International Securities Exchange

MAKE MEETINGS MEANINGFUL

MINUTES

Date: 6/30/2014

Meeting Name	**Daily Change Coordination and Issue Review**
Attendees:	Daniel Sapienza, Christine Malia, Andreas Kanon, Binita Adhikari, Daniel Belanger, Han Gu, Bob Vida, Tom Zielinski
Purpose:	Review, Communicate Business Impacting Incidents and Prioritize and Finalize the Change Plan for the current night.
Achieved Outcome:	Agreed upon implementation plan and issue follow up (Daily)

RECAP OF NOTABLE CHANGES FROM LAST NIGHT

- **Product distribution for the next batch of GEMINI products**: On ISE Gemini, ASG will add 196 products plus 1 spin-off for a total of 197 to designated Capgroups tonight. This change has been performed before multiple times in production and impacts only specific products. Fallback is to unassign the products from the relevant capgroups. **(Low Risk/Low Impact)**

- **New Penny Name: SKF**: As part of the new listings going live tonight for Monday on the ISE Gemini, one product, SKF, will need to be changed to a penny name as it is part of the Penny Pilot Program. The market model will be changed on Gemini from 'GeminiClassicNickelDimeLH' to 'GeminiClassicPennyLH'. This change is made in RDFE, ME & MM Parameter, in the Market Model Assignment view. The change has been tested in SQM and has been made before in production. In case of a fall back we have to halt the product if wrong assignment is made. **(Low Risk/Medium Impact)**

- During an investigation of gapping reports with our Extranet provider, Network Services and Engineering discovered market data drops on our internal switches. These are the same type of gaps we experienced in mid-May. In addition to the gaps experienced today, we are also scheduled to add 196 new products into Gemini for Monday. The team is highly concerned we will experience more gapping at the market open on Monday. To free up bandwidth on the primary market data switch, the teams are proposing the following changes:
  1. Move VLAN552 to the backup switch. This is the market data coming out of MDD which is sent to our internal ISEapps and to the members. We are proposing to make the change at 4:45 while MDD is still sending out snapshots. This will allow us to properly certify the changes with our internal tools. The change is straightforward for Networks and fallback can be completed in less than 2 minutes **(High Risk/Medium Impact)**
  2. Shutdown the primary Hot Data interfaces to force them on the backup switch. This is a low risk change which will help buy more bandwidth on the primary switch. **(Low Risk/Low Impact)**

RECAP OF ISSUES FROM LAST NIGHT AND START OF DAY

- Restart of Perfmon required again this morning. Reviewing weekend procedures.

- OQTR queuing on line 37.

NOTABLE CHANGE PLAN FOR TONIGHT (6/30)

- New Liquidity Indicators

UPCOMING CHANGES / TESTS

Name	Description	Tentative Implementation
Mdd fixes	MDD Incremental pre-requisite (9.0.105)	Week of 7/14
Opening Performance	Needs to be tested by all AT teams (especially PAT/BAT) (9.0.200)	Mid July
IORS	Incremental#1 – Embedded Fix / GTSAPI Performance enhancements	Pending PAT sign-off
Config Client	Command line config client	July
LOR	Post 9.0 incremental (After OQTR)	7/11
SOR	Post 9.0 incremental	Early July
RTP	Upgrade servers to 2012. ALR first	July
NFS	Remove NFS	8/29
Deco Fast Feeds	Decommission FAST Feeds	8/11
IORS Performance	Multiple IORS performance changes were discussed and need to be scheduled *Rebalance adapters between ORA's	Rebalance in progress
Binary Depth Feed	Dependent on Decommissioning of FAST Feeds	TBD
OCC EOD time	OCC is looking to move the EOD time to 5:15.	July?
CBOE ETH	CBOE is to begin offering extended trading hours from 3:00 am - 9:15 am	July?
RTP	Enable binary encoding for the PIM's	Week of 7/7

OPEN ISSUES

Priority	Issue	Impact to Production
High **Owner** SIAC/ Dev / ASG / NOPS **Application** OQTR	On 6/12 and 6/13, OQTR stopped sending data to SIAC on individual lines causing queues to build. In order to recover, the OQTR instance was failed over and SIAC forced a failover to the backup port. **Updates (6/26):** • Issue has not occurred the since 6/19 (after SIAC fallback). **Actions Taken:** • New release deployed to OQTR instances. Allows ISE to failover to backup port without SIAC interaction • SIAC has fallen back off of a release for lines 35 – 48. • Test performed with SIAC from DR to their prod lines **Next Steps:** • SQM to test windows scaling from BAT to Test NMS system • After test, SIAC believes that scaling will prevent the issue • Additional testing planned for tonight.	Quotes and trades are not sent to the tape. If a failover is required, anything in the queue is lost.
Priority Medium **Owner** SQM **Application** LVC	Recently the ODS LVC for partition 56 has disconnected from the Gemini Exegy ticker plant at the open. **Update (6/24):** • Issue occurred again on 6/19 • The addition of more products could make this more common **Actions Taken:** • Examined perf captures • Partitions are balanced at the moment. Can't rebalance any further right now. **Next Steps:** • Test ability to load data from RDCX instead of Exegy. Will be setup in test envs	Data is slow to get to front end while instance reconnects.
Priority Medium	Performance issues were found on all EFI hosts and the IDS servers. **Update (6/18):** • EFI servers are utilizing less CPU since 7.0 release.	Performance issues on the server could impact the data being

