – 10 Aug 2018~~	~~ETE Testing – Cycle 3 Scripted~~
~~13 Aug – 17 Aug 2018~~	~~Prep for Dress Rehearsal; data clean up and full position take on~~
~~**18 Aug 2018**~~	~~**ETE Dress Rehearsal – mandatory for all clients**~~
20 Aug – 3 Sep 2018	**ETE Testing – Cycle 4 Scripted**
8 Sep 2018 (TBC)	JSE deploys RTC/VIS/CIS into production
15 Sep 2018	**Go-Live Ready Dress Rehearsal – mandatory for all clients**
17 Sep – 1 Oct 2018	**ETE Testing – Cycle 5 Scripted**
8 Oct 2018	**Targeted Go-Live Date** **Market Steering Committee being held on 31 August 2018 will discuss Targeted Go-Live Date**
12 Nov 2018	**Contingency Go-Live Date**

We are here

PLEASE NOTE:
Mandatory for all clients for
ALL ITAC MARKETS

Including EQM, EDM, FXM

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ITaC Agreements – Now DUE!

JSE

- **JSE Services Agreement (JSA) – 85% complete**
  - Signed JSA is required to access ***all production and test services*** including the End-To-End environment
  - **JSA should have been signed by Friday, 27 July 2018** which was prior to the start of Scripted End-To-End testing on Monday, 30 July 2018 whether participating in ETE or not. JSE in the process of engaging clients as service access is problematic if JSA is not signed.

- **JSE Data Agreement (JDA) – 52% Complete**
  - Signed JDA is required to access all market data (live, intra day or EOD)
  - **JDA should have been signed by Friday, 27 July 2018 for clients wishing to participate in Scripted End-To-End** testing which started on Monday, 30 July 2018
  - JDA must be signed by 31 August 2018 for all other clients not participating in ETE testing

JSA and JDA are now due.

Your prompt attention is kindly requested.

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ITaC Conceptual Training

JSE

- At the request of clients, an additional round of trading and clearing conceptual training has being scheduled
- Trader, Back Office and other business users are encouraged to participate
- JSE will facilitate conceptual training on site at clients for teams of 10 or more
- 4 x Group conceptual training sessions scheduled for Johannesburg
- 2 x Group training sessions scheduled for Cape Town

Date	Session 1	Session 2	Venue
Tue, 4 Sept 2018	07h30* – 09h00	10h00 – 11h30	JSE, Sandton
Thu, 6 Sept 2018	07h30* – 09h00	10h00 – 11h30	JSE, Sandton
Tue, 11 Sept 2018	07h30* – 09h00	10h00 – 11h30	JSE, Sandton
Thu, 13 Sept 2018	07h30* – 09h00	10h00 – 11h30	JSE, Sandton
Wed, 19 Sept 2018*	10h00 – 11h30	13h30 – 15h00	JSE, Cape Town

Trader participation is highly recommended – look out for email confirming process to reserve your spot

* JSE will consult with clients on early morning session start – is preference of 7am or 7:30am
** JSE will consult Cape Town clients due to FCO 21 August 2018

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End-To-End Testing update

- **ETE Cycle 4** is scheduled to end Mon, 3 Sep 2018 immediately following balancing for Month End
- ETE Testing environment will not be brought down BUT instead will be kept running until 7 September 2018
- From **4 Sep to 7 Sep 2018**, there will be a **focussed test to facilitate additional testing** of the following **specific business events**:-
    - Scenarios for end-to-end processing of commissions including across software providers
    - Dual-sided trade reporting across different software providers
    - Scenarios for allocation and assigns including across software providers
    - Clients that wish to participate must notify their buddies to ensure we include them in the communication
- Clients participating in ETE can continue with other testing for the remainder of the week including dress rehearsal preparations

End-To-End (ETE) Testing - Cycle 5

JSE

Start Date: 17 September 2018
End Date: 1 October 2018

Basic Events Scope	Specific Events Scope
Order Management	Users to create intra day instruments
Trade Execution - On Book & Off Book	Month End – 30 September 2018
Options Exercised & Abandoned	EDM Multiple FCOs
Deal Management	FXM Multiple Expiries
	Corporate Actions - Basic - Complex
	Public Holiday 24 September 2018
	FXM market making obligations (daily)
	Decommissioning impact on remaining markets (daily)
	Member and client transfers (on request to JSE ClearOps team)
	Clearing EOD re run at CM1 balancing and at CM2 balancing
	Clearing EOD re run on FCO
	Clearing EOD re run on T+1

