

Integrated Trading and Clearing (ITaC) Project Forum

17 October 2018



JSE Agenda

- ITaC Key Dates
- ITaC Dress Rehearsal 6 October 2018 results feedback
- Market Dress Rehearsal 10 November 2018
- End-To-End (ETE) Testing Feedback
- Questions?



Date	Milestone
20 Aug – 3 Sep 2018	ETE Testing – Cycle 4 Scripted
4 Sep - 7 Sep 2018	ETE focused Test
10 Sep – 14 Sep 2018	MMDR 8 Prep
15 Sep 2018	Go-Live Ready Dress Rehearsal – mandatory for all clients
17 Sep – 1 Oct 2018	ETE Testing – Cycle 5 Scripted
3 Oct 2018	Go-Live Checkpoint with ITaC Market Steering
6 Oct 2018	 Go-Live Practice (JSE & Clearing Members) Optional Dress Rehearsal (will be mandatory for those trading members that still need to pass a remaining MMDR)
8 Oct – 19 Oct 2018	End-To-End testing Cycle 6 We are here
22 Oct – 2 Nov 2018	End-To-End testing Cycle 7
5 Nov – 9 Nov 2018	MMDR10 Prep
10 Nov 2018	 Go-Live Practice (JSE & Clearing Members) Optional Dress Rehearsal (will be mandatory for those trading members that still need to pass a remaining MMDR)
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Overall Dress Rehearsal Results

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Dress Rehearsal Test Criteria	12 May 2018 MMDR	26 May 2018 OMDR	14 Jul 2018 MMDR	18 Aug 2018 MMDR	15 Sept 2018 MMDR	6 Oct 2018 MDR						
	ORDER MANAGEMENT											
Submit Order - DAY	71%	71%	83%	90%	91%	74%						
Submit Order – MARKET*/LIMIT	56%	64%	67%	83%	92% for LO	74%						
Order - AMENDMENT	61%	60%	67%	80%	81%	36%						
Order - CANCELLED	63%	62%	70%	78%	84%	48%						
OOBD - RECOVERY	70%	92%	86%	99%	88%	92%						
	TRADE MAN	AGEMENT										
On Book - AT	69%	67%	83%	91%	91%	74%						
Off Book Single Sided – NT*	47%	59%	71%	64%	77%	57%						
Off Book Dual Sided – NT	53%	48%	40%	86%	88%	78%						
On Book - CANCELLATION	35%	33%	35%	62%	34%	27%						
Off Book – CANCELLATION	28%	47%	50%	64%	51%	49%						
OOBD - RECOVERY	59%	91%	86%	70%	76%	91%						

• Average (not weighted) Trading Member results across both EDM and FXM – both technical and functional results

- Order Mgmt Day orders 74% MARKET ORDERS enabled 6 Oct
- Trade Mgmt more practice needed for Trade Cancellations
- User created instruments improved
- *At Market was not enabled for EDM/FXM on 15 Sept and Single Sided NT was not applicable for FXM

	g Members have passed 2 ress rehearsals	No. of Trading Members that have passed 1 dress rehearsal	No. of Trading Members who have not passed a dress rehearsal		
EDM	66	1	0		
FXM	49	1	1		

Areas for improvement:

- Trade Cancellations (On and Off Book)
- Understanding of AM (At Market) order type
- 9 Trading Members still have to test remaining Trader IDs or deactivate untested Trader IDs



		Overall P	ost Trade Re	esults per 20	018 Dress R	ehearsals	
MMDR Date	24 Mar	12 May	26 May	14 Jul	18 Aug	15 Sept	6 Oct
Pass Rate	70%	70%	70%	70%	80%	80%	80%
No. of Mandated Clients	68	67	68	66	66	66	12
No. of Passes	0	22	22	33	31	34	7
No. of Fails	67	42	42	29	35	32	5
No. of N/As	1	3	4	4	4	5	0
Overall Pass Rate	0%	33%	32%	50%	47%	52%	58%



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
58	6	0

Areas for improvement:

- Loading of foreign client Some Trading Members are unsure how their software supports the loading of a foreign client
- On Behalf of Trade Cancellations



