

DERIVATIVES SERVICE BUREAU

TECHNOLOGY ADVISORY COMMITTEE

28 October 2020

MEMBER FINAL V02

Agenda

- **Governance**
 - Competition Law Reminder
 - Update from our Sponsor
 - Membership update
- **UPI Update**
- **New Topics**
 - File Download - Snapshot & Delta
 - ToTV Disaster Recovery
 - Industry Consultation – Cloud & Multi Region
- **Existing Topics**
 - Strike Price Update
 - OS Migration / Software Version Updates
 - DR Testing Update
 - CISO Update
 - One Time Data Snapshots
- **AOB**
- **Appendices**
 - TAC Members
 - Meeting Schedule
 - Bulletin Board Items
 - Annual Checklists
 - Actions

Governance I of V - Competition Law Reminder I of II

The purpose of this protocol is to remind attendees of Derivatives Service Bureau (DSB) Limited (“DSB”) Technology Advisory Committee, that all discussions at such meetings are subject to the application of EU, UK and other applicable national competition law (“Competition Law”).

Individual attendees are responsible for observing the requirements of Competition Law and should make themselves familiar with their legal obligations and their own organization policies.

The DSB is committed to compliance with Competition Law and advises that TAC participants follow the guidance set out below in order to ensure that all meetings remain in compliance with Competition Law.

1. A meeting agenda will be circulated in advance of a meeting. Any objections to, or potential concerns about, the proposed agenda in relation to Competition Law compliance should be raised prior to the meeting if practicable
2. Attendees must stick to the prepared agenda during the meeting and avoid discussion about other topics
3. Attendees must not seek, discuss, communicate or exchange any commercially or other business sensitive information about their organization or relating to competitors (whether before, during or after meetings). This includes, for example, any non-public information relating to prices, costs, revenues, business plans/marketing activities, individual terms and conditions, risk appetite or any other information which is likely to reduce strategic uncertainty in the market (i.e. which might result in less intensive competition than would normally occur)
4. Attendees must not reach any sort of agreement or understanding that is unlawful due to competition law (e.g. unlawful horizontal agreement, unlawful vertical agreement)

Governance II of V - Competition Law Reminder II of II

5. The TAC Secretariat will take minutes of the meeting, and supply these to each attendee in due course.
6. If the Chair considers that a discussion at the meeting may be inappropriate from a Competition Law perspective, he or she shall raise an objection and promptly bring that part of the discussion to an end. If another attendee, or the DDO, is concerned about a discussion from a Competition Law perspective, he or she shall bring it to the attention of the Chair, who will promptly bring that part of the discussion to an end. If other attendees attempt to continue that discussion, the Chair shall bring the meeting to an end. Every attendee is allowed to immediately leave the meeting in such situations. All such situations must be properly recorded in the minutes.
7. The minutes of the meeting must subsequently be read and approved by the attendees. If any matter discussed is not recorded in the minutes, or is recorded incorrectly, any attendee may raise an objection in writing and request an amendment.
8. Similar principles should be observed for any group email exchanges or other online group discussions operated by DSB, including those pertaining to TAC matters.

We remind attendees that breaching Competition Law has serious potential consequences for them as individuals and their organizations. Such consequences may include heavy fines, liability to pay compensation to affected individuals and businesses and, in certain cases, the imposition of criminal penalties, director disqualification orders and disciplinary action.

Governance III of V - Update from the TAC's Sponsor

Marc Honegger, DSB Board Member

Marc has kindly offered to introduce the new two-year term of the Technology Advisory Committee which commences from this meeting.

Governance IV of V - TAC Membership Update I of II

The DSB has completed the outreach to both existing TAC members and to wider industry. The summary of these two exercises is as follows:

A net increase of two members from 28 to 30

- Four existing members have left TAC having not responded to the outreach
- Six new members have joined the TAC
- Three members handed over to another representative from their organisation after a change of role

A key consideration of the outreach was to expand the TAC's geographical representation. The following key points summarise these changes:

- Three new members have joined from China
- Two new members have joined from the USA
- One new member has joined from India
- Three existing London members nominated replacements in other regions, specifically:
 - Mumbai
 - Poland
 - Singapore

