DERIVATIVES SERVICE BUREAU

TECHNOLOGY ADVISORY COMMITTEE

25th October 2023

MEMBER FINAL

Agenda

- **Governance**
  - Competition Law Reminder
  - Roll Call
  - TAC Member Changes
  - Action Update

- **Existing Topics**
  - UPI Go-live
  - Disaster Recovery Testing
  - Weekly Snapshot
  - CFI 2019
  - 2023 POAP
  - Machine Readable Validation & Reporting
  - Global Agile Architecture
  - Industry Consultation 2023
  - DSB Release Process
  - DSB Change Process Update
  - UAT2 Maintenance Window Review

- **New Topics**
  - Digital Operational Resilience Act (DORA) – brief introduction

- **UPI Update**
  - Baseline
  - Upscale

- **Cyber Security**
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  - ISO27001

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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 – Roll Call

The DDO will undertake the roll call.

Please note that Chris Pulsifer is unable to make the meeting, Richard Gee has kindly offered to chair the meeting.

Since the last TAC meeting the DSB Board has approved the following TAC membership changes:

• Stuart Oliver, the FX Connect MTF Product Manager from State Street Bank joins the TAC as a regulatory observer.

We would like to take the opportunity to welcome Stuart to the TAC and to thank Raj for his contribution.

Governance V of V - Action Update

Action	Description	Update	Slide#
2303-001	TAC Secretariat to provide JC(UBS) with further details regarding the Global Agile Architecture forum	Complete	
2303-002	DSB to monitor user access to determine the minimum period of time in which most users access the system to help determine the length of the DR test failover window	Complete	
2303-003	TAC Secretariat to raise the weekly snapshot future plans with the TAC members via the bulletin board	Complete	
2303-004	AH to discuss the CFI 2019 release with the product secretariat to understand the scope of breaking changes in the release	Complete	11-15
2303-005	TAC Secretariat to include the Proprietary Indices analysis findings in the 2023 Industry Consultation	Complete	18
2303-006	TAC Secretariat to action the UAT2 midweek and downtime window timing changes	Complete	
2303-007	AH to notify industry participants when the date of the pre-population execution is known in the UPI UAT environment	Open	
2303-008	TAC Secretariat to gauge member feedback on forming a new security TAC subcommittee to discuss any future security related events	Complete	
2303-009	AH to contact the DSB Product team to send JB the relevant UPI product taxonomy related links	Complete	
2306-001	AH to coordinate a call with AS (JP Morgan) around the possibility of accessing the DSB services in production directly from their cloud architecture	Complete	
2306-02	AH to inform TAC of the number of UPI users currently testing in the UPI UAT environment	Complete	
2306-03	TAC Secretariat to advise the TAC of the ISDA release dates	Complete	

Existing Topics – UPI Go Live

UPI Service Launch:
The DSB implemented the UPI Service on Sunday 15th October 2023. Users of the UPI Service are now able to create and retrieve UPI's for any one of the supported product templates.

There have been no reported issues so far with the UPI Service and users have started to create new UPIs in the system.

OTC ISIN Service:
The OTC ISIN Service was also updated with the first of two releases to integrate the UPI into the OTC ISIN Service. The initial release affecting 57 existing product templates was successfully released.

There has been one issue reported with the day 1 OTC ISIN daily delta file. This incorrectly included the migrated ISINs, which were correctly published to the migration file as previously discussed with the TAC. The day 2 delta file was delayed to ensure it was correctly produced.

In addition, the pre-population process was started in production. This process has started to associate existing OTC ISINs with their UPI parent. The process is only focusing on existing OTC ISINs associated with the first batch of 57 templates.

The progress of the pre-population progress can be seen on the DSB's website via the following link:

https://www.anna-dsb.com/otc-isin-pre-population/

The processing of the first batch of OTC ISINs is expected to complete prior to Sunday 5th November 2023 when the second release of remaining product templates is scheduled to be released into production. Further details of the pre-population process, including the scope of affected templates in the second release, can be seen in the pre-population document which is available via the following link:

https://www.anna-dsb.com/download/otc-isin-pre-population-process/

Existing Topics – Disaster Recovery Testing

Background:
During the March 2023 meeting, the TAC members discussed the status of the DSB's disaster recovery testing. Two further options were discussed, and valuable feedback was obtained from the TAC members with respect to future tests.

Update:
Since this meeting, the DSB successfully executed the first of the two options, to conduct an internal test in the DSB's production environment. The test, undertaken during the downtime window on Sunday 6th August 2023, followed the DSB's DR runbook and failed over the service to the secondary site. Once the failover was completed, the reverse DR procedure was followed, returning the service back to the primary site.
Note: the test did not include the DSB's users and so did not validate user's connectivity to the secondary region. Both the failover and the failback activities were completed within the 4-hour Recovery Time Objective.

