DSB CASC MEETING 4 MINUTES

Date:	21 October 2021	**Time:**	14.00 – 16.00 UTC	**Location:** WebEx/Teleconference

Chairperson: Andy Hughes

In attendance:	**TAC Members** Chris Pulsifer, Bloomberg Richard Gee, SIX Group Services AG	**Regulatory Observer** Eiichiro Fukase, JSDA **DSB** Tom Smith (TAC Secretariat) Andy Hughes (Designated DSB Officer - DDO) David Lane (DSB Technology) Michael Brindley (DSB Technology)
Apologies	Alan Milligan, ISDA	Robert Stowsky, CFTC & ROC
Absences:	Jim Northey, Fintech Standards George Svedloff, State Street Iain Lyon, Tradeweb	

No	Topics

1 Welcome

AH (TAC Secretariat) welcomed all and discussed the requirements.

TS acknowledged the Competition Law Protocol.

2 Roll Call

AH undertook the roll call.

3 CASC Meeting Schedule

Slide 6

AH outlined the proposed sequence of remaining meetings and next steps. The purpose of the papers was to answer questions 5 and 6 from the 2020 Industry Consultation paper. AH explained that the conclusions would be consolidated into one final pack for discussion at the next CASC meeting. AH explained that an additional TAC strategy meeting would be scheduled as there wasn't enough time in the 2nd 2021 meeting to do justice to the content.

AH asked the CASC members about the proposed date for CASC meeting 5 on Thursday 2nd December 2021. This was agreed with the CASC members on the call and the TAC secretariat took an action to reach out to the absent CASC members for their views.

4 Document Review

Slide 7

AH reiterated main reason for this meeting was to review the three packs that had been distributed to the CASC members.

DSB Technical Reference Architecture

AH asked if there were any questions regarding the DSB Technical Reference Architecture paper.

CP (Bloomberg) asked if we should still not be formally considering UPI in relation to these papers. CP noted he believes we should account for UPI and mentioned he has kept UPI in mind.

AH agreed these had relevance to UPI, noting this work was ESMA driven and OTC ISIN funded. AH noted that this would not be an overnight delivery and something that needs to be considered long term.

AH asked the CASC members if they had been able to review the documents sent out to the members.

DSB Multi-Cloud

AH noted that Multi-Cloud document presented in CASC meeting 3 had been updated with the set of conclusions. AH added that the distribution was close to this meeting, but asked the members if they had been able to review.

CP noted he tried to read from fresh perspective and has notes.

RG noted it was more of a scanned view but had feedback across the three papers.

EF said he had not been able to fully review the papers. Asked why we had split the papers into three? Explained this could cause confusion and believed it would be better to do one report. EF advised that section 9.9 has wrong headers.

AH explained DSB Technical Reference Architecture underlines the Multi-Cloud and Multi-Region papers and supported the idea of single paper which is what we will be working on next. The header error was noted and would be reviewed later in the meeting.   The Multi-cloud paper was presented and CP was invited to raise his points.

CP made a point regarding page 9, the additional workload that will be added to the DSB technology staff and having a company such as Redhat or VMware to build upon would be beneficial to help insulate the DSB. CP added that hardware companies say it is a software problem and a software company will say it's hardware problem. So, it will be beneficial having a company who is there to help manage the problems when resources come from the two different cloud providers, this is an important part of what we are looking at here.

AH agreed with CP and noted the DSB is currently solely in AWS and although moving to multiple cloud providers address this risk, new risks could be created with dependencies on key vendors. However, this is a complex area and having additional vendors would be beneficial to the DSB.

CP added that in recent history we saw a huge company go offline and that whereas we normally see them as too big to fail, they do have problems too.

AH noted this was a good example to raise especially with social logins becoming more frequently used.

CP noted his second point was on page 21. Containerisation and portable technology is a huge factor that we are looking at here in mitigating risk and pulling all these factors together.

MB noted that this was one of the main conclusions and how we should move to a more Containerised and orchestrated approach.

CP added that there was no prior conversation that set up this conversation.

CP noted his third point was on page 22 that talked about databases. The database is the foundation of the whole system, and this is the formal record. While we want to make everything else moveable on the fly, the database has to be rock solid and the foundation of the whole thing. CP added the database should not be fungible and distributable and always should be rock solid. This would need to take a different perspective on the deployment.

DL noted the DSB absolutely agree, and the integrity of the database is so important. DL noted this is one of the biggest challenges in securing the database to ensure it will not be compromised.

CP added if the database goes away, we cannot function, where as with other factors in a multi-cloud solution there may be more latency and they could go down in one cloud but we could still function.

RG noted this is where one of his questions linked in. RG noted that the multi-cloud paper has a very straight forward primary/secondary set up but RG could not work out which one of those is correct as they are not compatible.