Please note: The member changes were approved by the DSB Board in September 2020

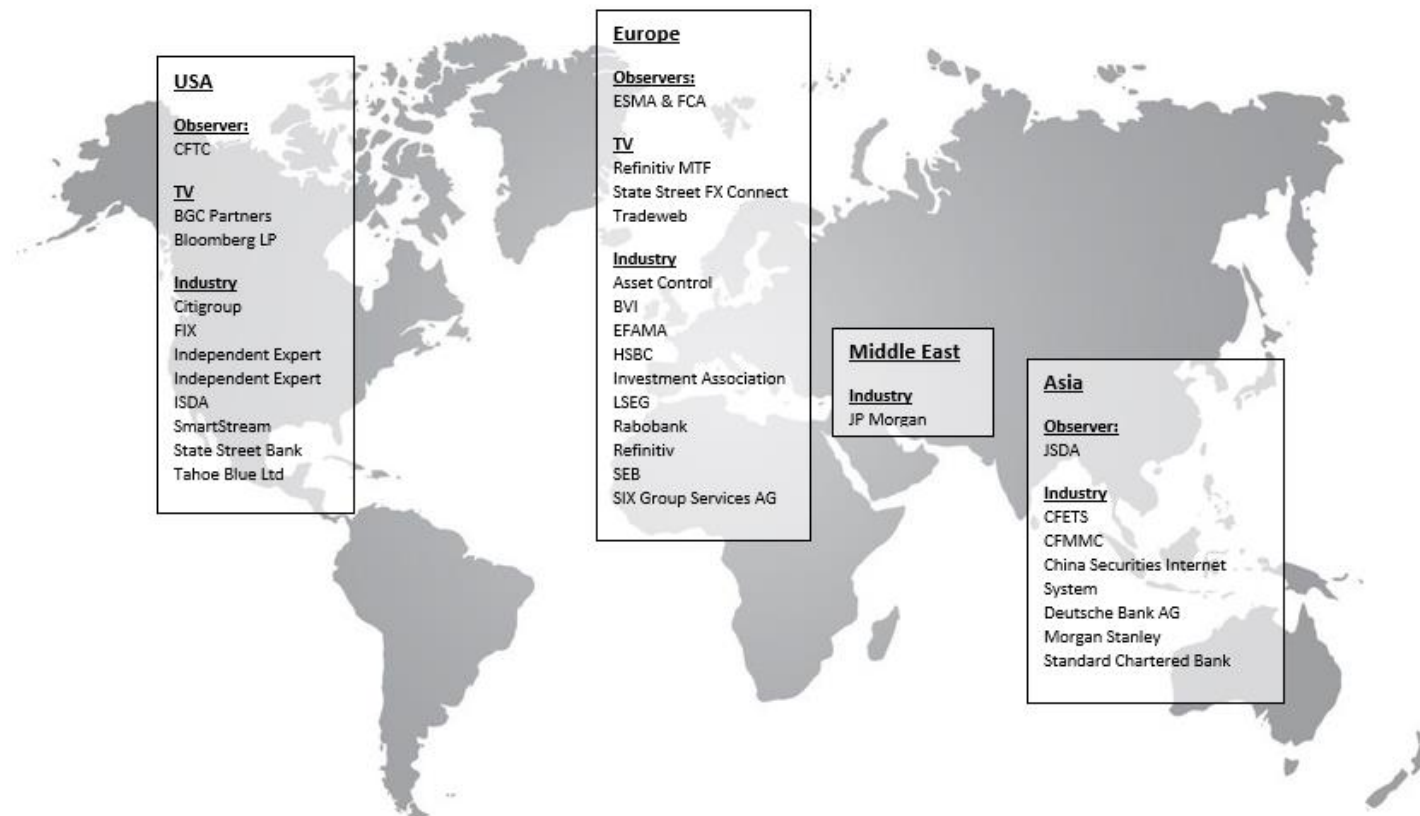
Governance V of V - TAC Membership Update II of II

Geographical Breakdown

The summary of the change in geographical representation can be seen in the table opposite:

Please note that this table does not include the sponsor or the regulatory observers

Continent	2018-2020	2020-2022	Notes
Asia	0	6	+6 = +4 new applications + 2 existing relocation
Middle East	2	1	-1 = -1 leaving member
USA	9	10	+1 = +2 new applications - 1 leaving member
Europe	17	13	-4 = -2 existing relocation -2 leaving members
Total:	28	30	+2



UPI Update I of III – UPI News

Since the update provided to the TAC members in March 2020, the DSB has continued regular engagement with the FSB’s working group on UTI and UPI governance (GUUG). The GUUG reviewed the revised TAC Charter¹ and provided additional wording with respect to UPI matters as well as guidance on the geographical coverage of the TAC membership. The outreach to both the TAC members and to the wider industry for additional TAC members has resulted in the TAC now having six representatives from Asia.

17th September 2020

- The CFTC approved revisions to its existing regulations for swap data reporting, dissemination, and public reporting requirements for market participants^{2a}. Existing provisions regarding the UPI have not changed. The CFTC expects UPIs will be available within the next two years. Until the Commission designates a UPI pursuant to its rule § 45.7, SDRs will continue to accept, and reporting counterparties will continue to report, the product-related data elements unique to each SDR^{2b}.

1st October 2020:

- The Regulatory Oversight Committee (ROC) became the International Governance Body (IGB) for the Unique Transaction Identifier, Unique Product Identifier and Critical Data Elements³. The ROC has published a revised charter⁴.
- The ISO/CD 4914 ballot on the Unique Product Identifier (UPI) opened on 26th September 2020 and will run until 21st November 2020 TC 68/SC 8-member voting⁵.