Next Steps:
The DSB now need to consult the TAC members regarding next steps. Again, a further two options have been proposed:

- *UAT DR Test*
  The DSB's UAT environment is a contingent environment which has been used to test the DSB's ability to failover in the past. By the time of the TAC meeting, the UPI environment will have been upgraded to MongoDB Atlas, so the timing is ideal to undertake a further test to prove this change along with the recent UPI functionality. This test would include all of the DSB's UAT users however, please note that UPIUAT users would not be included as that is a separate environment. The proposal is to failover during the downtime window, run for two weeks from the secondary site and to then failback, again in the downtime window, to the primary site.

- *Production Test*
  On completion of the UAT DR Test, the DSB would then schedule a repeat of this test in the production environment. The DSB would recommend avoiding the window of the pre-population process, so look to schedule the test once MongoDB Atlas has been rolled out to the production environment. This is likely to be at the start of Q2 2024. Again, all DSB's users would be involved in this test.

Existing Topics – Weekly Snapshot

Update:
- The weekly snapshot for OTC ISIN was deployed in Production on Sunday 2 April 2023
- The UPI weekly snapshot will be available in UAT from 28 October and in Production from 19 November 2023.

- https://www.anna-dsb.com/download/dsb-isin-weekly-snapshot/

Future Plans:
The DSB sought the TAC's feedback on the bulletin board regarding two possible improvement suggestions:

- A symbolic link pointing to the most recent snapshot would be helpful
- The snapshot files should be broken up into smaller consumable units

Feedback received was supportive of these extensions, no negative views were received. It is proposed that the DSB adds these items to the BAU book of work.

The CFI 2019 project will be referenced as the CFI 2019/2021 project as the latest CFI version is now CFI 2021.

At the March TAC meeting, the DSB presented discussion topics for the CFI 2019/2021 migration, including a separate File Download folder, called ISIN Migration. Below is a summary of the discussion:

1. File Download Separation for CFI?

For the pre-population process, where the OTC ISIN record will be updated with the UPI code, the TAC SSC concluded that not all users might want to receive the updates and suggested separating both the FIX Subscription notifications and the File Download (FDL) updates from the usual channels. This means that OTC ISIN users would have to undertake additional effort to process the updates if they need the UPI codes assigned to OTC ISINs but would not be impacted if UPI codes are not required e.g.: if they do not maintain a local cache of OTC ISINs. The feedback given was that updates via the daily deltas would not be needed due to the significant increase on updates.

Similar to the delivery for pre population, the DSB proposes offering two file download options for the CFI project:

1.   Users who want to receive CFI updates can do so via the weekly snapshot for both UPI and ISIN.

2.   Users who want to receive CFI updates will be able to download updates from the ISIN and UPI migration folders.

Do the members agree with the proposal to provide CFI updates via the weekly snapshot alongside the ISIN and UPI migration folders?

As the original Technical Approach for CFI 2019/2021 did not include the UPI, the Technical Approach document has been updated to reference UPI updates:

1. ***Implementation Outline:***

    1. Deployment of new versions of JSON record templates. There is no technical limitation on whether the UPI or ISIN should be deployed first, a proposal will be shared with the PC and TAC in Q1 2024.

    2. Update/migrate existing UPIs and ISINs with latest CFI in the background while the system is operational. New version of existing UPIs and ISINs will be recorded in the File Downloads.

    3. Deployment of JSON request templates containing latest CFI, CFI 2021. The DSB recommends making new JSON request templates available once all existing UPIs and ISINs have been updated i.e. it will not be possible to send in a request with 2021 values until the migration is completed. Once JSON request templates containing CFI 2021 are deployed, request containing either CFI 2015 or CFI 2021 attributes names / values are possible.

    4. After the migration, old versions of existing UPIs and ISINs will only be available from historical File Downloads.

2. ***The DSB proposes updating UPI and ISIN record templates:***

    1. Add a new component "CFI-2021".
    2. Add "CFI 2015" and "CFI 2021" in the /Parents component.

3.   Increment the template version.

As part of the CFI 2019/2021 Migration, the DSB will increment the Record schema for cases where existing records are migrated. All ISIN & UPI Record schema will be incremented to Minor Version 2. Please see the below table for examples of the Minor Version incrementation:

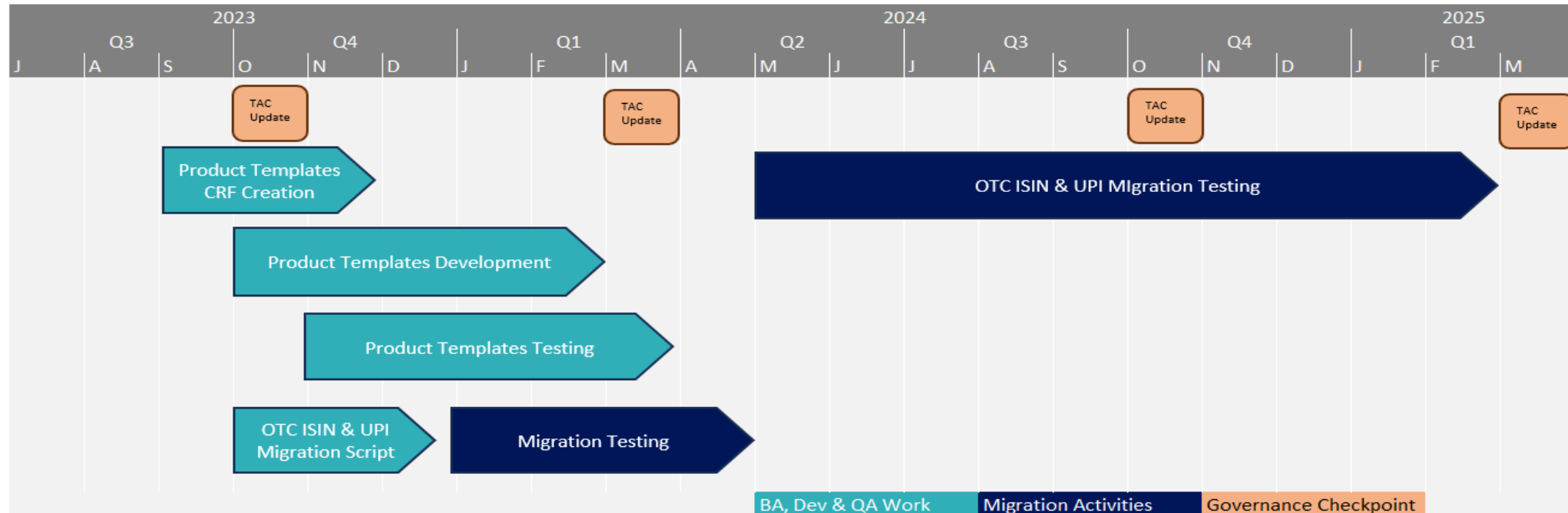| Product	Template Version Pre CFI 2019/2021	Template Version Post CFI 2019/2021
ISIN	Rates.Swap.Fixed_Float.InstRefDataReporting.V1M1.json	Rates.Swap.Fixed_Float.InstRefDataReporting.V1M2.json
ISIN	Rates.Swap.Basis.InstRefDataReporting.V2M1.json	Rates.Swap.Basis.InstRefDataReporting.V2M2.json
UPI	Rates.Swap.Basis.UPI.V1.json	Rates.Swap.Basis.UPI.V1M2.json
UPI	Foreign_Exchange.Option.NDO.UPI.V1.json	Foreign_Exchange.Option.NDO.UPI.V1M2.json

Any new templates that are deployed before the CFI migration process completes will be:

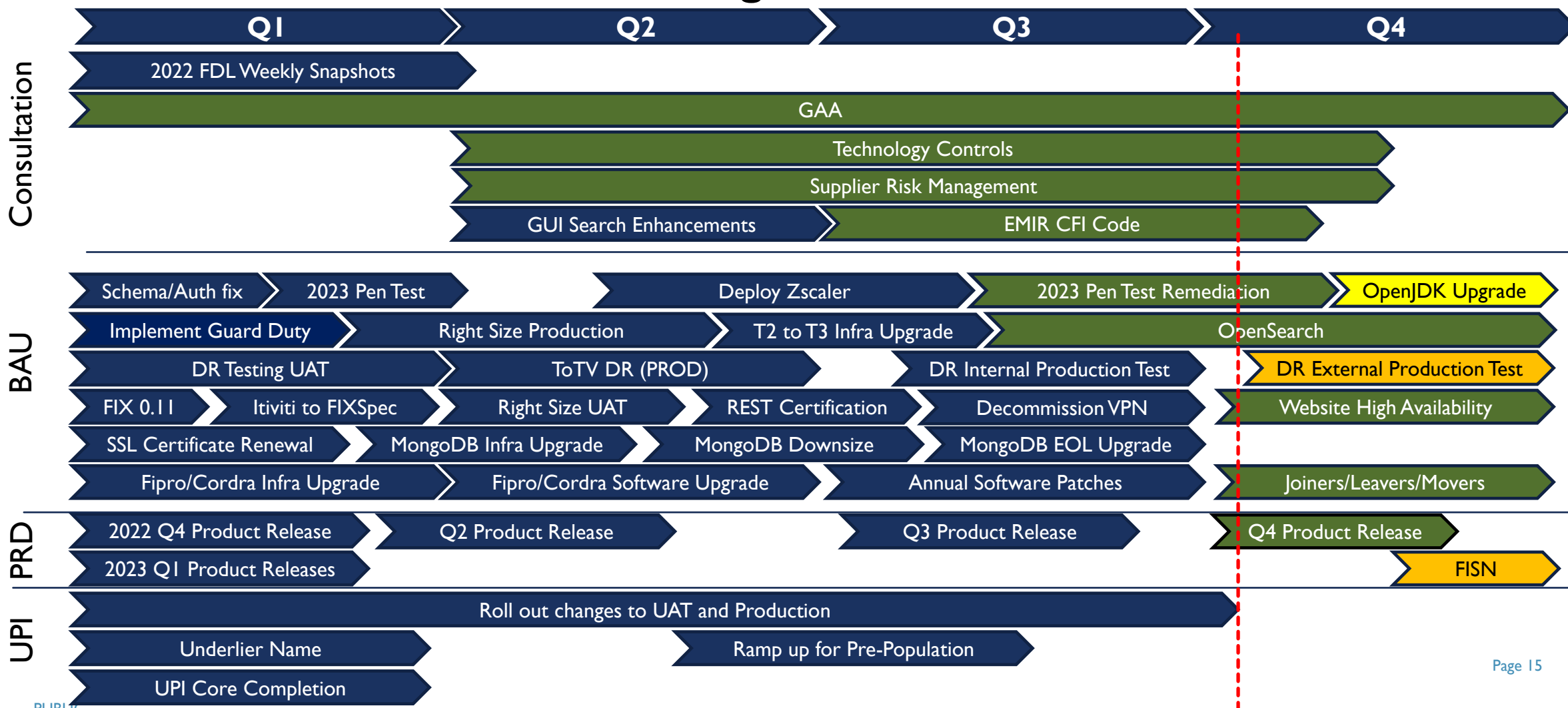- ISIN - V1M1 (M1 to align with the ISIN template versioning post pre-population process)
- UPI – V1