DL noted that there are two pieces when looking at this. The multi-cloud paper was from ESMA's question, but when we did a review of our risk estate the DSB realised that most of our risks were around the DSB sitting in a single region and this is what drove us to produce two papers. They may look different but they are very inter-linked. DL noted there is no reason why we could not be multi-region in multi-clouds.

RG noted there is an inconsistency between the documents and that he was not sure what the DSB's target state was.

DL noted that the documents were not meant to be one or the other. DL noted since the DSB went live in 2017, the platform has served us well and still does so with little to no issues but now we need to start to look forward. DL noted that there is a lot of pre-requisites that need to be done beforehand so the DSB does not need to make a decision right now, but we need to start setting out a longer-term strategy. This longer-term strategy will allow us to then decide between multi-cloud, multi-region or a hybrid approach.

RG noted they are valid discussion points and that if we do not need to choose A or B right now and the papers are not proposals, then it does not matter if there are some inconsistencies. If the papers are investigations, RG sees no issues with either paper.

CP noted this is a fair point and that although they were spawned from two separate questions, the reality is the end result might be taking option A and option B and working out how they come together to form option C taking the best parts from both to form a combined single approach. CP noted we cannot answer question 5 or 6 without spilling over to answer the other. CP believes we will end up with option C which is the best or most practicable solution.

DL noted that if this has come across from the documents this is what the DSB had aimed to do. DL noted that having an answer right now is not beneficial when there are pre-requisites that are the same for both multi-cloud and multi-region. DL noted it could be the DSB moves forward on the basis it works towards being a more agile organisation and then we make these decisions at a later date.

CP and RG both agreed with DL.

CP noted his fourth point was on page 26 on governance and change management. This linked to point 1 around the additional workload for the DSB and that it would be critical to consider governance and change management in conjunction with UPI means the DSB will be moving towards a more complex system. CP noted this must be accounted for as this system grows.

RG noted that not just the technical release and what ever the solution the DSB works towards would make it challenging to provide the same view at the same time for the consumers and this would require changes to how the DSB currently operates. RG noted it may not just be a technical thing but a process thing that involves the actual clients.

DL noted we currently operate in a relatively small downtime window and although we develop in an agile way, from a deployment perspective we only have a 4-6 hour change period window a week and it gets really compressed meaning that our current change process does not facilitate the DSB doing anything else. DL noted the DSB really need to look at how we take advantage of blue/green deployments and how we can introduce change in different ways e.g.: intra-day. DL noted that the DSB is going to have to change it's way of thinking and processes.

CP noted the other piece is that clients are willing to allow for a certain tolerance with certain products when they are in a market with competition. The product the DSB offers is not that because it is a service/ regulatory environment and the requirement to be available and reliable are critical as there is a regulatory impact. This makes it even more complex as it is regulated product and the DSB is a necessary piece of the finance reporting

scenarios and there needs to be an even higher level of scrutiny of the processes and change management for ensuring the product is always running.

DL agreed.

CP noted his fifth point was page 27 costing. Question again relating to where UPI comes into this. What does it cost to build this? It's a problem for the DSB and how it gets charged out to the consumers of the ISIN/UPI. As we have touched on before, this is not a 3-month development cycle that we roll it out and it's done. So how does costing come into this as the growth of the user base increases with the UPI rollout next year? Looking at the costing of this just from an ISIN perspective would be different to an ISIN and UPI perspective so CP believes UPI should come into this with the decisions that need to be made with the approval for spending the money and the timeline for UPI coming into play. Can we/should we include UPI in this discussion? The boundary of including UPI is important for costing.

DL agrees and said from a UPI perspective trying to do anything before that would not be possible. With the estimate numbers of UPI users coming in, spreading the cost over both might be more palatable.

CP added it would be a while before this happens or money is spent but it is also important to communicate to both user bases. From a transparency perspective it is important to show the consumers how this all links together and what the money is spent on.

CP noted his sixth point was on the risk review section (starting page 28). Explanation of risk assessment scoring in Single-Active region document but not Multi-Cloud.

AH and MB noted this had been missed from the Multi-Cloud document and that it was a good point and took an action to add this.

CP noted his seventh point was on page 30 related to conclusions. The DSB might have to go through an evolutionary cycle to becoming a software and system organisation as opposed to a regulatory service provider. This is because there is so much we need to add here as part of a software engineering problem as part of what system you would need to build on top of this. The DSB has currently been able to focus on ISIN at present but with the introduction of UPI, Multi-Cloud, Multi-Region there will be much more to consider and there will be a transition for the DSB to cope with the adding complexity of the additional work.

DL agreed.

CP noted that was all his points for this document.

AH thanked CP for his feedback.

AH asked TS to go to 9.9 around a point EF noticed.

MB apologised that the heading levels were wrong in this section and took an action to correct this.

AH asked if any further comments on the Multi Cloud paper.

CP & RG said there were no further points.