- An issue was raised by clients during the 6 October 2018 dress rehearsal duplicate Contract Codes on MXWD
- Instrument Reference Data Guidance Note updated and published <u>https://www.jse.co.za/services/itac#GuidanceNotes</u>
- Data will be made available with the CTS refresh and thee 10 Nov 2018 dress rehearsal files

	ГаС nstrument	Derivative Instrument Name	Nutron Contract	ITaC Contract Code	ISIN	ITaC Instrument Type Name
Ν	/laster ID		Code			
	1015341	MXWD International Index Cash Base 10	YMGQ	14DEC18 MXWD	ZAD000060697	International Index Future
	1016361	MXWD International Index Cash Base 10	YMGQ	18MAR19 MXWD	ZAD000070704	International Index Future
	1029627	MXWD International Index Cash Base 1	XI02	14DEC18 MXWD	ZAD000138519	International Index Future
	1029628	MXWD International Index Cash Base 1	XI02	18MAR19 MXWD	ZAD000138527	International Index Future

To resolve this issue, we will add the nominal to the ITaC Contract Code for International Index derivatives specifically, which will enable clients to differentiate between the futures and options

Not all the possible variables apply to all instrument types. For International Index derivatives, the following standard applies: DDMMYY MXWD QUANTO 100 123456.123456C ITaC Contract Code 14DEC18 MXWD 10 18MAR19 MXWD 10 14DEC18 MXWD 1 18MAR19 MXWD 1

Key Observations – Trading

- Market Orders (MO) will be disabled for go live
 - SWP to ensure no impact to clients
- REMINDER: Off Book Trade Types disabled will not be enabled for Go live
 - Exchange for Physical (EP) and Price Adjust (PA) update and confirmation of Trade Sub Types
 - Seamless integration through client csv files
- REMINDER: Cancellation of orders for expired instruments
 - Note that order cancellation messages are not sent for instruments that expire
 - Software providers were engaged and they are applying different solutions
- Failover of the trading and market data gateways
 - Tests will be repeated 10 November 2018 to allow for trouble shooting
- Clearing member and Back office users trading On Book
 - Permissions on trading frontends should not allow Back Office Trader IDs to do this
 - All back office Trader IDs have "Back Office" in the Surname field



Key Observations – Clearing

- Client maintenance loading of a foreign / non-resident client
 - JSE will now pre-load in production a member cash account for all members firms who do not currently have a cash account loaded to allow all members to add foreign clients
 - JSE observed that the foreign client loading process in software provider solutions is not always intuitive resulting in users not loading the cash accounts which prevents the JSE from enabling these clients in some cases
 - <u>JSE Service Hotline 209/208</u> issued 30 September 2018 to request bank account details in preparation for ITaC go live
 - Feedback overdue if you have not yet responded to the request, please do so at your earliest convenience
 - For dress rehearsal on Sat 10 Nov, the JSE will preload a member cash account for all member firms



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- ITaC Key Dates
- ITaC Dress Rehearsal 6 October 2018 results feedback
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- Key objectives of the Go-Live Dry Run for the Equity Derivatives and Currency Derivatives Markets
 - Practice the go live cut-over activities and timings as they will occur on the weekend of go live i.e. the position take-on process will only start on Friday evening after market close
- Participation requirements
 - Mandatory for all Clearing Members
 - Mandatory for 2 Equity Derivatives and Currency Derivatives Trading Members that have not yet achieved the min of 2 dress rehearsal pass criteria
 - Mandatory for 9 Equity Derivatives and Currency Derivatives Trading Members that have not tested all Trader IDs successfully
 - Optional for Equity Derivatives and Currency Derivatives Live Information subscribers with direct connectivity to the JSE that have not achieved the minimum 2 dress rehearsal pass criteria
 - **Optional** Dress Rehearsal for other clients not mentioned above