¹<https://www.anna-dsb.com/download/technology-advisory-committee-charter/>

^{2a}<https://www.cftc.gov/PressRoom/PressReleases/8247-20>

^{2b}<https://www.cftc.gov/media/4781/federalregister091720b/download>

³<https://www.fsb.org/wp-content/uploads/P091019.pdf>

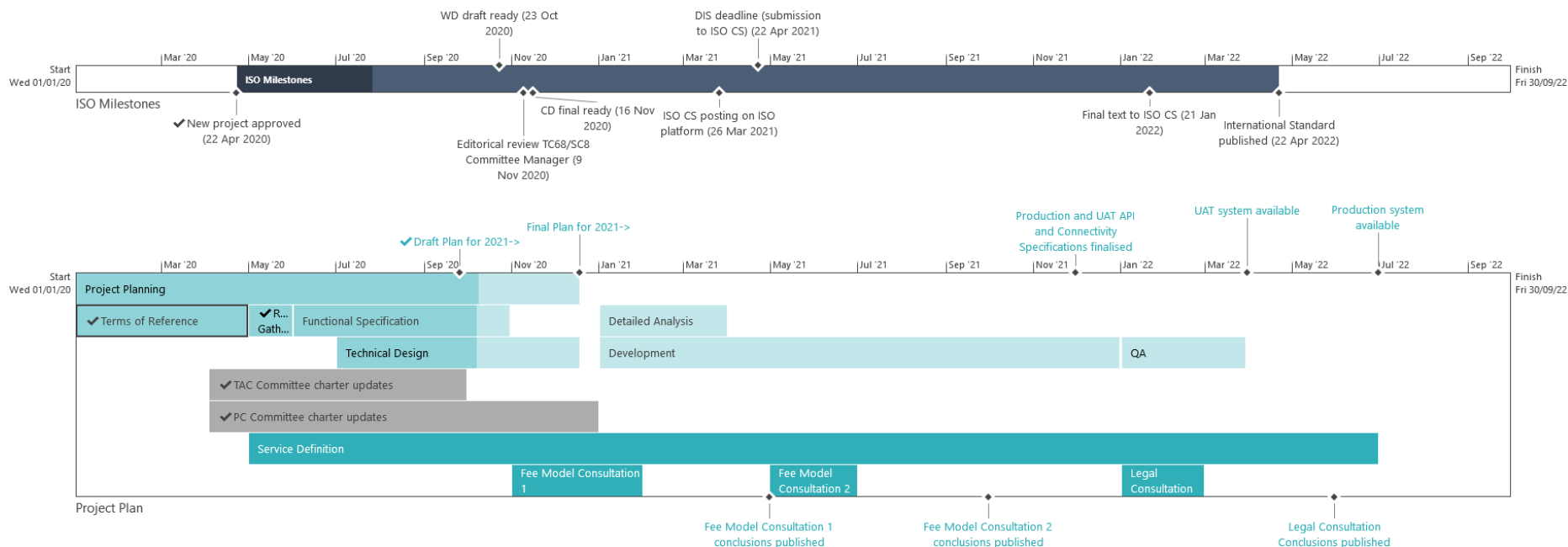
⁴https://www.leiroc.org/publications/gls/roc_20201001-1.pdf

⁵<https://committee.iso.org/sites/tc68/home/news/content-left-area/news-and-updates/unique-product-identifier-upi-ba.html>

UPI Update II of III – UPI Progress

UPI Progress:

- Terms of reference produced and shared with the ROC
- ISO Process remains on track
- Project planning in 2020 nearing completion, focusing on the functional specification and technical design
- Industry Consultation process to start in Q4 2020, initial focus being the fee model
- Development and testing scheduled to start in January 2021
- UAT targeted for Q2 2022
- Production targeted for Q3 2022



UPI Update III of III - TAC SSC

TAC Strategy Subcommittee:

The TAC Strategy Subcommittee⁶ (SSC) concluded in September 2019 with the delivery of an interim version of the DSB UPI Strategic Requirements Report. The report has now been shared with:

- The full TAC membership
- The DSB Board
- The GUUG

As seen on the previous slide, 2021 will be a key year in the delivery of the UPI. The TAC, while providing oversight on DSB technical matters is only scheduled to meet twice in 2021. This is unlikely to be frequent enough, so the DSB proposes to re-establish this subcommittee.

In order to re-establish the committee, we need the TAC to consider the following points:

- TAC SSC Membership (current membership can be seen here⁷)
- TAC SSC Chair
- TAC SSC Initial Meeting and Cadence

⁶<https://www.anna-dsb.com/technology-advisory-sub-committee/>

⁷<https://www.anna-dsb.com/technology-advisory-sub-committee-members/>

New Topics – File Download Snapshot & Delta

Background

- The file download is the service that the DSB provides to reconcile all ISIN records
- It consists of ‘daily delta files’ – it contains the ISIN records that have been added or modified since the previous delta file was produced – these will have a status of either New, Expired, Updated or Deleted
- Over 45% of the ISIN records appear in the file download more than once (e.g. at creation and again at expiry date)
- The DSB has created a [guidelines to reconcile all ISIN records](#)⁸
- Reconciling the last state of each ISIN becomes a technical challenge for the DSB users

Proposal

The DSB proposes to:

- Periodically add to the file-download, a set of files that contain only the last state of all the ISIN records (i.e. snapshot files). This is an additional service, so all existing workflows continue with no changes (i.e. backward compatible)
- Create weekly snapshots that are available by Sunday 18:00 (UTC) containing all ISIN records until the end of the day before (Saturday)

TAC Question: Does the TAC agree that there is a benefit from the introduction of snapshot files, and should this be prioritized as a BAU activity in 2021?