Status Update - ETE Testing Cycle 4: Week 1

- **Statistics**
  - Orders: 2 477 295 orders submitted
  - Trades: 463 026 trades submitted
  - Deals: 225 348 deals managed
  - Non-Live Market Data Subscription Services: 455 Files produced
- **Highlights**
  - Successful test of a complex corporate action:
    - Consolidation and a Name Change Corporate Action, processed on the same day, where history is retained processed for Ex date on 24 August 2018
  - Successful testing of FXM expiries and EDM FCOs
  - Clearing Members have made reasonable progress testing their internal accounting and downstream integration and are providing regular reports to trading members and clients

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ITaC ETE Testing Status – Executive Summary

- Balancing has been successful although challenges were experienced by some clearing members to align their environments back, post the 18 August Dress Rehearsal
  - Some Clearing Members pointing to incorrect reference data source on IDP
  - Successful testing of member transfers
  - Successful balancing on expiry and closeout days
- JSE receiving RTC code drop on 30 August 2018 to address remaining known issues
- Clearing Members receiving GCMS code drop on 31 August 2018 to address issues logged by clearing members

ETE Testing - Client Queries Overview

JSE

End-to-End	In Progress*	Resolved	Total
Cycle 1	4	59	63
Cycle 2	3	64	67
Cycle 3	12	87	99
Cycle 4	20	22	42
Grand Total	39	232	271

* Majority open issues are known client front-end issues where code is either delivered and needs to be re-tested or coding still in progress and will need to be re-tested and signed off by clients

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ETE Testing - Trading

JSE

FUNCTIONAL AREA	Status	Comment
Start of Day	😐	Trading System is coming up in the morning, as scheduled and in a timely fashion. There are still known data alignment issues that do not affect start of day but require the JSE to manually manage the trading day as this is not production.
Intra-Day	☺	Uploads that occur intra-day are open interest and intra-day instrument uploads, these seem to be running well. We had to extend the market on the 30th as there were issues with FCO instruments.
End of Day	☺	The trading sessions has been extended to accommodate workarounds and processes for testing which is unlikely to happen in production. Further batch job automation required in test to ensure production behaviour is mirrored.
Intraday instrument Creation	☺	Instrument uploads that occur intra-day has been successful to date. We are receiving user created instruments as well. Some users have experienced an issue creating Delta Option, due to a known issue with their software provider.
Order & Quote Management	😐	No issues have been experienced in submission of orders/quotes. Members who have participated have successfully passed most of the order management test scenarios. We noted the auto-generated zero strike which is linked to market configuration and has been resolved. **FXM:** Successful participation from 2 Banks in testing their Market Making application and the team is in the process of encouraging further Bank participation. **EDM:** The team is in the process of engaging with members to test their Market Making applications.
Trade Reporting	☺	Members who have participated have successfully passed most of the trade reporting test scenarios. The known issue from one software provider on Roll Trade functionality, which has been resolved and clients have the opportunity to retest this functionality.
Connectivity and performance	☺	Running on a third of the portion of CTS which is already half of production does not seem to be a problem. No system crashes, gateway downtime or excessive warnings. This indicates the production environment should cope even better.

Issues	Go to Green Action
FXM Members' participation is moderate	Buddies to contact FXM Members to encourage active ETE Participation
EDM Members' participation is moderate	Buddies to contact EDM Members to encourage active ETE Participation

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ETE Testing - Clearing

JSE

FUNCTIONAL AREA	Status	Comment
Daily Balancing (IM, VM, Dividend payments, Funding Interest and Fees)		Balancing progressing well. Some out of balances on fees and minor differences on funding interest. Unfortunately due to known bugs on GCMS some clearing members are required to run scripts to cater for known bugs in order to balance.
Corporate Actions		Successful processing of complex CA. Known issues regarding processing of CA's in GCMS and will be resolved in next code drop.
Deal and Position Management and Commissions (Trading Members)		Increased participation – no issues reported with regards to Deal Management functionality.
Trade Reporting, Deal & Position Management and Commissions (On Behalf Of)		No issues reported. Focused commissions testing post end of Cycle 4 (04 to 07 September 2018)
Futures Close Out (Equity Derivatives)		No issues in JSE systems and balanced across all CM's Known issues regarding processing of FCO deals in GCMS and will be resolved in next code drop.
Currencies Market Expiration Day		Process ran smoothly from a JSE perspective. All clearing members balanced. Known issues regarding processing of FCO deals GCMS and will be resolved in next code drop.
Intraday Instrument Management / Intraday Reference data changes		Successful / Issue found with GCMS not processing intraday Additional Margin Updates

