DSB TAC MEETING MINUTES

Date: 13 March 2019	**Time:** 13.00 – 15.00 UTC	**Location:** WebEx/Teleconference

Chairperson: David Broadway

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In attendance:	**TAC Members**		**DSB**
	David Broadway, The IA (Chair)		Sassan Danesh (Designated DSB Officer - DDO)
	Marc Honegger (Sponsor)		Andy Hughes (TAC Secretariat)
	Elodie Cany, Tradeweb		
	Felix Ertl, BVI		
	James Cowie, HSBC		
	Karel Engelen, ISDA		
	Lisa Taikitsadaporn, FIX		
	Shari Lines, Morgan Stanley		
	Tony Chau, UBS		
	Zintis Rullis, Thomson Reuters MTF		
	Ziv Yankowitz, Nex		
	Rocky Martinez, SmartStream		
	David Bull, Thomson Reuters Data		
	Chris Pulsifer, Bloomberg LP		
	Andrew Poulter, Standard Chartered Bank		
	Henrik Martensson, SEB		
Apologies	Stephan Schaub, SIX Group Services AG		
	Kimberly Cohen, State Street Bank		
	Eugene Eltsufin, JP Morgan		
	Tony Flamand, State Street FX Connect		
Absences:	Souvik Deb, Citigroup		
	Prem Ananthakrishnan, Credit Suisse		
	Stephen Pond, Lloyds Bank		
	James Brown, Rabobank		
	Jimmy Chen, BGC Partners		
	Martijn Groot, Asset Control		
	Aanya Madhani, Simplitium		
	Vincent Dessard, EFAMA		
	Jim Northey, Independent Expert		

No	Topics (recording time)
1	**Welcome (19:40)**

The DDO apologised for the technical issues encountered for participants at the start of the call which were caused by the change to outlook based invites and the version of WebEx being used.

The Chair welcomed the members to the TAC and reminded the forum that as part of the charter this is a public forum and the purpose is to provide advice to the DSB board on the application and utilisation of technology and the appropriate level of investment.

2	**Roll Call (23:40)**

The TAC Secretariat undertook the roll call.

3	**Governance (26:10)**

The Chair welcomed the three new members to the TAC.

The DDO asked if the members could introduce themselves when speaking to ensure all comments are correctly attributed.

4	**Topics under Consideration (27:25)**

Slide 5, 6 & 7 – UAT Environment Provision (28:04)

The DDO summarised a potential new requirement to stand up an additional test environment, one for testing the next release of software and one to remain in line with production. The latter allows industry to test their own software changes.

Slide 6 presented the anticipated costs, with two options:

- Prod-like – infrastructure configured the same as production to allow for performance testing
- UAT-like – lower specification infrastructure to mirror the existing UAT environment

AP (Standard Chartered) - Asked if the production like environment would be the same as production from a data perspective e.g. if I ask for an ISIN will I obtain the same value as production?

DDO advised, the answer was "No", we could restore from a copy of production, but the database would diverge when new test data was input.

AP (Standard Chartered) – advised that they had experienced problems during Brexit testing & had implemented regular production dumps of ISIN caches to their test environments to overcome data quality issues.

DDO advised that the DSB could adopt the same model, whilst noting that there would still be divergence in-between each load of production.

AP (Standard Chartered) thought that weekly dumps could work well.

The Chair advised that the production like environment could give you an indication of performance. Refreshing needs to be mindful of the test data that people have loaded and may still be using.

CP (Bloomberg) – Advised the problem Bloomberg are having is that there is no ESMA FIRDS transparency data that matches ANNA DSB UAT environment. Any processing triggered off the ESMA data cannot be used as the ISIN's do not exist in the UAT environment. It would be valuable to have production ISIN's in a UAT environment, so they can be cross-checked against the ESMA related data.

DDO observed that regular production dumps would assist in this situation and also making sure the ToTV service goes to the production FIRDS so there is consistency.

CP (Bloomberg) – advised that the problem for regression testing affected other projects outside of Brexit; Bloomberg could work with a weekly cycle.