⁸<https://www.anna-dsb.com/download/dsb-reconciling-isin-records/>

New Topics – ToTV Disaster Recovery – I of II

Background

The DSB's ToTV service has been implemented as highly available within the primary region but does not have a warm standby capability in a secondary region. During the March 2020 TAC meeting, the TAC members reviewed this status and recommended that resiliency of the ToTV service should be aligned with the OTC ISIN service.

Proposal

The DSB has investigated three options for the operational mechanism of the migration for ToTV Ireland to ToTV North Virginia. The three options considered are:

1. Independent System

A complete replica of the ToTV system in AWS Ireland. This is the most resilient option of the three due to the parallel operation, with no dependencies. However, there is an increased need for reconciliation introduced by the dual processing.

2. Copied System

A replication of the processed data set from the ToTV system in AWS Ireland. This option has increased consistency with AWS Ireland due to the replication of the AWS Ireland data set and removes the need for additional reconciliation activities. This is the most straightforward option, but this is by far the most expensive due to the replication of the sizeable ToTV data set

3. DDB Global Tables

A single shared database between AWS Ireland and AWS North Virginia ToTV systems. This option brings the most consistency due to the shared database, reduces the requirement of further reconciliation activities and is the most cost-effective solution.

New Topics – ToTV Disaster Recovery – II of II

Costs

Following the investigations conducted by the DSB, the comparative view of the uptick in infrastructure costs in addition to the current AWS Ireland ToTV system is:

Assumption of data size = 1400GB	Independent	Copied	DDB Global Tables
Total Uptick Euro Monthly Costs	€ 3,847	€ 16,821	€ 1,757

Note: Provisioning of additional infrastructure will be handled via BAU operations.

Proposal

- The copied system was discounted due to the high costs associated.
- The independent and DDB Global Tables solutions were close but there were concerns raised to the increased complexities of reconciliation in the Independent system option.
- Based on the information gathered by the DSB, the recommended solution is the DynamoDB Global Tables.

TAC Question: Does the TAC have any concerns with the proposed solution?

New Topics – Industry Consultation Cloud & Multi Region

Background

The TAC were engaged in June 2020 as part of the DSB's 2021 Industry Consultation process. Of the items approved to be progressed in 2021, two were technical analysis items as follows:

- Multi-Cloud Configuration (Q5)
- Single Active Region Risk Assessment (Q6)

The TAC's recommendation to proceed with these items was caveated with a request (Action 2006-005) to establish a new subcommittee which would review progress on the analysis as it progresses through 2021.

We would like to ask the TAC for their input regarding establishing this new committee, who should the members be and what frequency the meetings should be held?

Existing Topics – Strike Price Update

Background

The TAC discussed the Strike Price issue during the March meeting and the DSB recorded Action 2003-003. This was followed up with a bulletin board article on the 15th June 2020 where three questions were asked of the TAC members:

1. Do you agree with the DSB's proposed solution as detailed in the attached specification?
2. The DSB proposes to undertake an initial release containing just the Strike Price changes (6 templates) with a later release covering the Price Multiplier changes (affecting all templates). Do you agree with this approach?
3. The DSB does not recommend the addition of validation to reject messages containing numbers passed in exponential format. Do you agree with this approach?

The TAC members agreed with all three questions, so the solution has been taken forward on this basis.

Progress Update

The supporting changes have been delivered by the software vendor, having been approved by the DSB Board. The DSB development has been completed and testing is underway. This includes a load test of the system. We are aiming to promote the changes to UAT on 21st November 2020. This will be followed by a production release on the 31st January 2021.

Please note: Regarding question 2, the price multiplier changes, which affect all templates, will be scheduled later.

Existing Topics – O/S Migration & Software Upgrades I of II

Background

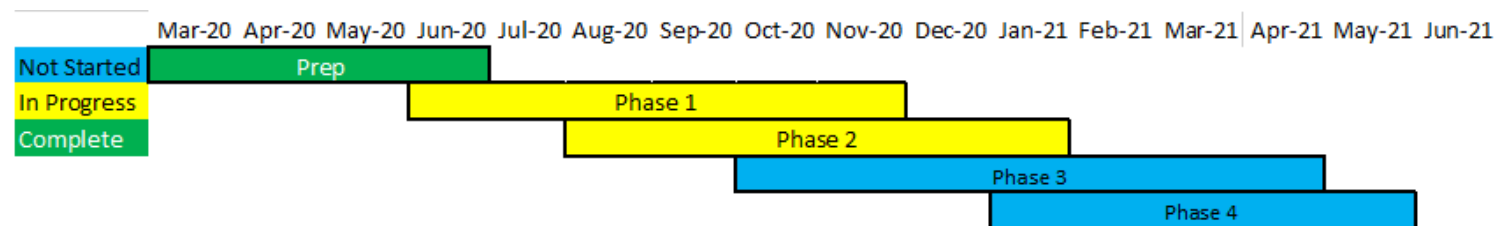
The DSB servers current operating system is Amazon Linux 1 which becomes end of life on 31st December 2020. After this, no further security patches will be released for this version of the operating system. The issue impacts the entire DSB server estate across all environments covering around 500 virtual servers.