5	**DSB Single Active Region Risk Assessment**

AH explained that the single active region risk assessment paper followed a risk-based approach which was different to the multi-Cloud approach which was based around the RFI and general fact-finding

AH invited the members to highlight any points in relation to this paper, noting the reduced time the members had been given to review.

RG noted one thing that seemed to be missing was the risk of a region split.

DL noted that this is a good point, the DSB had considered this and would negate this by never having an isolated region responding to reads - the DSB would force fail a region that could not build a consensus and off the back of this.

RG noted he thought this should be mentioned explicitly as it was a challenge of active-active.

DL noted the DSB would add this.

CP noted he agreed this should be added as a risk for transparency it had been thought through.

RG noted he did not have any other high-level points and asked CP if he had another further points.

CP noted he believed this was a more straight forward paper and he did not have any other mains points on this apart from at the conclusion.

RG noted he had a question on page 13. Intra inter VM communication protected from latency issue. RG did not understand why this would not be single region.

MB noted that it is something manageable in a single region and something we would look to fix in single region, but it is something that gets bigger with multi-region.

RG noted he thought it seemed unnecessarily restrictive to be on a single VM and needs to be some ring fencing.

CP noted there needs to be some degree of consideration in the long calls on the network when you can. That certainly grows as you have multiple VMs in multiple regions but hoped this is something that the vendors themselves can provide a lot of that. CP noted although he would expect vendors to do this as it's in their interests, he would suggest it is tested and verified.

AH noted the DSB would need to re-read this section as that is exactly the point the DSB were trying to raise. The point the DSB were trying to make is when you go active-active it has the potential to make the problem even worse when you make a call to a different region and there is certainly a pecking order that needs to be considered. AH noted we would review this and work on the wording to make this point more accurate.

RG did not have any further points – although noted he had a deployment point that had been covered.

AH noted CP had a point on conclusions so we would go to this section.

CP advised that we should review the composition of the TAC given the current members and the level of technical expertise required to provide oversight to this work should it proceed.

AH agreed this was a good point and noted previous feedback from the G20 around ensuring the TAC had a more global presence to support the UPI.

DL noted the DSB really value the members input and the is keen from a technology perspective to speak more often. DL noted everyone is going through the Multi-cloud/Multi-region problem and the more conversations we can have with industry the better.

CP noted his perspective was from the software engineer side of this and not the regulatory or financial instrument aspect. Found more often he would need to speak to someone in his organisation to explain a credit swap and why a financial scheme looks like this but when we start to talk about building the software this is where his input is more appropriate and therefore can give much more input on these documents. So, CP noted he looks at where he fits into all of this on the committee and different people would have different perspectives but the DSB is growing the software and system side and this needs to be recognised along with the regulatory and financial views.

AH noted he would take this to the TAC agenda for January, noting the charter had been renewed for a further 2 year term from October 2020.

CP noted we are approaching the TAC charter review which could be undertaken early in 2022 in time for the renewal point in October.

AH agreed - the 2nd TAC meeting next year will be the first of a new charter.

The members were asked if there were any further points.

None were raised.

AH thanked the members for their valuable feedback which was very much appreciated and exactly what we were looking for from the meeting.

6	**Next Steps**

The DSB will reach out to the members who were unable to join to be able to see if they agree with the proposed CASC meeting 5 date.

The DSB will pull the conclusions from the two papers together and turn them into recommendations that will form the basis of the pack for review in CASC meeting 5.

AH noted the next document would need to be appropriate for two target audiences, the full TAC members in January and the DSB Board after that.

AH invited his DSB colleagues to add any points:

DL thanked all the members for reading the documents, feedback and joining the calls. DL reiterated a point made earlier that the DSB would not be proposing making a decision on either of these specific questions but looking to take the best from option A and option B to make an option C. DL noted we would aim to get this final pack out to the members in a months' time.

RG asked if we could get more time to review the documents in future.

CP echoed this point as the next document will be more complex and take more time to digest.

AH noted the DSB will strive to do their best.

DL noted if we have to do delay, we will let the members know but we will aim to distribute a week in advance.

AOB

AH thanked the members for their feedback and as there was no further business, ended the meeting.

Actions

2110-01   TAC secretariat to reach out to the CASC members regarding Thursday 2nd December 2021 as the next CASC meeting date

2110-02 TAC secretariat to update header error on section 9.9 and 9.10.

2110-03 TAC secretariat to add risk assessment scoring to Multi-cloud document.

2110-04 TAC secretariat to add risk of a region split in single-active region paper as it was a challenge of active-active.

2110-05 TAC secretariat to reword section of page 13. Intra inter VM communication protected from latency issue, as the point the DSB were trying to raise was not clear.

2110-06 AH to add to TAC agenda for January the composition of the members to ensure the correct level of expertise is covered for UPI, Multi-Cloud and Multi-Region.