AP (Standard Chartered) – commented that there was no issue with the current level of UAT performance, so no justification to increase Performance

CP (Bloomberg) – agreed, noting that none of Bloomberg's testing is about load testing, so performance is not critical

EC (TradeWeb) – felt the performance aspect is quite important – as this is something that we cannot test at the moment

TC (UBS) – noted that cost difference was only 0.2% of the cost base - therefore may as well have the full-sized environment

EC (TradeWeb) – raised the question of whether a DR environment was required. During a DR scenario, the focus would be on short term continuity and not on external testing – therefore not clear whether there was a need for this additional environment in DR.

AH (TAC Secretariat) advised that there would still be one environment that was available in DR.

KE (ISDA) – Is the expectation that this would continue after 2020?

The DDO advised that the DSB expected the new environment would remain until the TAC recommended a different configuration. The DSB did not anticipate any costs associated with the decommission of the environment apart from potentially an AWS cost with respect to reserved instances – e.g. buying the capacity one year in advance, so if TAC wanted to stand down the environment, then depending on the timing there could be an external AWS cost.

AP (Standard Chartered) – asked if the DR environment was running on reserved instances or on AWS spot?

The DDO answered that it was running on reserved instances in DR, e.g. if primary had a problem then many other users would also be experiencing similar problems and that there may not be the physical capacity to bring up the servers in the region e.g. we wanted to be warm in our DR region.

AP (Standard Chartered) – Said that it would be cheaper on-demand with AWS, rather than AWS reserved instances. Having the servers paid for in DR seems quite expensive.

DDO advised that if we go the on-demand route you are paying for the server even if you don't use the CPU's.

AP (Standard Chartered) – Advised that this was the case but only for an hour, or possibly a minute, as AWS now doing minute billing. Suggesting taking this off line.

Action DSB to reach out to AP offline.

The DDO summarised what had been put forward:

There is interest in having a UAT configuration infrastructure running – 50:50 split as to the 20K premium for a production performance equivalent. For DR, tempted to say if DR is very cheap then let's do it – but no consensus, so go away and proposed something via the Bulletin Board for the DR piece.

The Chair asked, if the stand-up costs in year 1, 8 months only, 2/3 year, costs are roughly 2/3 2019 to 2020.

The DDO advised that the 2019 costs incorporate both a one-off build cost as well as the subsequent run costs.

AH (TAC Secretariat) advised that the actual act of standing up the environment was €61K for the production-like and €55K UAT-like. Additional 8 months run costs availability scaled back for 6 months.

KE (ISDA) – Requested a yearly checkpoint for the TAC to decide if the new environment should continue.

DDO suggested an annual set of checklists which this could be one of.

Action: DSB to add a section to the TAC agenda for annual checklists.

EC (TradeWeb) - Can the DSB include usage statistics that show the level of usage of the various environments?

Action: DSB to investigate what usage metrics can be provided.

DDO noted that the difference between the two cost options was €12k per annum divided by all DSB fee paying users (approx. 100) and asked the TAC for a final decision.

Feedback from members was that given the small difference in cost, the DSB should move forward on the basis of the production-like configuration.

Slides 8 & 9 – DR Testing (55:21)

The DDO described the current configuration with the primary AWS region being in Ireland which consists of three availability zones which are active-active-active. This is replicated in DR site which is in North Virginia, USA. The DSB has not performed an industry test of the failover to the DR region in North Virginia.

The DDO described the DSB's overall approach to DR testing as being to take small, measured steps with sufficient time to analyse and absorb the lessons of each step.

AP (Standard Chartered) - Are you externalising all of these tests, or are they internal to Anna-DSB?

The DDO answered that the proposal is to externalise all of the tests, but the majority will be conducted with a subset of users who volunteer. A minority of the steps will be industry-wide.

AP (Standard Chartered) – But if I'm using the UAT environment, then I am participating – is that what is happening?

AH (TAC Secretariat) advised that many of the tests are limited to a subset of users during the weekend, but for any step that requires a full UAT failover to the DR region then for the 8-week period we expect all UAT users to be impacted.

The DDO observed that once the next release environment was available, users would still have access to one UAT environment in the Primary region, assuming that the test was scheduled at a time where there was no new functionality testing.

AP (Standard Chartered) – Use of the second environment would give you a lot of safety net here.

The DDO observed that there was broad agreement amongst the group to work on this basis, and that the DSB would flesh out the details and update the TAC on next steps.

The Chair observed that the proposed step by step approach would result in a lengthy duration before all steps were complete.