The current MongoDB version in use reached its end of life in January 2020.

Update

In response to Action 1910-001, the DSB commenced work on a project to replace Amazon Linux 1 with **Ubuntu 18.4 Long Term Support (LTS)** while addressing the MongoDB issue as well as upgrading other software versions. This followed the TAC's confirmation of the approach at the [March 2020 meeting](#)⁹.

The project has been split into 4 phases (dates in brackets are for production deployment, (*Estimated)):



- Phase 1 – DB Servers Upgrade (Nov 2020)
- Phase 2 – DB Servers OS Migration (Jan 2021)
- Phase 3 – Core Servers Upgrade & OS Migration (April 2021*)
- Phase 4 – Ancillary Servers Upgrade & OS Migration (June 2021*)

⁹<https://www.anna-dsb.com/download/dsb-tac-meeting-minutes-4-march-2020/>

Existing Topics – O/S Migration & Software Upgrades II of II

Progress Update

To streamline the releases, the software upgrade approach has been factored into the OS migration project. The DSB commenced work on the software upgrade project for four items with the first phase addressing the MongoDB software version.

Two other software components were considered as they were approaching end of life, but this was extended to a third component to ensure the Apache family items were considered together. These components have an impact on the Cordra software. The software vendor was engaged as part of the project and this has resulted in a new delivery of the Cordra software compatible with these software versions. The overall timeline for Phase 3 has been moved out due to the dependency on the Strike Price delivery which also required a separate release of the Cordra software. The four software components are summarised in the table below:

Software	DSB Version	Released	End of Life	Target Version	Released	DSB Target Implementation
MongoDB	3.4.7	08 August 2017	Past	4.2.9	21 August 2020	Phase 1 OSM (Nov 2020)
Apache Kafka	0.10.1.1	22 December 2016	Past	2.5.0	15 April 2020	Phase 3 OSM (Apr 2021*)
Apache Solr	6.4.2	07 March 2017	Past	8.5.0	04 March 2020	Phase 3 OSM (Apr 2021*)
Apache Zookeeper	3.4.9	03 September 2016	N/A	3.5.7	14 February 2020	Phase 3 OSM (Apr 2021*)

Existing Topics – DR Testing Update

Recap:

The DSB recorded Action 2003-004 during the March TAC meeting to reach out to DSBVPN and BT Radianz users to try and increase engagement to ensure all aspects of connectivity testing had been tested. None of the VPN* clients approached were able to assist due to other commitments such as Brexit. Three BT Radianz clients have offered to assist, however, progress to date has been slow and no connectivity testing has so far taken place.

Testing Update:

- Internet (TLS/SSL) has been tested
- VPN & BT Radianz remain untested

*VPN & FortiGate

- The original FortiGate solution was selected due to the high number of users originally opting for VPN connectivity
- The outreach to existing VPN users revealed that the majority have now switched to alternative connectivity options (15 reduced to 3)
- Given the reduced number of VPN users and the support complexities associated with the FortiGate solution, the DSB believes that we should investigate alternative VPN technologies with a view to reducing costs

Connection	Total	Engaged	Phase 1	Phase 2	Notes
Internet (TLS/SSL)	46	3 (6.5%)	3	3	100% Passed
BT Radianz	18	3 (16.7%)	0	0	Not tested
VPN*	15 3	0 (0.0%)	0	0	Not tested
Total:	79	4 (5.1%)	3	3	

TAC Question: Do the TAC agree that the DSB should investigate alternative VPN technologies?

Next Steps:

- The lack of testing is preventing the scheduling of the UAT DR test
- The TAC requested the UAT DR test must take place before a Production DR test can be scheduled
- There are clearly other priorities which are impacting DSB client's ability to support this testing

TAC Question: Does the TAC feel that the time is right to schedule a mandatory UAT-DR test affecting all programmatic UAT clients?