Owner Capacity/ Dev **Application** EFI / GDS	• GDS instances are using excessive CPU on the IDS servers **Actions Taken:** • Checked spec for GDS. 1 instance handles 90% of the data. **Next Steps:** • DR instance is running in DR.	disseminated by these applications.
Priority Medium **Owner** Dev **Application** PIM/OFIDS	A race condition in the PIMs during the OFIDS LVC startup causes the PMM status to display incorrectly. This is caused when there are multiple requests to the PIM at the same time. **Update (5/29):** • Issues has reoccurred after schedule change **Actions Taken:** • Rearranged UC4 schedule • Added alert to Check_mk if issues triggers **Next Steps:** • SIR 272127 – need an update from Dev • Possibly deliver / test with upcoming Marketwatch release – fix mw issues first	FE applications show an incorrect status for the PMM for affected products.
Priority Medium **Owner** Dev **Application** Check_mk	Check_mk log monitoring is not available for multiple servers/applications. This is a result of having to rediscover multiple logs throughout the day. The result is the agent utilizes excessive CPU resources and becomes unresponsive. **Update (5/30):** • Currently Precise BSI, Ports and IORS BSI servers have been impacted. • Precise does write errors to the event viewer, which is being monitored by check_mk **Actions Taken:** • Upgraded agent to 64 bit. • Removed log monitoring from these servers so the agent would be responsive again. • Updated the eif file for PC-BSI02J so that IORS reports errors to the dashboard **Next Steps:** • Change the way the ISEApps rotate logs so that the most recent log keeps the same name. • Release delivered. Issues were found so a new version is needed • Test scenario in PAT	ASG is unable to monitor the application logs for issues. Could result in a missed issue or delayed response to a problem.
Priority Medium **Owner** Dev / AK **Application** OQTR	We have seen gaps at the open for OQTR instance 51p multiple times over the past few weeks. Other instances have also seen gaps, but not as frequently. **Update (5/14):** • NOPS does not see any issues • Gaps are continually seen and are now affecting both OQTR and MDS LVC. • Possibly due to garbage collection on servers. Other options being explored. • A rebalance of products may not help • Gaps reported by members. Needs escalation **Actions Taken:** • Systems updated 1 adapter setting on pc-qtrp51. • Additional counters have been setup on the server to monitor the performance of the application and the network adapter • Verify adapter settings on other servers • Increased NtvIocpNumQueuedDgrams from 18000 to 24000 • Network changes applied on w/e of 5/17. **Next Steps:** • A code fix will be designed in the future. SIRs 262636, 268344	Gaps are recovered. Could delay trade data sent to OPRA.
Priority	On 2/18 there were memory issues with pc-amq01a, causing queues to build up in the	Could impact complex

Medium **Owner** Linux / NOPS **Application** ActiveMQ	application. The server was rebooted intraday in order to resolve the issue. **Update (5/30):** • Errors still seen in the morning (3 – 4 am) • Workaround is in place if the memory issues are seen **Actions Taken:** • Updated the firmware of the hba • Checks and monitoring added to alert if issue occurs • Linux support and Network Engineering have resolved port issues • New ActiveMQ cluster built in DR without using qdisk. ISEApps have been configured too **Next Steps:** • Testing in DR.	instrument creation. Workaround is in place.

Test Environment Status

DR

Status: Environment rebuild underway; ActiveMQ testing; OQTR
Current Core Version: 9.0.050
ISEApps Status:
Environment Issues:
Comments:

OAT

Status:
Current Core Version: 9.0.070
ISEApps Status: Config Client Testing
Environment Issues:
Comments:

MAT

Status: Go to .101
Current Core Version: MT2 – 9.0.100
ISEApps Status: IORS (9.0) using MT2 environment
Environment Issues: Issues yesterday afternoon?

Status: Being upgraded?
Current Core Version: MT1 – 9.0?
ISEApps Status:
Environment Issues:

BAT

Status: BAT1
Current Core Version: 9.0.105
ISEApps Status:
Environment Issues:
Comments:

Status: BAT2

Status: BAT3 (automation)
Current Core Version: 9.0.200
ISEApps Status:
Environment Issues:
Comments:

Current Core Version: 9.0.200 (unofficial)
ISEApps Status:
Environment Issues:
Comments:

PAT

Status: MDD test with pre-open/open feeds
Current Core Version: 9.0.070
ISEApps Status: IORS testing
Environment Issues:
Comments:

All dates are of implementation unless otherwise noted
**Only notable changes are listed

June 2014 Notable Work

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
2 Solactive Live	3	4	5 RDS event for 4:15 products	6	7 Test with SIAC	8
9	10 Add 66 ISE products	11	12 Add 36 ISE products	13 Core 9.0.070 – pc-me01a OQTR v8.1.0.4 – 1 instance LBM Config change PD-MD01 module	14 EMC work (rescheduled)	15

16 OQTR v8.1.0.4 – across the board Core 9.0.070 – pc-me01b	17 Core 9.0.070 – all Matchers	18	19	20 Expiration Combo price protection launch	21 UC4 migration Migrate IC-SUR01D to new cluster	22
23 Core 9.0.070 – all servers	24	25	26	27 Add 197 Gemini products	28	29
30	July 1st New Liquidity Indicators Launch IORS Incr 1 rollout (1 BSI)	July 2nd	July 3rd Early Close	July 4th ISE Closed	July 5th	July 6th