The DDO agreed and proposed to provide indicative timelines next to each step.

DB (Thomson Reuters Data) – Perhaps we could just limit this to a TAC review after the UAT tests?

The DDO proposed to provide TAC members with the information via the bulletin board, but not to make each step a TAC hurdle to move forward. The hurdle would come with the move from UAT to production.

CP (Bloomberg) – Said that this makes sense, given we only have 2 meetings a year calendar.

JC (HSBC) – Asked if the DR testing is based on Anna-DSB good practice or if there are any regulatory requirements that the DSB has to evidence to a certain level?

The DDO advised that whilst the DSB has regular touch points with regulators, and has had both users and regulators asking about DSB's resilience policies, the DSB's mandate is from ISO via ANNA's role as Registration Authority.

The Chair advised that there was regulatory interest in the governance and oversight of the DSB as a whole.

The DDO advised that DSB has received feedback from industry that it should treat its operations as an important market infrastructure, and that is the basis of the DSB's DR approach.

JC (HSBC) Said that this might have indicated how we need to format the collation of results and also the frequency.

The DDO said that once the initial set of tests are completed, DSB expectation is that the frequency of the DR test would be one per year. The DDO then asked the second question from slide 9, which was what are people's thoughts as to when we should schedule the very first test?

There was various feedback from the forum, given the current Brexit considerations, which the DDO summarised as: The DSB will put a stake in the ground via the bulletin board entry by the end of March when there should be some more clarity re: Brexit – this is a first pass with a view to firming up the timeline by mid-April.

Slide 10 – FIX Recertification & 2019 Updates (01:11:12)

The DDO requested feedback from TAC members on how to ensure FIX connections remained technically consistent with the latest DSB specifications.

AH (TAC Secretariat) Advised that the trigger for this request was that the DSB applied a FIX data dictionary change on the back of a GitHub issue into UAT in December. This caused issues for some members in UAT who had not followed the DSB FIX specifications tightly enough and resulted in some members needing to make changes to their software in UAT to comply with the new data dictionary version.

AP (Standard Chartered) How would recertification work? Is it an API we call to certify?

The DDO advised that as part of user onboarding, there is a set of tests the user runs through, e.g. fire FIX message A and get FIX message B back – (a few dozen in total).

AP (Standard Chartered) Doesn't seem too onerous, seems quite reasonable – and of course you will update the tests as the data model changes?

The DDO agreed.

EC (TradeWed) – Asked if the recertification was mandatory or not?

The DDO requested TAC member feedback on this point.

The Chair asked whether users should be more concerned with API's that send data to the DSB, rather than those used to request data?

The DDO advised that there were two separate considerations:

- How do we protect the DSB systems?
- How do we make sure that DSB changes do not unintentionally impact user systems?

EC (TradeWeb) – Commented that recertification should be on demand as well as advised by the DSB. But mandatory annual recertification is very time consuming for DSB users.

CP (Bloomberg) Said that it was better to put a time window around a pending release where there is significant FIX impact – and give users a window to recertify.

AH (TAC Secretariat) asked what a reasonable window would be?

CP (Bloomberg) Advised that the existing one to two-month lead time into UAT for notifications was about right.

JC (HSBC) Said there are two cases – a set of users who have not followed the specifications, so are a danger to themselves, and the second set of users who could be a danger to other members.
Is there a way of determining the level of risk for those not following the current specifications and if we can assess what the risk is then we can determine if we need to apply mandatory certification or just use a reminder process?

The DDO proposed that for each set of deployed changes, the DSB could provide re-certification advisories based on harm to others.

JC (HSBC) advised that the risk you run is where someone is under pressure to recertify but doesn't have the time – what would we do?

JC (HSBC) Said that if the one is going to damage it [the system] for the many – they need to understand the consequences of their actions and be accountable.

The DDO observed that the DSB contract (user agreement) allows the DSB to take action proportional to the risk being run. Therefore users can be turned off where there is a real risk to the stability of the system. The DSB has monitoring in place for breaches of its Acceptable Use Policy, however, this is slightly different in that the model we have today is we look at the actual data and act on that (BAU process). Here it is a case of what do we do on a forward-looking basis where a user hasn't sufficiently tested their software.

Action DSB to take this away and work with the TAC/consultation process.