Once the CFI migration is complete, new templates' Minor Version will be incremented to M2 for OTC ISIN and UPI.

Existing Topics – CFI 2019/2021 IV of IV

CFI Delivery Plan

2023 Plan on a Page as at 13/10/23

Q1	Q2	Q3	Q4

Consultation

- 2022 FDL Weekly Snapshots
- GAA
- Technology Controls
- Supplier Risk Management
- GUI Search Enhancements | EMIR CFI Code

BAU

- Schema/Auth fix | 2023 Pen Test | Deploy Zscaler | 2023 Pen Test Remediation | OpenJDK Upgrade
- Implement Guard Duty | Right Size Production | T2 to T3 Infra Upgrade | OpenSearch
- DR Testing UAT | ToTV DR (PROD) | DR Internal Production Test | DR External Production Test
- FIX 0.11 | Itiviti to FIXSpec | Right Size UAT | REST Certification | Decommission VPN | Website High Availability
- SSL Certificate Renewal | MongoDB Infra Upgrade | MongoDB Downsize | MongoDB EOL Upgrade
- Fipro/Cordra Infra Upgrade | Fipro/Cordra Software Upgrade | Annual Software Patches | Joiners/Leavers/Movers

PRD

- 2022 Q4 Product Release | Q2 Product Release | Q3 Product Release | Q4 Product Release
- 2023 Q1 Product Releases | FISN

UPI

- Roll out changes to UAT and Production
- Underlier Name | Ramp up for Pre-Population
- UPI Core Completion

Key: Complete | In Flight | Strategic | Pending | Pending (TAC Item)

Existing Topics - Machine Readable Validation & Reporting

Machine Readable Validation:

Since the March meeting, further work has been undertaken in conjunction with ISDA. A verbal update will be provided during the meeting as to the work undertaken and the next steps.

```
<!-- the field type is enumerated to: BasisPoints, MonetaryValue, Precentage, Yield, PNDG -->
<fixr:fieldRef id="20020" instanceName="StrikePrice">
    <fixr:rule name="Decimal number 18.13" type="decimalNumber 18.13" presence="required" >
        <when>StrikePriceType StrikePriceType == ^MonetaryValue</when>
    </fixr:rule>
    <fixr:rule name="Decimal number 11.10" type="decimalNumber 11.10" presence="required" >
        <when>StrikePriceType == ^Precentage || StrikePriceType == ^Yield</when>
    </fixr:rule>
    <fixr:rule name="Decimal number 18.17" type="decimalNumber 18.17" presence="required" >
        <when>StrikePriceType StrikePriceType == ^BasisPoints</when>
    </fixr:rule>
    <fixr:rule name="Strike Price forbidden" presence="forbidden">
        <when>StrikePriceType == PNDG || not exists StrikePriceType</when>
    </fixr:rule>
</fixr:fieldRef>
```

As suggested at the last meeting, the CFI 2019 project, discussed earlier in the meeting, has become a key priority for both the authorities and the DSB.