Key objectives for Trading Members

- JSE Data Take-on Process
 - Post the production Nuclears EOD batch on Friday evening the JSE will commence the data take-on process to convert/carry over all Nuclears data (contracts, member and client accounts as well as open positions etc.) to the new ITaC services
- Trading Members to Verify Trading Member Positions as well as Client Positions in ITaC
 - Verify all Nuclears data converted into ITaC as at close of business on Friday, 9 November 2018
 - Verify positions at a principle level per tradable instrument
 - Check positions stored at Trading Member and Trading Member sub account level
 - Check positions at client and client sub account level (if applicable)
- Reference Data
 - Check all active member and branch sub accounts have been correctly converted into your ITaC solution
 - Check all active member clients and client sub accounts (if applicable) have been correctly converted
 - Check branches (if applicable) have been correctly converted
- Test all Trading, Market Data and Post-trade functional for which you still need to achieve a min pass
 - Successfully test all Trader IDs for which a pass has not yet been achieved i.e. not previously tested

Key objectives for Information Subscribers

- JSE Data Take-on Process
 - Post the production Nuclears EOD batch on Friday evening the JSE will commence the data take-on process to convert/carry over all Nuclears market data (contracts and closing prices) to the new ITaC services
- Information Subscribers to Verify Reference Data in ITaC
 - Verify all Contract Codes that remain from Nuclears are successfully converted into ITaC as at close of business on Friday, 9 November 2018
 - Verify all closing prices as provided in the prices file from the JSE as well as published in real-time feed
- Test all Market Data functionality for which you still need to achieve a min pass
- Non Live Market Data subscribers
 - We will **NOT** produce the NLMD files for Equity Derivatives and Currency Derivatives market as part of this dress rehearsal testing can continue in the End-To-End environment for NLMD



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Key objectives for Clearing Members

- JSE Data Take-on Process
 - Post the production Nuclears EOD batch on Friday evening the JSE will commence the data take-on process to convert/carry over all Nuclears data (contracts, member and client accounts as well as open positions etc.) to the new ITaC services
- Clearing Members to Verify Trading Member Positions in ITaC
 - Verify positions at a principle level per tradable instrument
 - Verify margin balances as taken on
 - Verify member branches and member clients taken on
- Test all On-Behalf-Of Trade Reporting, Deal Management and Clearing functional
 - Successfully test all Trader IDs for which a pass has not yet been achieved i.e. not previously tested
- NO EOD balancing will be done and Clearing Members will not produce reports as limited mandated client participation



• Equity Derivatives and Currency Derivatives High Level Test Schedule

Date	Time	Description	To Action
	Go li	ve Dry Run - Preparation, Batch Runs and Data	Take-on
06 – 09 Nov 2018	All day	JSE Go live dry run preparation activities and Trading connectivity can be confirmed	JSE
Thu, 08 Nov 2018	To notify	Real-Time Clearing connectivity can be confirmed and initial TraderID files issued	CMs, TMs & IS
Fri, 09 Nov 2018	~ 10:00	Draft Client CSV files and TraderID files issued	CMs, TMs & IS receive and process
Fri, 09 Nov 2018	18:00 - 00:00	JSE Production Batch runs (all services)	JSE
Sat, 10 Nov 2018	00:01 - 08:30	JSE Nuclears to ITaC Data Take-on and internal verification	JSE
10 Nov 2018	~ 4:30	Final Client CSV files and TraderID files issued	CMs, TMs & IS receive and process when they are ready to
10 Nov 2018	09:30 - 12:00	Clearing Member data verification activities	CMs to verify data take-on data
10 Nov 2018	09:30 - 12:00	Connectivity to Trading, Market Data and Clearing GWs available	CMs, TMs & IS to connect when ready at any time during this period
10 Nov 2018	11:00 - 12:30	Trading Member data verification activities	TMs to verify data take-on data
10 Nov 2018	12:00	 Dress Rehearsal testing to commence as per schedule for: Clearing Members, Trading Member and Information Subscribers mandated to test Optional testing for Trading Members and Info Subscribers not mandated to test 	CMs, TMs & IS