The Chair said there is an engagement process, ask the user to respond to the concern and explain what they are going to do to address it, then depending on the reply you can take the necessary decisions.

TC (UBS) Advised that UBS connect to 100's of clients and undertake RoE recertification – but these typically are not on a mandatory basis.

Action TC (UBS) to provide further information on his approach to FIX recertification.

AH (TAC Secretariat) advised that we were looking for a steer on the timeline for the immediate set of changes as documented on slide 10. We can now propose a timeline as to when we can get these changes recertified. These changes enforce the DSB's existing rules more tightly – if users have followed the documentation then there will be no impact. We have enough to take away and propose a date.

Action DSB to propose a window for 2019 FIX recertification.

Slides 11 & 12 – Data Provision At Weekends (01:31:07)

The DDO summarised the issue as being a corner case where FIX subscribers may miss ISIN updates if an ISIN is created at the time the system is being taken down over the weekend. We have had very detailed discussions with one user and we would like to remove this corner case if possible.

CP (Bloomberg) do such ISINs show up in the nightly file?

AH (TAC Secretariat) advised they do.

CP (Bloomberg) Said that any user can address the corner case by implementing a reconciliation via the nightly file. This is currently the Bloomberg approach. The danger with any change to the system is that it may simply create a new corner case.

SL (Morgan Stanley) – Agreed with Chris and advised that they do the same thing.

DDO stated that option 1 (changing the operating hours) incurred no additional cost but would require consultation with the broader community.

Option 2 & 3 would involve some costs although the DSB has not performed sufficient analysis to provide cost figures.

SL (Morgan Stanley) Suggested that option 1 seems reasonable.

AP (Standard Chartered) Suggested that the DSB visit option 1 and review later

EC (TradeWeb) Advised that this was their feedback as well.

DDO – observed that an alternative option is to do nothing (i.e. rely on the end of day file reconciliation).

CP (Bloomberg) – Advised he liked option 1.

DDO advised that the DSB are undertaking a further industry consultation exercise in 2019 so the question of timing can be included as a question within that process.

Action DSB to document best practice which is to validate against the end of day files

Action DSB to add an additional question to the industry consultation to ask industry's view on a change in operating hours e.g. 00:30 Sunday to 12:30 Sunday.

The Chair agreed that this sounds a sensible approach.

Slides 13 & 14 – TAC SSC Update (01:39:42)

The Chair provided the TAC SSC update, including the formation of the subcommittee beneath the TAC with 14 members from the TAC. There are two items:

- Objective to look at the work of the original ISO working group SC4 SG2 – the work to understand the functional/technical requirements to deliver ISIN's for OTC derivatives. In the final report from

the group there were a number of technical issues that were raised; the subcommittee was formed to opine on these and to come back to the TAC to say how these may be taken forward.

- The other matter is the introduction of the UPI according to the standards defined by CPMI IOSCO and the governance structure to be defined by the FSB.

A kick off meeting was held in December followed by a further meeting in February. Discussions were around the SG2 work, identifying the potential need for different levels of ISIN, the UPI maps into this structure. Some assumptions were made as detailed on the slide.

It was noted that the FSB GUUG has not yet selected the UPI service provider, which may be the DSB or other entities. Hence, we need to cater for the scenario where the DSB needs to call another service provider.

It was noted that the UPI may be required in some jurisdictions where the ISIN is not mandated.

The chair asked SL to provide an update on the normalisation assumptions:

SL (Morgan Stanley) UPI and ISIN will need to have a parent-child one to many relationship, but there are also hierarchies within the legs of the products themselves. So a product may have 2 legs with maybe another leg further down, which can result in underliers within underliers. This means the data model needs to be stored correctly, but the message is likely to be simplified and flattened for reporting purposes.

The Chair covered the issues under consideration listed on the slide.

We need to flesh out when you would use the ISIN or the UPI for given workflows and sort out the interdependencies. Key point is that the attributes of an ISIN are naturally going to be static, if attributes require changing then this becomes a different instrument and therefore a different ISIN. This principle is seen as good practice and likely will hold true for the UPI.

Different subscription modes for ISIN and UPI. If the DSB was not the UPI service provider, could it provide a service to DSB users to request UPI's where they don't need an ISIN, or they act as a portal for other UPI requests.