Issues	Go to Green Action
CM Software – key issues related to ETE run plan - Closeout and corporate action deals processing, additional margin changes, cancelled trades quantity issue, GCMS run past midnight	GCMS code drop expected on 31 August 2018.
CM Software – key issues across Clearing Members - Outstanding report fixes, Scheduler bugs, Internal accounting balancing	GCMS code drop expected on 31 August 2018.
JSE – key issues - Market time event not closing deal management period, CA's levels at which to apply position factor, Commissions process concerns from participants, Remaining data take on problems, Handling of complex corporate actions, Month end interest changes for RTC	Cinnober code drop expected 30 August 2018 Market consultation on corporate actions Targeted commissions testing

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ETE Testing - Balancing Statistics

Date	IM	Settlement Margin	VM (P&L)	Funding Interest	AM	Fees	JSE Balance with CM	INTERVENTION for Re-Balancing *(i.e scriptshe-start etc)*	CM Internal Recon	COMMENTS
20-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced (-0.02)	😊		Not tested	Position take-on after MDR not successful
21-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced	😊		Not tested	JSE did not update At the money volatilities resulting in incorrect Variation margin calc on options
22-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced (-0.01)	😊		Not tested	
23-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Not tested	
24-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Not tested	
20-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced (-0.02)	😊		Not tested	Position take-on after MDR not successful
21-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced (-5.52)	😊		Not tested	JSE calculated incorrect prices (VM)
22-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Not tested	
23-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Not tested	
24-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Not tested	
20-Aug	-	-	-	-	-	-	-		-	Not available due to RTC account locked
21-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced	😊		Not tested	JSE did not update At the money volatilities resulting in incorrect Variation margin calc on options
22-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Passed	
23-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Passed	
24-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Passed	
20-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced	😊		Not tested	Position take-on after MDR not successful
21-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced	😊		Not tested	JSE did not update At the money volatilities resulting in incorrect Variation margin calc on options
22-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Not tested	
23-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Not tested	
24-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Not tested	
20-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced	😊		Not tested	Position take-on after MDR not successful
21-Aug	Out of Balance (R3.4m)	Balanced	Out of Balance	Balanced	Balanced	Balanced (R-2k)	😐	Script run	Not tested	JSE did not update At the money volatilities resulting in incorrect Variation margin calc on options
22-Aug	Out of Balance (R3.4m)	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Not tested	
23-Aug	Out of Balance (R3.4m)	Balanced	Out of Balance (R3k)	Balanced	Balanced	Balanced	😐	Script run	Not tested	
24-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Not tested	
20-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced	😊		Not tested	Position take-on after MDR not successful
21-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced (R-2k)	😐		Not tested	JSE did not update At the money volatilities resulting in incorrect Variation
22-Aug	Out of Balance (R20m)	Balanced	Out of Balance	Balanced	Balanced	Balanced	😐		Clearing Member records cannot be retrieved	
23-Aug	Balanced	Balanced	Out of Balance (R2m)	Balanced	Balanced	Balanced	😊		Not tested	Doing another take-on
24-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Wil lbe done 27/08	
20-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced	😊		Transit acc not updating	Position take-on after MDR not successful
21-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced(-102.00)	😐	JSE did re-run	Failed	JSE did not update At the money volatilities resulting in incorrect Variation margin calc on options
22-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Passed	CA successful
23-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Passed	
24-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Passed	
20-Aug	Out of Balance	Balanced	Out of Balance	Balanced	Balanced	Balanced	😐		Not tested	Position take-on after MDR not successful
21-Aug	Balanced	Balanced	Out of Balance	Balanced	Balanced	Balanced (462.00)	😐		Not tested	JSE did not update At the money volatilities resulting in incorrect Variation margin calc on options
22-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊		Not tested	
23-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊	Script	Not tested	
24-Aug	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced	😊	Script	Not tested	

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ETE Testing - Market Data

FUNCTIONAL AREA	Status	Comment
Live Market Data Subscriber Testing	☺	• 3 Live Information Subscribers currently participating • One new additional subscriber working at connecting • No critical or high issues picked up during week 1. Item in Issues not deemed Critical/High as only impacting one specific client.
Non Live Market Data Subscriber Testing	☺	• No critical or high issues picked up during week 1.
Non Live Market Data – Web Reports	☺	• Reports are being successfully produced but the actual placement on website will only be tested in cycle 4.