• Equity Derivatives and Currency Derivatives High Level Test Schedule

Date	Time	Description	To Action
		Dress Rehearsal Activities	
	12:00 - 16:00	Off Book Trade Reporting Period (EQM, EDM, FXM)	CMs, TMs to commence trade reporting and Deal Mgmt and IS to receive and process Market Data
	12:20 - 12:30	Equity Derivatives Opening Auction	
10 Nov	12:30 - 16:00	Equity Derivatives and Currency Derivatives Continuous Trading Period	Orders, Trades, Deal Mgmt, Clearing and
2018	14:00 - 15:00	Trading Gateway Failover	Market Data published
	15:00 - 16:00	Real-Time Clearing component Failover	
	16:00	Post Close Period	Order deletion, GTT orders are expired, manage Off Book trades. No order matching and Closing Prices published
	16:00 - 16:15	EDM & FXD – EOD Deal & Position Management period	CMs, TMs to perform Deal Mgmt activities
	16:15 onwards	Test ends and clients commence data clean-up	REMINDER: Roll back to as at Post EOD 9 Nov for start of ETE Cycle 8 on 12 Nov 2018

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All times are approx and quoted in South African Standard Time (SAST = GMT+2)

Dress Rehearsal Checklists

- Equity Derivative and Currency Derivative Markets
 - Dress rehearsal results are generated by the JSE based on transaction data in JSE systems retain your system logs

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Checklist link - <u>https://www.jse.co.za/services/itac#OtherDocumentation</u>

Trading Business Functional Test Guide	Post-trade Checklist
DO NOT need to be completed & returned to the JSE	Must be completed and returned to the JSE by Trading and Clearing Members
All functionality highlighted in Yellow is mandatory – PLEASE USE MOST RECENT VERSION AS THERE ARE CHANGES	Mandatory functionality identified by column "Part of MMDR Success criteria"
Pass mark is 85% for EDM & FXM	• Pass mark is 80%
Confirm what has is on function	nality is not explicible to your firm

- Confirm what business functionality is not applicable to your firm
- Draft dress rehearsal checklists and schedule links:
 - Mandatory Market Facing Dress Rehearsal Trading Schedule.pdf
 - Dress Rehearsal Trading Functional Test Guide EDM FXM MDR 10Nov18.xlsx
 - Mandatory Market Facing Dress Rehearsal Post-trade Schedule.pdf
 - <u>Post-trade Dress Rehearsal Functional Test Worksheet 10Nov2018.xlsx</u>

Optional Market Dress Rehearsal – 10 Nov 2018 $JS \equiv$

- Passwords
 - Trading, Market Data and Real-Time Clearing Gateway passwords will be as at close of business 5 Nov 2018
- TraderIDs
 - Data cut is at as at 5 Nov 2018, clients to use TraderIDs as per CSV files which will be available Thursday and final files on Saturday morning
- JSE Buddy
 - Each JSE client has a dedicated JSE user readiness contact ("buddy") don't know who your buddy is? Send an email to ITaCBuddy@jse.co.za
 - Your JSE "buddy" will provide you with your counterparties for the dress rehearsal by Wed, 31 Oct 2018
- **Issue logging** ensure clear procedure for your team
 - Ensure you log all dress rehearsal issues experienced with your software provider
 - Log queries with first line JSE Client Service Centre (CSC) via email to CustomerSupport@jse.co.za or call us on +27 (11) 520 7777
 - Keep track of all actions in the event of a problem to assist with troubleshooting and to recreate the issue
- Monitor online status via this link:

https://www.jse.co.za/services/technologies/market-communications

Dress Rehearsal Trading Results Criteria

Connectivity

PASS	Market	Connectivity										
RATE		Native T	rading	Post Trade	- Own	Post Trade	- OBO	Drop Copy				
							_					
%	EDM/	Login All	Login	Login both	Login	Login both	Login	Login both	Login			
	FXM	3 GWs		GWs		GWs		GWs				

Pass mark is 85% for EDM & FXM

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Trading – Order Management

Submit New Order - TIF							Submit New Order - Type					Order Amend	Order Cancel	OOBD	
OPG	DAY	FOK	GFA	GTC	GTD	GTT	IOC	LIMIT	MIT	MTL	STOP	STOP LIMIT	Amended	Cancelled	Recovery

Trading – On Book and Off Book Trades

On Bo	ook														
Trad	Trades Off Book Trades - Dual-Sided				-Sided	Off Book Trades - Single-Sided				OBO Cancellation			Strate	egy Trade	OTBD
UT	AT	CD	NT	RT	SR	CD	NT*	RT	SR	NT	On Book	Off	ICS	Delta	Recovery
												Book		Option	

