January 13, 2017

Submitted via email to:
DSB-TO-Secretariat@etradingsoftware.com

**Re: ANNA-DSB Technology and Operations Consultation Paper**

The International Swaps and Derivatives Association, Inc. ("ISDA")[1] and the Global FX Division ("GFXD") of the Global Financial Markets Association ("GFMA")[2] appreciate the opportunity to provide The Association of National Numbering Agencies ("ANNA") and the Derivatives Service Bureau ("DSB") with comments in response to the Consultation Paper referenced above (the "Consultation Paper"). We are strong proponents of global data harmonization, working in tandem with our members and other buy- and sell-side market participants and market infrastructure providers to promote the important role of global standards in improving data quality and increasing the efficiency and value of regulatory requirements while simultaneously improving business processes.

## Preface

We value ANNA's and the DSB's willingness to seek broad feedback on the build of the ISIN issuance framework and operations. We would like to highlight a number of points on which we further expand where necessary in the consultation.

- Commenting on this consultation is challenging because of two reasons:
    - The timing at which the consultation was issued and the short time available to respond; and
    - The lack of clear scope and level of granularity being defined at this point.

[1] Since 1985, ISDA has worked to make the global derivatives markets safer and more efficient. Today, ISDA has over 850 member institutions from 67 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers. Information about ISDA and its activities is available on the Association's website: www.isda.org

[2] The GFXD was formed in co-operation with the Association for Financial Markets in Europe (AFME), the Securities Industry and Financial Markets Association (SIFMA) and the Asia Securities Industry and Financial Markets Association (ASIFMA). Its members comprise 25 global foreign exchange (FX) market participants, collectively representing around 85% of the FX inter-dealer market. Both the GFXD and its members are committed to ensuring a robust, open and fair marketplace and welcome the opportunity for continued dialogue with global regulators.

The lack of detail available on scope, granularity and use cases covered mean that estimates on message numbers and connections and questions on service ability and latency can vary widely based on the assumptions made. While we will try to describe the assumptions where possible, the overall lack of detail in the specifications is highly concerning.

- There is a need to develop clear workflows and processes around lifecycle management of an ISIN. The DSB should provide these workflows and processes and open them up for comments. These workflows form a crucial part of the specifications firms need to build towards a future ISIN implementation for OTC derivatives. Questions that need to be addressed include, but are not limited to: whether and what kind of updates are allowed, who can provide updates, how will updates be documented and made available, how will the DSB deal with potential duplication of ISIN creation or what are the guarantees duplication cannot happen.
- Several questions relate to the availability requirements for the infrastructure. The minimum requirements are a 24/6 availability including on all holidays. Certain markets are open on Sunday and firms need to get ready for the opening of markets Monday morning. Saturday is therefore the best day for downtime if required. The DSB needs to take the international aspect into account much more in terms of planning any downtime (8 hours downtime daily is not acceptable) and in planning e.g. the location of data centers.
- We are surprised by the firm specific questions regarding readiness and timing to participate in testing. We expand on this in our response to Q8, but want to ensure at the outset that this consultation is not the only means for the DSB to receive the required information regarding testing participation. The absence of individual firms' responses to this consultation should not be seen as a lack of commitment or interest to participate in early testing. We also want to ensure that the ability to test will be available during a considerable period of time. Limitation to a 2-week window per participating firm, as has been mentioned in certain industry forums, does not suffice. Firms need the ability to test improvements/changes that will be introduced during the testing period.
  ISDA will gather a list of firms interested to participate in the testing with contact information and provide this to the DSB.
- Has a cost benefit analysis been done on the best ways to access the DSB? A FIX messaging infrastructure with JSON product templates embedded in FIX messages is a heavy-handed solution. Other solutions might provide equal quality of access with a lower overhead cost.
- A Service Level Agreement (SLA) needs to be developed with the participants to deal with performance and throughput requirements. The SLA requirements will be guided by the –yet to be specified by the DSB– scope and use cases that will be served. As general principles, ISIN related queries should not impact the creation performance and ISIN data quality is of the utmost importance and should not be compromised as a way to improve performance.