Existing Topics – Global Agile Architecture

GAA Sub-Committee:
* The GAA forum last met on the 26th July 2023 and were provided with progress updates on:
  * Automated Deployments
  * Scalable Edge Infrastructure
  * MongoDB Atlas
  * Proposed 2024 GAA initiatives -
    * Active/Active services across Production Datacentres
    * PoC of a strategic alternative to dealing with CFI Updates, meeting one of the GAA goals to provide user value

GAA Activity:
* Since the Sub-Committee meeting the team has:
  * Progressed with the GAA tooling - now used to rebuild all the DSB's environments – this was achieved between March and October – previously, rebuilding the DSB's infrastructure took 18 months
  * Successfully migrated the development, QA, UPIUAT and UAT environments to MongoDB Atlas with UAT2 and Production scheduled after pre-population completes
  * Assessed changing the indexing tool
  * Presented, to the DSB Board for approval, that the GAA undertake a PoC of Strategic CFI service at a cost of ~€150k
  * Proposed that a Q4 meeting with the GAA members is scheduled

GAA 2024 Proposals:
  * Active/Active services across the two Production Regions
    * Single Global Database
    * Removal of application-level replication
    * Transformation of file download
  * PoC of Strategic CFI service

Existing Topics – Industry Consultation 2023

Background:
- The TAC met in June 2023 to discuss feedback received from the 2023 Industry Consultation for the 2024 service. The TAC reviewed questions about the Security Operation Centre, the Proprietary Index Workflow and the DSB Release Process.

Update:
- Q1 – Security Operations Centre (SOC) – topic will be covered in Cyber Security section

- Q2 – Proprietary Index Workflow – there was little industry support to automate the process as would require significant investment. Analysis of the current workflow highlighted four process improvements to alleviate delays which will be implemented under BAU. These include the extension of the submission deadline, locking of formatting on Excel Form, review of existing team configuration to improve turnaround time and the addition of internal Excel macros to automate any manual processes.

- Q3 - DSB Release Process – topic will be covered in the next slides

- The 2024 fees and rules[1] have been published on the DSB's website.

[1]https://www.anna-dsb.com/fees-rules-2024/

Background:

In March, the TAC discussed the DSB release process after the DSB had received requests to postpone three product template releases. This topic provides an update on the proposed changes the DSB are looking to incorporate into the release process, commencing 2024.

Proposed Changes:

- The Upcoming Releases table on the DSB's release summary will be updated to include a new column to indicate if the DSB consider the change to be a breaking change[1]

- The DSB will endeavour to provide go/no go notice on the Wednesday (post CAB meeting), eleven days before a production release[2]

- The DSB's notification will be enhanced to draw attention to breaking changes. The exact format of this will be discussed further with the TAC – the expectation here is that some organisations use BOT's to automatically process the DSB's notifications – so the ability to automatically recognise breaking changes would be desirable

Further changes are proposed on the next slide relating to the individual release pages as well as the change request documentation that is referred to.

Upcoming Releases

Release Notes	UPI UAT Release	UAT Release	Production Release	Category	Status
CFI Generation					
• Generate CFI code without ISIN or UPI creation	28 October 2023	28 October 2023	12 November 2023	CFI	Pending

[1]The breaking change indicator is the DSB's interpretation of the impact of the release. Users are required to review the release documentation to make their own impact assessment and are encouraged to raise this with the DSB should their views differ.
[2]This does not apply to non-breaking enumeration releases (additional values in codeset) which are usually expedited at the request of the Product Committee

Release Page Details:
It is proposed that the format of the details specific to each release will be enhanced.

- The "Release Milestones" and "JSON and Documentation Links" tables will be combined into a single view.
  This will allow both templates and documentation to be associated with each milestone (see opposite).

- Where possible, the DSB will provide an early draft version of product template changes – the TAC will be approached with respect to the best structure for this in GitHub.

Milestone	Date	Status	Notification	Templates	Documentation
Draft Documentation Available	20 July 2022	Complete	2022-07-20 Notification	Draft Templates	Annex 6 Non Standard (Draft) Validations and Normalisations (Draft)
Final Documentation Available	16 September 2022	Complete		Final Templates	Annex 6 Non Standard (Final) Validations and Normalisations (Final)
UAT Release	24 September 2022	Complete	2022-09-24 Notification		
Final Go/No-Go Decision	25 January 2023 (TBC)	Ongoing			
Production and UAT2 Release	29 January 2023 (TBC)	Ongoing			

- Providing both draft documentation and draft product templates will allow users who wish to proceed at risk to do so. Feedback has been received that the changes to the templates are an essential part of the impact assessment undertaken by clients.

- Subsequent milestones which provide documentation updates, will be complemented with a redline version of the document. This will allow users who have proceeded at risk against earlier versions to see what, if any changes have been made.

- We will work with the DSB Secretariat to ensure that the change request documentation provides a standard way of listing the new and existing templates (request and record) as well as any codesets that are included in the release.

- The DSB will undertake a review and cleanup of the GitHub repository. It is proposed that a new naming convention is used for the future branch names to improve the ordering of the releases in the list – which to date has been somewhat random.