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Dress Rehearsal Observations / Issues

JSE

Trading

- Off Book Trade Reporting
  - Submission, accept, reject, withdrawal and cancellation
- Anyday contract creation
- Segregation of permissions on front ends
- Volatility auctions and price band breaches

Post-trade

- Client maintenance and specifically adding a new local /foreign client
- Commissions – two software providers solution not working effectively

Live Market Data

- Excessive re-requests issued and account's locked out
- Multicast data flow and configuration – especially after Gateway failover
- Instrument reference data recovery – post Gateway failover

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Overall Dress Rehearsal Results

Test Criteria / Dress Rehearsal	12 May 2018 MMDR	26 May 2018 OMDR	14 Jul 2018 MMDR	18 Aug 2018 MMDR
ORDER MANAGEMENT				
Submit Order - **DAY**	71%	71%	83%	**90%**
Submit Order – **MARKET***	56%	64%	**67%**	**83%**
Order - **AMENDMENT**	61%	60%	67%	**80%**
Order - **CANCELLED**	63%	62%	70%	**78%**
OOBD - **RECOVERY**	70%	92%	86%	**99%**
TRADE MANAGEMENT				
On Book - **AT**	69%	67%	83%	**91%**
Off Book Single Sided – **NT***	47%	59%	**71%**	**64%**
Off Book Dual Sided – **NT**	53%	48%	40%	**86%**
On Book - **CANCELLATION**	35%	33%	35%	**62%**
Off Book – **CANCELLATION**	28%	47%	50%	**64%**
OOBD - **RECOVERY**	59%	**91%**	86%	70%

- Average (not weighted) Trading Member results across both EDM and FXM – both technical and functional results
- Order Mgmt – greatly improved - Day orders **improved from 71% to 90% -** more practice needed for MARKET ORDERS
- Trade Mgmt – steady improvement for On Book trades **improved from 69% to 91% -** more practice needed for Off Book Trade Reporting and Trade Cancellations
- User created instruments – slight improvement - clients are still familiarising themselves with this process – **more testing is required and this will be one of the key objectives for next dress rehearsal and End-To-End testing**
- *At Market and Single Sided NT was not applicable for FXM and stats adjusted

Trading Member Results

No. of Trading Members mandated to test on 18 August		No. of Trading Members who could have passed 18 August	No. of Trading Members who did not pass 18 August
EDM	67	52 - (38 with > 90%) but not all Trader IDs tested So provisionally only 5 passed	15
FXM	51	35 - (22 with > 90%) but not all Trader IDs tested So provisionally only 2 passed	16

No. of Trading Members have passed 2 dress rehearsals		No. of Trading Members that have passed 1 dress rehearsal	No. of Trading Members who have not passed a dress rehearsal
EDM	63 (44 with > 2)	2	2
FXM	40 (24 with > 2)	9	2

Key areas of concern:

- Off Book Trade Reporting and Trade Cancellations (On and Off Book)
- Commissions
  - Some software providers experienced issues on the day which impacted overall commissions testing
- Understanding of AM (At Market) order type

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MMDR Results Summary – Post Trade

JSE

	Overall Post Trade Results per 2018 Dress Rehearsals				
MMDR Date	**24 Mar**	**12 May**	**26 May**	**14 Jul**	**18 Aug**
Pass Rate	70%	70%	70%	70%	80%
No. of Participants	68	67	68	66	66
No. of Passes	0	22	22	33	31
No. of Fails	67	42	42	29	35
No. of N/As	1	3	4	4	4
Overall Pass Rate	**0%**	**33%**	**32%**	**50%**	**47%**

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Post-trade Dress Rehearsal Results

JSE

18 August Results

No. of Trading Members who were **mandated** to test on **18 August**	No. of Trading Members who **passed 18 August**	No. of Trading Members who **did not pass 18 August**
66	31	35

Dress Rehearsal Results Summary

No. of Trading Members that **have passed 2 dress rehearsals**	No. of Trading Members that **have passed 1 dress rehearsal**	No. of Trading Members who **have not passed a dress rehearsal**
38 (9 with >2)	22	6

Key area/s of concern:

- **Commissions –** Still some issues with reference field population per guidance note. Critical that Software Providers correct these prior to 4–7 September ETE coordinated Commission Testing

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User Readiness Reports

JSE

- Of the 70 trading member clients we are tracking, 50 clients have returned User readiness reports
- Remaining 20 trading member clients are reflected as "Ready for Go-Live" as they have not submitted any reports – JSE is engaging these clients
- Of the 50 clients the following areas need attention:
  - JSE Remote Disaster recover connectivity testing
  - Trader ID and CompID set up and permissions for clearing members
    - CSC and Client Data will work with clients to clean-up and signoff all enablements and TraderIds prior to next data cut on 7 Sept
    - IDP credentials verification by CSC with clients prior to next data cut on 7 Sept
  - Request for more JSE conceptual training and Software Provider Front-end training
  - Client technical changes i.e. downstream to members
  - **Client education by members on ITaC changes**
  - **Operational readiness by members -** dependency to review and signoff reports from CMs

- Live Information Subscribers must also submit user readiness checklists

ITaC INTEGRATE ACCELERATE GROW

Questions?

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

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