***Q1: The DSB proposes to allow the creation of ISINs for OTC Derivatives through the website. Do you think that ISIN generation should be possible over the web? If not, please describe your reasoning and provide evidence to support your points. the business use case to support your need.***

Yes, creation of ISINs should be available over the web. We would like to see more information from the DSB on the security criteria that will be applied to web creation and how the web creation will be synchronized with the API. Web creation needs to be fully integrated with the API method i.e. it must not be possible at any point in time to issue distinct ISINs for the same set of product features via different interfaces. Example questions to consider are whether any downtime or performance issues of the web application, e.g. because of a DOS attack, will impact the API. For the avoidance of doubt, we would like to see confirmation that an API will be made available in addition to the web interface.

***Q2: The DSB proposes to use 0500 UTC to define the start of a new day. Do you think that this time is correct as the starting point for the new subscriptions for ISINs? If not, please explain your reasoning with evidence.***

As indicated in the general points in the introduction, a minimum 24/6 availability is required and the DSB needs to take global markets into account from the start rather than to take a predominantly European focus.

Any downtime during the week should be limited to the strict necessary and should be in terms of minutes at most, not 8 hours as currently is proposed. Generally, the EOD processing of the utility should not impact the users.

Taking the above into account, it is best to have the start of a new day at 00:00 UTC at which time there is least international market activity. However even at that time, markets in Asia will have started the new trading day or will be close to their opening.

See also our response to question 20.

***Q3: The DSB will roll at the end of each day to perform housekeeping tasks etc. This means that all subscriptions and connections will need to be re-established each day. Does this model affect any key business requirements from the industry? If so, please explain including business use cases and any other evidence.***

As mentioned in Q2, firms should not be impacted by the DSB EOD processes. We would like to understand the impact of the need to re-establish connections and subscriptions on a daily basis.

There should be no appreciable service interruption at the point of re-establishing subscriptions and connections. Will there be a problem if the whole market is trying to re-subscribe at the same moment?

We would expect a service consistent with other significant market infrastructure providers. If any downtime is required, Saturday is the standard day for such downtime to take place.

***Q4: The file download service permits users to retrieve all the ISINs created to-date. This data is split by asset class (as defined above in the 'file download' process description) and by date. Is this categorization sufficient to meet the industry's needs? If not, please explain, including business use cases and any other evidence.***

In principle, one should be able to query the ISIN database based on all the underlying data attributes that constitute the ISIN. At a minimum the ability should exist to create files for downloading based on all the nodes of the ISDA taxonomy. In addition, download by date and date intervals should be possible. Any ISIN creation between 00:00 UTC and 23:59 UTC should receive the same date.

We assume that ISINs cannot be amended, but would like confirmation of this. In case ISINs can be amended, the DSB needs to provide the workflows and criteria that define any potential changes. Retrieval will be impacted by any ability to update ISIN metadata.

***Q5: Are there processes / use-cases that the DSB has not proposed above but are important to allow the industry to meet the regulatory requirements for ISINs for OTC derivatives? If so, please describe the business use case and explain and evidence why it is necessary.***

In the description provided, only a few of the use-cases are described. We only see the most common use-case: Firms either provide attributes to request a (new) ISIN; or Firms provide an ISIN and receive attributes for that ISIN.

In reality there will be many more use cases and the ISIN database should allow multiple queries (including aggregation or relational links).
Below is a non-exhaustive list of processes/use cases that should be covered by the DSB.

- To check – based upon a list of attributes – whether an ISIN exists (no request for new ISIN), since existence of ISIN might be a sign that the instrument is quoted by/listed on a venue (it is not clear if this mode of query is supported by the Request Single ISIN message)
- To check specific attributes related to an ISIN or list of ISINs. For example, query on ISDA taxonomy nodes or CFI; Instrument Name or Short Name. All of these attributes might be needed for reporting purposes.
- To retrieve the (list of) ISINs related to a specific underlier, or index, preferably across asset classes.
- The ISIN database should allow aggregation into taxonomy nodes and be able to deliver all the ISINs of instruments that have the same classification at a certain moment in time.
- Bulk ISIN creation requests.
- Firms should be alerted or be able to detect chargeable events. Given the absence of transparency on the commercial terms and the potential for high volumes, particularly at launch, this will be an important control for firms.
- Processes and workflows for ISIN lifecycle management. This includes error handling, potential corrections if allowed, how to deal with changes in underlying reference data etc.
- DSB needs to entertain multiple ways to distribute information in bulk, including providing daily delta files, for example.