Existing Topics – DSB Change Process Update

Background:

- Following the service outage in August 2022, the DSB reviewed the Technology Change management process and introduced a new governance forum, the Change Advisory Board (CAB), the first CAB was held on 21st September 2022
- The CAB covers change in any of the DSB's customer facing environments UAT, UAT-DR, UAT2, PROD, PROD-DR
- The CAB meets every week to review changes to these environments
- This topic provides an update on the change volumes observed 6 months down the line
- The data was collected at cob Wednesday 18th October 2023

Review Month	Changes Reviewed	Unplanned Changes	Cancelled Changes
Oct-22	5	0	N/A
Nov-22	31	2	N/A
Dec-22	34	5	N/A
Jan-23	27	1	N/A
Feb-23	30	9	N/A
Mar-23	66	14	12
Apr-23	54	22	11
May-23	37	8	7
Jun-23	53	20	13
Jul-23	56	64	10
Aug-23	50	40	7
Sep-23	76	34	8
Oct-23	111	57	9
Total	630	276	77

DSB Change Process Update
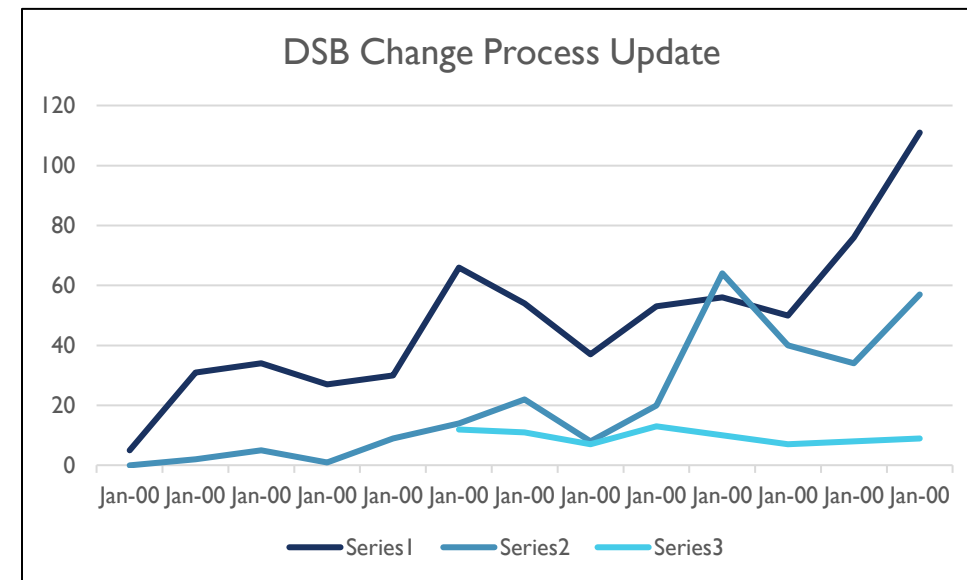
Existing Topics – UAT2 Maintenance Window Review

Background:

During the March meeting the TAC reviewed the downtime window for the DSB's UAT2 (as-production) environment. The TAC recommended to include the UAT2 environment in the midweek maintence window and to alter the UAT2's downtime hours so that they did not clash with the UAT environment.

Update:

The changes have now been actioned. The current operating hours for the environments can be viewed at:

https://www.anna-dsb.com/ISIN/#isin-environments

New Topic – Digital Operational Resilience Act (DORA)

Background:

- DORA is a new EU regulatory framework that will apply indirectly to third-party tech vendors through contractual provisions that financial entities will be required to include in service agreements and directly to third-party tech vendors which are determined to be "critical" because of their services to Financial Entities. It shifts the focus from guaranteeing firms' financial soundness to also ensuring they can maintain resilient operations through severe operational disruption caused by cyber security and information and communication technology (ICT) issues.

   DORA is underpinned by five pillars of resilience:

   1. ICT Risk Management
   2. ICT-related Incident Reporting
   3. Digital Operational Resilience Testing
   4. ICT Third Party Risk Management
   5. Information and Intelligence Sharing

   While DORA is not yet law in the UK, the UK is likely to introduce similar regulation. Industry consultations are scheduled for H2 2023. DORA entered into force in January 2023 with an implementation period of two years. Financial entities will be expected to be compliant with the regulation by **January 2025**

Proposal:

- All DSB services will be subject – indirectly at least – to DORA. It is currently unclear whether DSB will be classified as a "critical" third-party tech vendor. The definition of what constitutes a critical third-party tech vendor is subject to further policy development on the criteria. If the DSB is classified as a critical third-party vendor, the DSB would be subject to direct supervision under the European Supervisory Authorities and need to follow more onerous processes which would likely require additional resources and tooling.

Cost:

- The Board agreed to allocate €100k capex in FY24 budget for the scenario where the DSB is deemed to be in-scope (once the regulator has published the results following the consultation). On this basis, the Board can approve to progress with an initial assessment to include:
   a) carrying out a review of DORA requirements
   b) conducting a gap assessment between as-is state and DORA scope
   c) defining a delivery plan, including additional requirements and associated costs to become compliant with DORA

UPI Update – Baseline

UPI Baseline status:

- The UPI Production service was successfully launched on 16 October 2023
  - Verbal update will be provided in the meeting
- OTC ISIN Pre-population complete in UAT
- OTC ISIN Pre-population in Prod started 16 October 2023 and due to complete by US regulatory mandate start date on 29 January 2024
  - Weekly updates are available on the DSB website
- Alternative IDs being used by UPI users following finalisation of reference data vendor contracts in July 2023
- DSB Main Terms and Policies were subject to minor revisions on 15 July 2023, effective 16 October 2023