Trading – Reference Data

Pe	ermissions	Sessions	Instrument Creation		
Correct Market	Correct Instrument Type	Suspend/Halt	No trading session	Future	Option

* Single Sided NT not applicable for FXM

Dress Rehearsal Post-trade Results Criteria

10 November 2018 - Mandatory Market Dress Rehearsal

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Firm Name:

Post-trade Business Functional Test Worksheet

nstructions for completion of the Post-trade Business Functional Test Guide:

l. Trading Members and Clearing Members are required to complete COLUMN D of this document and indicate whether the function is applicable to the firm or not

2. Kindly submit completed test worksheets to your ITaC Dress Rehearsal Buddy by Monday, 12 November 2018

3. Please note that the **pass criteria** for Post-trade activities is 80 arkappa for the 10 November 2018 dress rehearsal

			TECHNICAL / FUNCTION	ONAL FEEDBACK						
#	Test Category	Test Activity	Additional Information	ls this function applicable to my firr ?	Business or Technical	Part of CM MMDR succe criteria	success criter	Outcome (Succese	Final Result (For JSE use ONLY)	Commentary (For JSE t
1	Set-up and Connectivity	Successful connection and login to the RTC gateway Successful connection and login to IDP (for reference data files) Successful connection and login to the Trading Post-Trade gateway (for all Trading Members that you perform Trade reporting on-behalf-of) - CMs ONLY			Technical Technical Technical	Yes Yes Yes	Yes Yes NO		S = Min iteria for and CN	TMs
2	Trade Feed into RTC	Verify Off Book trade reports are received from RTC and view able on vour front-end Verify On Book trades are received from RTC and view able on vour front-end Verify any trade cancelations are received from RTC and view able on vour front-end Verify user-created instruments are received from RTC and view able on vour front-end Verify trades executed on user-created instruments are received from RTC and view able on vour front-end			Technical Technical Technical Technical Technical	NO NO NO NO	NO NO NO NO	Pa 80	ss marl %	c is
3	Urr Dook Trade Reporting (B <u>y Clearing Members.</u> On-Behalf-Of Trading Members) <i>Note:</i> Clearing Members: It is Mandatory for Clearing Members to perform Off Book Trade Reports for each of their clients where this is expected as BAU post go-live.	Clearing Member submits Off Book trade (on behalf of trading member) Clearing Member accepts an Off Book trade (on behalf of trading member Clearing Member withdraws an Off Book trade (on behalf of trading member) Clearing Member rejects an Off Book trade on (behalf of trading member) Clearing Member initiates the cancel a matched Off Book trade (on behalf of trading member) Clearing Member accepts the cancel of a matched Off Book trade (on behalf of trading member)	Clearing Member cancels alleged Trade Report before counterparty accepts or rejects alleged trade		Business Business Business Business Business Business	Yes Yes Yes Yes Yes Yes	NO NO NO NO NO			
► H	14 July 👌	Perform an Allocation to a Client			Business	Yes	Yes			▶ []

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ETE Testing - Trading



FUNCTIONAL AREA	Status	Comment			
Start of Day	\bigcirc	Trading System is coming up in the morning, as scheduled and in a timely fashion.			
Intra-Day	\odot	Uploads that occur intra-day are open interest and	Jploads that occur intra-day are open interest and intra-day instrument uploads, these seem to be running well.		
End of Day	\odot	The trading sessions has been extended to accommodate workarounds and processes for testing which at the moment, seems unlikely to happen in production.			
Intraday instrument Creation	\odot	User Created instruments have been tested during	Jser Created instruments have been tested during ETE testing Cycle 6		
Order & Quote Management		No issues have been experienced in submission of orders/quotes.			
Trade Reporting		All Trade Reporting issues closed out. Price Band breach issue raised where flag was not triggered. Flag will not trigger when no On Book Trade has happened for the day. Configuration changed to more conservative approach of triggering based on Previous Day closing price.			
Connectivity and performance	\odot	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		2 2	Go to Green Action		
FXM Members' participation is moderate		rate	Buddies to contact FXM Members to encourage active ETE Participation		
EDM Members' participation is moderate		rate	Buddies to contact EDM Members to encourage active ETE Participation		

Decommissioning Testing - There are only 9 members (across IRC and APD) that have been enabled for Decommissioning testing, and very little testing has taken place. Even though JSE testing has been successful, proposal for the Spot Bonds and IRD members to participate in mandatory testing in beginning of Cycle 8 after position take on for 10th of Nov.