***Q6: Do you know any products that cannot be represent using a JSON record? If so, please provide evidence to support your point.***

In principle, any data structure can be represented using JSON, so the answer should be no. However this is beside the point: the question does not address the critical issue, which is that the product models must be underpinned with industry standard definitions in order to avoid ambiguity and misuse. As noted before, the serialisation method (JSON, XML etc.) is only a technical implementation detail - whereas the quality and consistency of the models is critical to our ability to use the service successfully. We strongly advise implementing the models developed under SG2, retaining the close connection to the FpML standard.

FpML is the predominant industry data standard for OTC derivatives extensively used in processes such as trade confirmation and regulatory reporting. The standard, which is freely available and open source, benefits from a strong governance model with representation from buy side and sell side firms, middle ware providers, infrastructures and clearing houses. FpML provides data standardization leveraging XML by following closely the ISDA legal documentation. FpML provides a messaging framework and extensive coverage of business processes in line with Industry best practices, building on ISDA's long standing experience and expertise in these areas. For more information on FpML see: www.fpml.org

***Q7: As stated above, the DSB will provide access to the set of JSON templates through the File Download service. Will you require access to the templates via FIX or any other method? If so, please describe your requirement and provide evidence as to why it is necessary.***

The answer depends on when and with what frequency the template definitions are updated. We do not expect updates to happen frequently. In addition, when updates occur or new templates are developed, these require time to implement and to test. From that perspective, we believe that file download will be sufficient.

If the DSB disagrees with the view expressed above on frequency of updates or need for testing, they should notify market participants about the difference in view.

We would like to understand the process that will be used to update and validate the JSON templates. As mentioned in the first PC consultation, FpML has made a proposal to the DSB how to maintain the product templates.

General feedback is that firms would like to connect early for testing. In addition, they expect longer testing periods. See also Q11.

***Q9: What functions / processes from those above would you want to test and in what order of priority?***
Firms want to test all functionality and processes, including the ones listed in the response to question 5.

***Q11: Do you think the above approach for on-boarding stakeholders onto the UAT platform allows the industry sufficient scope to test and validate their connectivity and functionality before the regulatory deadline? If not, please suggest an alternative approach and why you consider it more suitable.***
To fully test, participants require the UAT environment to be like Production, including any regular downtimes and a test of the disaster recovery solution.
We also would like to receive confirmation as part of the testing plan that the ability to test will be available for a considerable period of time. Limitation to e.g. a 2-week window per participant does not suffice. Firms need the ability to test improvements/changes that will be introduced during the testing period.

***Q12: How many FIX connections / COMPIDs does your organization expect to establish with the DSB?***
The response depends in part on how we construe "your organization". Financial groups typically consist of multiple entities, some of which may require dedicated connections.

Multiple connections might be needed for:

- Referential data systems for ISIN request
- Eligibility tool for TOTV determination
- Reporting engine for enrichment of data

In addition, entities in a group might look to replicate connections in multiple geographical jurisdictions.

Finally, the number of connections can be influenced by the technical set-up of the DSB, details of which are not yet available.

See also our response to question 14.

***Q13: Currently, the DSB is not planning to conduct a coordinated UAT with multiple market participants interacting with the system simultaneously. Do you think a coordinated test would have value? If so, would you consider being part of such a test? Please explain your reasoning and what combination of tests you think would be important to conduct in such a scenario.***

Yes, coordinated tests will have value.

Functionally, there may be different interpretations of how to use ISIN in different countries based on advice given by National Competent Authorities and because of different interpretations of specific use cases. Validating internal assumptions, industry assumptions and any standards can be done by coordinated multi-user testing.

Technical tests such as load testing at particular times of day and week, race conditions or service contention are examples of tests that need to occur as well. These do not have to happen through coordinated tests and can be based on simulated scenarios, however, we ask that the DSB distributes the UAT test pack so that this can be validated by the participants and missing scenarios can be added. In addition, the results of these tests need to be made available to the participants.