UPI Update – UPI Upscale

UPI Upscale Progress:

- The Client Onboarding & Support Platform (COSP) has been available since the launch of the UPI Service in UAT, for set-up their client profile, configure GUI users and API connections for UPI UAT (depending on User Type), and to enable Registered users to sign up
- Connectivity set-up for UAT available since 17 July 2023
- Review and digital signature of the DSB UPI Subscription Form available since 5 September 2023
- Manage billing details and invoicing available since 28 September 2023, including pre-payment for Infrequent user
- COSP workflows to allow access to Production remain are now live – ability to add GUI and API connections for Prod, upon completion of the Production readiness steps
- Operational readiness for COSP to support UPI service in Production is complete – including training and mobilization of the DSB UPI Support team and user notifications

CYBER SECURITY

Cyber Security Update

SOC (Security Operations Centre)

- The TAC is supportive of having a SOC (as agreed in June 2023). An options paper was shared with the TAC on the Bulletin Board to address concerns around the initial costs. The options include:
  - Outsource the SOC to a managed security service provider (MSSP) – Capex €750k for FY24
  - Build in-house DSB SOC including licenced SIEM solution for automated log file correlation – Capex €625k for FY24
  - Manual monitoring without SIEM automated log file correlation – Capex €500k for FY24

- Seven TAC members responded to the SOC update, all of them supported Option 1 or 2, with two indicating a preference for a hybrid model. There were no responses indicating Option 3.

- Option 2 'build an in-house DSB SOC with tooling' was communicated to the Board as the recommended long-term strategic option especially given the knowledge of inhouse resources about the DSB's systems which is required for incident response. The Board agreed to include €625k Capex (excl. FSM), split costs 50/50 across OTC ISIN and UPI in the FY24 fees.

- <u>Next steps</u>: Build the SOC commencing at the beginning of FY24

Cyber Security Update

ISO27001

- A preparedness assessment was conducted in Q3 2023 which resulted in 99 gaps that mainly relate to:
  - Documentation of the ISMS (information security management system) scope and organisational context
  - Documentation of the Statement of Applicability i.e. a list of in-scope security controls that are applicable to the DSB
  - Security policies not containing the latest security requirements

- The initial certification costs would be approx. £13k, whilst costs for the annual surveillance audit in each year of the 3-year certification cycle would be £5k p.a.

- Expected ISO27001 accreditation to be completed by 30th September 2024

- Next steps: Remediate issues identified in preparedness assessment

AOB

Further TAC Information:

Website:	https://www.anna-dsb.com/technology-advisory-committee/
Members:	https://www.anna-dsb.com/technology-advisory-committee-members/
Charter:	https://www.anna-dsb.com/download/technology-advisory-committee-charter/

Appendices

- A – TAC Committee Members

- B – TAC Meeting Schedule

- C – TAC Bulletin Board Items

- D – Annual Checklists

  - D1 – Software Version Levels

  - D2 – Penetration Testing

  - D3 – Disaster Recovery Testing

- E – Actions

Appendix A - TAC Committee Members

Observers

Institution	Category	First Name	Last Name	Position / Title
Asset Control	Industry	Martijn	Groot	VP, Marketing and Strategy
Bloomberg	Industry	Chris	Pulsifer	Software Development Manager
BVI	Industry	Felix	Ertl	VP, Legal
CFETS	Industry	Yan	Hui	RMB Derivatives Research & Development Manager
CFMMC	Industry	Huang	Lu	IT & Senior Economist
Citigroup	Industry	Souvik	Deb	VP, Regulatory Reform
CSIS	Industry	Billy	Chen	Monitoring Centre Director
Deutsche Bank AG	Industry	Amit	Bairagi	Product Owner
DTCC	Industry	Warren	Rubin	Director, Repository and Derivatives Services
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
ISDA	Industry	Ian	Sloyan	Head of Data & Digital Solutions
JP Morgan	Industry	Atara	Sender-Stein	Vice President, Software Engineering
LSEG	Industry	Niteen	Shastri	Assistant Vice President - Enterprise Content Technology - Shared Technology
Morgan Stanley	Industry	Bharat	Kanase	Vice President, Technology
Rabobank	Industry	James	Brown	Delivery Manager, IT Systems
SEB	Industry	Torbjörn	Cronbladh	Market Data Specialist and Product Owner
SIX Group Services AG	Industry	Richard	Gee	Head of Product Provisioning and Delivery
SmartStream	Industry	Rocky	Martinez	CTO
Standard Chartered Bank	Industry	Anthony	Brennan	Data Solutions Lead
State Street Bank	Industry	William	Rodiger	MD - Business Technology Solutions
Tahoe Blue Ltd	Industry	Jefferson	Braswell	Founding Partner
UBS	Industry	James	Colquhoun	Market Regulation Domain Architect
BGC Partners	TV	Jimmy	Chen	Development Manager
Refinitiv MTF	TV	Zintis	Rullis	Senior Technical Specialist
Tradeweb	TV	Elodie	Cany	Director, Technology Product Development
State Street	TV	Stuart	Oliver	FX Connect MTF Product Manager