ETE Testing - Clearing



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FUNCTIONAL AREA	Status	Comment
Daily Balancing (IM, VM, Dividend payments, Funding Interest, Fees & Commissions)	:	Daily Balancing during Week 1 of Cycle 6 status . See Detailed Slide
Trade Reporting, Deal & Position Management and Commission Management (On Behalf Of)		See Detailed Slide
Business specific scenarios tested in this cycle		 Successful processing of a complex corporate action Successful testing of additional margin updates Successful testing of trade cancellation scenarios RTC gateway failover successfully tested

Issues	Go to Green Action
Clearing Member Software - NEXT code drop includes: - Transfer fixes - Fees fixes - Commissions fixes	GCMS code drop date 26 Oct 2018
 JSE – key issues Issue with time format on EMAPI messages w.r.t. to manual exercise time on FCO Cash divided not successfully processed as part of settlement on LDT +1 	Awaiting bug fixes from RTC software provider



ETE Testing – CM Balancing Cycle 6 Week 1

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Balancing Detail

Feature	Comments
Margin balancing	 IM & VM balanced every day except: On FCO, JSE set time format incorrectly on Manual Exercise cut off time resulting in GCMS solution not able to distinguish between manual and auto exercise deals on FCO day (RTC fix in testing) GCMS processing of member / client transfers - out for one day on VM & IM until cleaned out Rare scenario where JSE RTC issue where out the money options calculating negative IM (RTC fix in testing)
FCO / Expiries	 Close Out/Expiries correctly processed: 1) JSE Dividend calculation issue if LDT falls on an expiry date for instrument concerned (RTC workaround already available) which causes journals not to be included in DAS on LDT +1
Corporate Actions	• GCMS unable to process a scenario where JSE reversed on Ex-date, a CA processed on LDT for and IDX corporate action where the previous instrument needs to be re-instated and JSE used same contract code. Resolution is that JSE will not use same contract code. GCMS issue closed.
Commissions	 Balanced every day except: GCMS issue on commissions on accumulated trades – CM software provider already resolved for 26 Oct code drop GCMS issue on commissions when commission is alleged against another member by TM or CM – CM software provider already resolved for 26 Oct code drop
Booking Fees	 Balanced every day except: 1) Scenario where all instrument types not set up in GCMS – JSE reviewing all instrument types against production to enable CM software provider to do config changes – affects GCMS fee balancing report

Feature	Comments
Additional Margin	No issues reported
Deal Management	No issues reported
OBO Trade Reporting	• GCMS issue found incorrect Cancel Trade Capacity used when submitting CANCEL – needs to be same capacity as original trade
EOD Rerun	No issues reported
FAILOVER	Successful reconnection by all CMs
Volume testing	No issues reported
CM Downstream system verification	Clearing fees not balancing – no detail provided by CMs

ETE Testing - Market Data



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FUNCTIONAL AREA	Status	Comment
Live Market Data Subscriber Testing	\odot	 4 Live Information Subscribers enabled for ETE No critical or high issues picked up during week.
Non Live Market Data Subscriber Testing		 1 new defect raised by IRESS 416918 - ETE - Missing Instruments identified on reference data products – work in progress to address. Not critical 1 new defect raised due to incorrect error logging for the Monthly Statistics calculation Control M Batch (Batch passes even though the monthly statistics calculations have not been successful). This impacted the provision of all the data records for Fri, 12 Oct. Data records were created after diagnosis and defect is being addressed. Not deemed critical.
Non Live Market Data – Web Reports	\odot	Reports checked and all is okay

Issues	Go to Green Action
None	None



Questions?

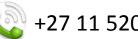
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Please refer all queries to the JSE Client Service Centre (CSC)



CustomerSupport@jse.co.za



+27 11 520 7777