Existing Topics – CISO I of II – Secure SDLC & ISO27001

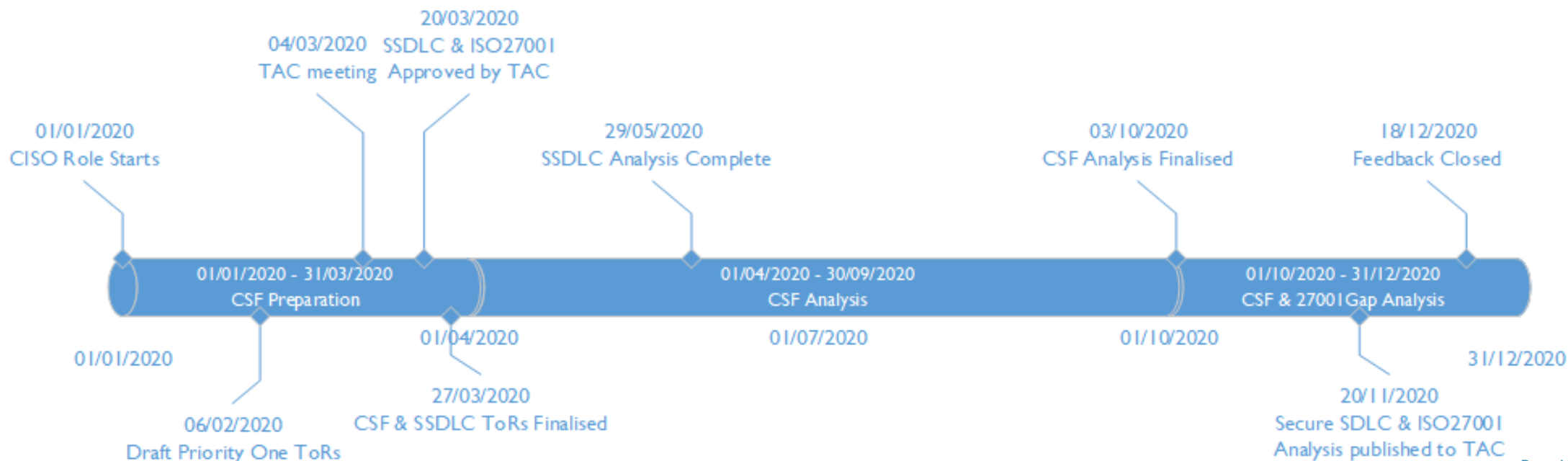
The Terms of Reference documents for both Secure SDLC and ISO27001 were reviewed and approved by the TAC on the 20th March 2020 (Action 2003-005).

The Office of the CISO has been working on the analysis documents, these are nearing the completion of the first drafts and on completion of our internal reviews we are aiming to publish these to the TAC on the 20th November 2020 for their consideration.

The documents will be published on the TAC Bulletin Board and a covering email will be sent to the TAC members.

We would request feedback from TAC members by **Friday 18th December 2020**.

These final details have been reflected in the timeline below:



Existing Topics – CISO Update II of II

In addition to the 2020 consultation paper analysis items, the DSB Office of the CISO team has made progress on several other security related items. These are listed here for the TAC’s reference:

- Comprehensive review and recommendation with respect to the DSB’s Website plugins has been completed
- AppCheck vulnerability scanner proof of concept coordination
- Annual policy review garnering Information Security approval
- Cloud Security Framework completed and disseminated to development and operations teams
- Joined the Cyber Security Information Sharing Partnership (CiSP)
 - The CiSP is a joint industry and government initiative set up to exchange cyber threat information in real time, in a secure, confidential and dynamic environment, increasing situational awareness and reducing the impact on UK business*
- DSB GUI Penetration Testing Oversight
 - Oversight of the 2019 penetration test results
 - Co-ordination of the 2020 penetration test
 - Currently progressing engagement with inhouse teams and vendor
 - Due prior to end of the year date to be confirmed

Existing Topics – One Time Data Snapshots

Background

During the Industry Consultation TAC meeting in June 2020, the members discussed Question 3, “Provide One-Time Data Snapshots for Download”, the TAC recommended the item to go forward and the item was approved for inclusion in 2021. The summary of this option can be seen on page 12 of the DSB’s 2020 Final Consultation Report¹⁰.

Action 2006-004 was recorded during the June meeting to discuss this topic further in this meeting. The final consultation report states the constraint that the TAC are to review the analysis and proposed solution.

Next Steps

The analysis and development work will be undertaken in 2021 but has not yet been scheduled. It is proposed therefore, to carry forward this action to the March 2021 TAC meeting, when further details regarding the analysis should be available. The DSB will ensure that that TAC are engaged once the analysis has been completed prior to the start of development. Once again, if the dates do not align with the TAC meetings, the Bulletin Board will be used to engage with the TAC members.

The TAC Secretariat have created a new bulletin board topic to capture any feedback that the TAC members have in relation to this article. This feedback will be made available during the analysis. The bulletin board topic can be located [here](#)¹¹.

¹⁰<https://www.anna-dsb.com/download/dsb-2021-consultation-final-report/>

¹¹<https://www.anna-dsb.com/bulletin-board/tac-forum/one-time-data-snapshots-for-download-ic-2021-q3/#post-206>

AOB

- TAC information: <https://www.anna-dsb.com/technology-advisory-committee/>

Appendices

- A - TAC Committee Members
- B - 2020 Meeting Schedule
- C – TAC Bulletin Board Items
- D – Annual Checklists
- E - Actions