Organisation	Name	Position / Title
CFTC	Robert Stowsky	IT Specialist
ECB	Grzegorz Skrzypczynski	Senior Data Science Expert
ESMA	Olga Petrenko	Senior Officer, Markets
FCA	Paul Everson	Senior Associate – Market Oversight
JSDA	Eiichiro Fukase	Counsellor to the Chairman (for Fintech, Financial Products and Global Regulation)

DSB TAC Sponsor: Marc Honegger
DSB Board Member

DSB TAC Chair: Chris Pulsifer
Bloomberg

Designated DSB Officer: Andy Hughes
DSB Management Team

DSB CISO: Christiane Baetz
DSB Management Team

DSB TAC Secretariat: Yuval Cohen
DSB Technical Architect

Appendix B - TAC Meeting Schedule

The following shows the TAC meeting dates & times:

Date	Description	Time
Wednesday 29th March 2023	2023 Meeting 1	1pm BST (12pm UTC, 2pm CET, 8am EDT)
Wednesday 21st June 2023	2023 Industry Consultation	1pm BST (12pm UTC, 2pm CET, 8am EST)
Wednesday 25th October 2023	**2023 Meeting 2**	**1pm BST (12pm UTC, 2pm CET, 8am EDT)**

Appendix C – TAC Bulletin Board Items

The following table details the active TAC Bulletin Board topics:

Created	Updated	Title	Posts	Link
15/03/2022	19/10/2023	DSB Software Version Levels	3	https://www.anna-dsb.com/bulletin-board/tac-forum/dsb-software-version-levels/#post-346
17/08/2023	15/09/2023	UPI FDL Service Query (Publish Empty Files if No Data)	10	https://www.anna-dsb.com/bulletin-board/tac-forum/upi-fdl-service-query-publish-empty-files-if-no-data/
17/08/2023	1/09/2023	DSB Security operations Update	11	https://www.anna-dsb.com/bulletin-board/tac-forum/dsb-security-operations-update/#post-321
25/08/2023	25/08/2023	OTC ISIN FDL Archiving Proposal	2	https://www.anna-dsb.com/bulletin-board/tac-forum/otc-isin-fdl-archiving-proposal/
09/05/2023	30/05/2023	TAC Action 2302-003 Weekly Snapshot Future Plans	3	https://www.anna-dsb.com/bulletin-board/tac-forum/tac-action-2303-003-weekly-snapshot-future-plans/#post-313

Please note: All historical topics remain on the bulletin board, only the ones deemed active have been listed above for reference

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	26/10/2022	Q4 2023	Updated after rebuild of all environments
D2	Penetration Testing	19/02/2023	Q1 2024	2023 Pen Test completed in Q1
D3	Disaster Recovery Testing	29/03/2023	Q4 2023	Internal Production DR Test completed 06/08/2023

Appendix D1 - 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.

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

The key software versions are available to the TAC members via the bulletin board via the following link:

https://www.anna-dsb.com/bulletin-board/tac-forum/dsb-software-version-levels/#post-346

Appendix D2 – Penetration Testing

This table below details the DSB's Penetration Testing history:

Environment	Start	End	Description	Outcome	Notes
UAT	15 September 2017	22 September 2017	Gotham Digital Science	Success	
UAT	04 December 2018	12 December 2018	Gotham Digital Science	Success	
UAT	02 December 2019	09 December 2019	AON	Success	
UAT	03 December 2020	09 December 2020	Jumpsec	Success	
UAT	29 November 2021	03 December 2021	Jumpsec	Success	
UAT	28 November 2022	02 December 2022	Jumpsec	Partial	
UAT	04 February 2023	19 February 2023	Jumpsec	Success	Testing brought forward

Appendix D3 – Disaster Recovery Testing

This table below details the DSB's DR testing history:

Environment	Start	End	Description	Outcome	Notes
UAT	16 July 2021	10 September 2021	Full migration of DSB service to the DR region using the UAT environment	Success	Runbook revised and optimised
UAT	19 November 2022	03 December 2022	Full migration of DSB service to the DR region using the UAT environment, including ToTV and reverse DR flow	Postponed	Issue identified due to changes made
UAT	17 February 2023	04 March 2023	Full migration of DSB service to the DR region using the UAT environment, including ToTV and reverse DR flow	Success	One client connectivity issue observed, RTO met.
PROD	06 August 2023	06 August 2023	Internal failover/failback test	Success	Internal test only, no clients involved

Appendix E – TAC Open Actions

Ref	Action	Update	Slides	Target	Status
2303-007	AH to notify industry participants when the date of the pre-population execution is known in the UPI UAT environment				Open