Next steps are to put the various conclusions into a draft report from the SSC that takes into consideration the assumptions and issues, action is with the DSB to prepare this ahead of the next meeting on the 10th April.

The Chair asked if the SSC members have anything else to add?

KE (ISDA) raised the point that there is the possibility there could be multiple UPI service providers.

MS (DSB Product Committee DDO) added that the Product Committee is already considering the question of whether every ISIN should have a UPI.

Slide 15 – Industry Consultation (01:50:23)

A reminder to the members about the consultation process in 2019 for the 2020 service offering. TAC members have the opportunity to ask questions to the broader industry via this process. Questions will need to be submitted to the DSB Secretariat by Friday 29th March 2019 with the consultation document published on the 9th May.

The Chair reminded that the TAC raised a question earlier in the meeting.
The Chair asked TAC members if additional TAC meetings should be scheduled around the consultation periods to allow the TAC to provide feedback on the two sets of consultation responses.
Feedback from several members was that this is a good idea.

Action DSB to provide dates for these two additional meetings.

Slide 16 – Monthly Technology Support Statistics (01:54:53)

The DDO updated the forum on the action from last year to provide statistics around the technical support of the system. A draft report has been uploaded to the TAC Bulletin Board with the intention of generating the metrics on a monthly basis.

AH (TAC Secretariat) said that one TAC member had requested that two metrics be broken down further – the system investigation task and the documentation task.

The DDO asked the TAC members if they needed longer to review, or if the DSB can start production of the metrics on a monthly basis incorporating the breakdown if possible?

CP (Bloomberg) It might be useful to identify FIX v ReST issues – ties back to the re-certification – so look to use this information to drive the other decisions we need to make.

The DDO said that we will investigate incorporating such a breakdown.

Action: DSB to investigate incorporating member feedback into the monthly metrics.

Slide 17 – Software Version Upgrade Policy (02:00:00)

The DDO stated that the DSB software version policy is to ensure the DSB software is no more than one major version behind the latest industry version, in order to ensure the DSB stays current with latest security updates.

AH (TAC Secretariat) advised that QuickFIXJ, as discussed earlier during the FIX certification discussion will definitely be updated this year; also potentially MongoDB as MongoDB 3.7 is itself a major upgrade which means that a two-step upgrade is required to reach the latest version.

The DDO also mentioned that the DSB may review the use of Java 11, given that the outages experienced in Q1 2018 were due to long Java garbage collection times and therefore reviewing the apparent superior garbage collection options in Java version 11 (G1GC) may be appropriate.

Finally, the DSB is also considering upgrading SOLR as this is another key component that experienced performance issues in 2018.

Given lack of time, the DDO proposed that the remaining slides (covering Penetration Testing and ISIN Usage Analysis) will be raised as discussion points on the TAC Bulletin Board.

Action: DSB took an action to create two new topics on the TAC Bulletin Board.

5	**AOB**

No points were raised, so the DDO handed over to the Chair.

6	**Meeting Summary**

The Chair advised that we will follow up via the forum and will also seek feedback on potential dates for the additional meetings. The Chair thanked both the members along with the other industry participants who had joined the call. Call closed (02:05:30).

7	**Actions**

- The following new actions were recorded DSB to reach out to AP (Standard Chartered) offline regarding the AWS infrastructure options discussed.
- DSB to add a section to the TAC agenda for annual checklists.
- DSB to investigate what UAT environment usage metrics can be provided.
- DSB to take away the FIX recertification approach and work with the TAC/consultation process to arrive at a proposal.
- TC (UBS) to provide further information on his organisations approach to FIX recertification.
- DSB to propose a window for 2019 FIX recertification.

- DSB to document best practice which is to reconcile against the end of day files
- DSB to add an additional question to the industry consultation to ask industry's view on a change in operating hours to 00:30 Sunday to 12:30 Sunday.
- DSB to get the two dates in the diary for the additional TAC meetings to review the industry consultation feedback.
- DSB to start monthly production off the monthly technology metrics and to investigate the incorporation of the feedback from TAC members on the subject.
- DSB to create two new TAC Bulletin Board topics to cover the penetration testing and ISIN Analysis topics which were not able to be covered in the meeting.

Respectfully submitted,

DSB Designated Officer.