Appendix A - TAC Committee Members

Institution	Category	First Name	Last Name	Position / Title
Asset Control	Industry	Martijn	Groot	VP, Marketing and Strategy
BVI	Industry	Felix	Ertl	VP, Legal
CFETS	Industry	Yan	Hui	RMB Derivatives Research & Development Manager
CFMMC	Industry	Huang	Lu	IT & Senior Economist
China Securities Internet System	Industry	Billy	Chen	Monitoring Centre Director
Citigroup	Industry	Souvik	Deb	VP, Regulatory Reform
Deutsche Bank AG	Industry	Amit	Bairagi	Product Owner
EFAMA	Industry	Vincent	Dessard	Senior Policy Advisor
FIX	Industry	Lisa	Taikitsadaporn	FIX Global Technical Committee
HSBC	Industry	James	Cowie	Americas Product Owner - Regulatory Reporting
Independent Expert	Industry	James	McGovern	Enterprise Architect & Security Leader
Independent Expert	Industry	Jim	Northey	ex officio as ISO TC 68 Chair Elect
Investment Association	Industry	David	Broadway	Investment Operations Lead
ISDA	Industry	Karel	Engelen	Senior Director
JP Morgan	Industry	Nadav	Krispin	VP, Software Engineering
LSEG	Industry	Aanya	Madhani	Senior Business Development Manager, TRADEcho
Morgan Stanley	Industry	Abhinav	Koul	Financial Instrument Reference Data Architect
Rabobank	Industry	James	Brown	Delivery Manager, IT Systems
Refinitiv	Industry	Artur	Grajek	Content Technology Design Authority
SEB	Industry	Henrik	Martensson	Markets CTO Office
SIX Group Services AG	Industry	Kamel	Singh	Senior Architect
SmartStream	Industry	Rocky	Martinez	CTO
Standard Chartered Bank	Industry	Anthony	Brennan	Data Solutions Lead
State Street Bank	Industry	Kimberly	Cohen	MD - Business Technology Solutions
Tahoe Blue Ltd	Industry	Jefferson	Braswell	Founding Partner
BGC Partners	TV	Jimmy	Chen	Development Manager
Bloomberg LP	TV	Chris	Pulsifer	Software Development Manager
Refinitiv MTF	TV	Zintis	Rullis	Senior Technical Specialist
State Street FX Connect	TV	Rajkamal	Roka	Head of FX Regulatory Reform
Tradeweb	TV	Elodie	Cany	Director, Technology Product Development

Observers

Organisation	Name	Position / Title
CFTC	Robert Stowsky	IT Specialist
ESMA	Olga Petrenko	Senior Officer, Markets
FCA	Paul Everson	Senior Associate – Market Oversight
JSDA	Eiichiro Fukase	General Manager

DSB TAC Sponsor:	Marc Honegger DSB Board Member
DSB TAC Chair:	Chris Pulsifer Bloomberg LP
Designated DSB Officer:	Sassan Danesh DSB Management Team
DSB TAC Secretariat:	Andy Hughes DSB Management Team
	Will Braithwaite DSB Infrastructure Architect
	Yuval Cohen DSB Technical Architect

Appendix B - TAC Meeting Schedule

The following shows the TAC meeting dates & times:

Wednesday 4 th March 2020	1pm GMT (1pm UTC, 2pm CET, 8am EST)
Tuesday 23 rd June 2020	1pm BST (12pm UTC, 2pm CET, 8am EST)
Wednesday 28 th October 2020	1pm GMT (1pm UTC, 2pm CET, 8am EST)

Appendix C – TAC Bulletin Board Items - AH

The following table details the active TAC Bulletin Board topics:

Created	Title	Posts	Link
08/11/2019	DSB Penetration Testing Level of Detail	1	https://www.anna-dsb.com/bulletin-board/tac-forum/dsb-penetration-testing-level-of-detail/
15/10/2020	One-Time Data Snapshots for Download (IC 2021 Q3)	1	https://www.anna-dsb.com/bulletin-board/tac-forum/one-time-data-snapshots-for-download-ic-2021-q3/#post-206

Appendix D – Annual Checklists

The following table details the items which will be checked on an annual basis:

Appendix	Item	Last Review	Next Review	Comments
D1	Software Version Levels	09/10/2019	Q4 2020	Items being progressed in 2020 (slide 28)
D2	Penetration Testing	09/10/2019	Q4 2020	2019 Pen Test completed; report received
D3	Disaster Recovery Testing	n/a	n/a	Approach currently under review

Appendix D I - Software Version Levels

The DSB's software version policy is to remain within one major version of the latest version in industry. This is to ensure that we remain current particularly in relation to security updates. The key software versions are as follows:

Software	Current DSB Version	Implemented	End of Life	DSB Target Version	Upgrade Implementation	Latest Available Version	Released
Amazon Linux	AMI 2017.03	19 July 2017	31 December 2020	Ubuntu 18.04 LTS	Phase 3 OSM	Ubuntu 20.04.1	08 June 2020
Apache Kafka	0.10.1.1	22 December 2016	Past	2.5.0	Phase 3 OSM	2.6.0	03 August 2020
Apache Solr	6.4.2	07 March 2017	Past	8.5.0	Phase 3 OSM	8.6.3	07 October 2020
Apache Zookeeper	3.4.9	03 September 2016	TBC	3.5.7	Phase 3 OSM	3.6.2	09 September 2020
Elastic Search	7.5.2	25 April 2020	31 July 2021	N/A	N/A	7.9.2	24 September 2020
MongoDB	3.4.7	08 August 2017	Past	4.2.9	Phase 1 OSM	4.4.1	09 September 2020
NGINX	1.12.1	11 July 2017	TBC	1.18.0	Phase 3 OSM	1.20.0	08 October 2020
OpenJDK	1.8 181-b13	17 July 2018	30 June 2023	1.8.256-b01	Phase 3 OSM	1.8.272-b00	01 June 2020
QuickFIXJ	2.1.0	03 August 2018	TBC	N/A	N/A	2.2.0	16 June 2020
Tomcat	8.5.37	01 December 2018	TBC	5.5.56	Phase 3 OSM	9.0.39	06 October 2020

Note: All upgrades are anticipated to be transparent (i.e. backwardly compatible) to the DSB user base.

Appendix D2 – Penetration Testing Update

2019 (GDS Test Dec 2018)

- 10 items resolved
- 3 items - no action was required

2020 (AON Test Dec 2019)

- 17 items raised
- 4 items – no action required
- 6 items resolved
- 4 items pending release (1 on 1st Nov 20; 3 with the OS Migration phase 3 in 2021 (vendor deliver))
- 3 items outstanding (low priority)

2021 (Test Dec 2020 tbc)

- 2020 Test is currently being scheduled

Reminder

- A bulletin board topic was created to capture TAC members feedback about the appropriate level of Penetration Test reporting – the article can be accessed [here](https://www.anna-dsb.com/bulletin-board/tac-forum/dsb-penetration-testing-level-of-detail/)¹² – as per action 1910-005 we are looking for member feedback to discuss during the Q4 TAC meeting.

Appendix D3 – Disaster Recovery Testing

- The DSB is currently working with the TAC to schedule a production DR test.
- The test will ratify the DSB's Recovery Time and Recovery Point objectives as well as confirming that all DSB users can access the Disaster Recovery site.
- The TAC has requested that a test is undertaken in UAT **prior** to undertaking the test in production.
- Once completed this slide will reflect the DSB's DR testing history.

Appendix E – TAC Actions I of II

Ref	Action	Update	Slides	Target	Status
1910-001	DSB to provide plans for software version changes	Update to be provided in the Q1 2020 TAC Meeting	16	Q2 2021	Open
1910-005	TAC Members to provide feedback on the level of detail provided re: Penetration Testing	BB topic created and members emailed 8/11	29	Q4 2020	Open
2003-001	TAC Secretariat to identify how an attendee was able to unmute	Known bug in WebEx	n/a	Q4 2020	Propose to close
2003-002	TAC Secretariat to create a bulletin board item for the UAT Environment Usage topic	19/03 topic created	n/a	Q4 2020	Propose to close
2003-003	TAC Secretariat to reach out to the TAC members on an individual basis and collate the feedback to assess the wider industry impact of the Strike Price change	TAC engaged, recommendation reached, approved by DSB Board	15	Q4 2020	Propose to close
2003-004	TAC Secretariat to reach out to DSB users who connect with either BT Radianz or VPN to ensure these options are tested (min 2 clients)	Outreach undertaken, but no VPN or BTR clients have been able to test	18	Q1 2021	Open
2003-005	TAC Secretariat to reach out to the TAC members with details of the two CISO terms of reference documents to be reviewed by Friday 20th March	Bulletin board topics created, feedback received, both signed off 20/03	19	Q4 2020	Propose to close
2003-006	TAC Secretariat to reach out to MS for a progress update on the previous TAC discussion item concerning ISINs that had been replaced due to a schema change, e.g. Field 41, not being reported via ToTV.	Engaged with MS who reached out to Shari directly.	n/a	Q4 2020	Propose to close

Appendix E – TAC Actions II of II

Ref	Action	Update	Slides	Target	Status
2006-001	DSB to undertake an outreach to industry to request for additional TAC Members	Additional outreach actioned, 6 members applied and approved by the DSB Board	6	Q4 2020	Propose to close
2006-002	All TAC Members to re-apply to the TAC Secretariat for membership of the TAC for a further two-year term and to confirm acceptance of the competition law protocol	Completed	6	Q4 2020	Propose to close
2006-003	Any TAC Members who are interested in taking on the role of TAC Chair to contact the DSB	Applications received and decision made by DSB Board	n/a	Q4 2020	Propose to close
2006-004	DSB to ensure that the one-time data snapshots question is discussed further during the October TAC meeting	Propose to carry forward to the March 2021 TAC when further information may be available	21	Q1 2021	Open
2006-005	DSB to establish a forum to regularly review the status of the analysis related to questions 5 & 6	To be discussed during the meeting	14	Q4 2020	Open
2006-006	DSB to provide more details on the UPI timeline as soon as possible	To be discussed further during the meeting	9	Q4 2020	Propose to close
2006-007	DSB to provide an update on the UPI project at the October TAC meeting	To be discussed further during the meeting	8,9,10	Q4 2020	Propose to close