***Q14: Do you agree with the assumptions made to infer the total number of messages sent by the DSB? If not, please explain your reasoning and provide evidence where possible.***

It is impossible to verify the assumptions without a clarification of the scope and the level of granularity at which ISINs will be issued. In particular, whether or not ISINs will be required pre-trade has a large impact. If ISINs are only required for post trade related processing, the upper limit of number of ISINs required is the actual number of transactions in scope expected to be executed. The below points are intended to help the DSB in improving their estimates.

- A distinction needs to be drawn between ISIN creations on one hand and ISIN related inquiries on the other. We believe 200 is as good an estimation as we have for the moment on potential participants that are looking to connect to the engine for ISIN creation. The expectation is that in the initial phase this will be firms that either are trading venues or act as Systematic Internalisers (SI). We expect the number of firms that needs to connect for ISIN inquiries to be much larger.
- The number of connections per firm is influenced by a number of variables, as explained in Q12. The number of connections even just for ISIN creation is expected to be a multiple of the 200.
- Can the DSB clarify the SDR data? Is it European trades reported to EU trade repositories? Is it data reported to US trade repositories? We note that the scope of MIFID is broader than the scope of trades reported to TRs.
- Doubling the number for commodity and FX and to “introduce some spare capacity” is obviously a very crude way of estimating. We note that the number of ISINs for FX and commodities is expected to be high and doubling might not be sufficient. We doubt that doubling will introduce much spare capacity.
- As noted before, the assumption of the number of products is heavily dependent on the granularity of the ISIN and the scope. For more information, see the ISDA study in ANNEX 1. This study details the impact increasing levels of granularity would have on the number of ISINs required based on SDR data.

***Q15: Do you agree that the cloud is the most appropriate approach for infrastructure implementation for the DSB? If not, please detail your objections and provide evidence where possible.***

The DSB needs to provide more information on the details of the proposed cloud implementation to allow participants to give meaningful feedback. Security and access to proprietary data is one of the areas of concern that firms will want to evaluate. Processes for automatic upgrades should be detailed as well.

***Q16: As stated above, the DSB is initially planning to use two or more datacentres located in different countries in Europe. Do you have any specific objections or concerns with this approach? If so, please detail your points and provide evidence where possible.***

The focus from the outset should be on a global solution that is scalable.

The DSB needs to provide more specifics on how the cloud implementation and the datacenters fit together. There is no detail available on the overall technical infrastructure. Example questions that need to be answered include:

- How will the load be distributed across the datacenters?
- Will each datacentre have a disaster recovery solution?
- How will data be shared by the datacenters?
- Can a firm link to both datacenters?
- Can ISINs be created in all datacenters?

A broader geographical distribution should be considered. Factors that need to be taken into account are cost, scalability, speed, service guarantee, political stability, privacy and security. The DSB should consider some of the infrastructure lessons learned by trade repositories and other service providers that have developed a global operation.

***Q17: Is there a scenario where 1000ms is not a low enough latency threshold for the DSB to respond with an ISIN? If so, please provide the detail, including the business use case and the process steps to highlight the point at which the latency affects events.***

We question the “maximum of 200 recipients” that is described in the notes under latency. As explained in Q14 this relates only to creation of ISINs and the number of connections even for creation-only is expected to be a multiple of 200.

Current industry expectation is that ISINs are required only post trade, however we would like to point to Article 3 of RTS 23 - *Prior to the commencement of trading in a financial instrument in a trading venue or systematic internaliser, the trading venue or systematic internaliser concerned shall obtain the ISO 6166 International Securities Identifying Number ('ISIN') code for the financial instrument*. It is widely expected that ESMA will provide further guidance in the form of Q&A clarifying that ISINs will only be required post trade. However, if ISINs are required prior to trading, (which will be the interpretation of article 3 absent further guidance) the 1000ms latency will not be acceptable. We would like to understand ANNA’s approach in the event where ISINs are required pre-trade.

***Q18: Is there a scenario where a maximum time-lag of 1 minute to respond to a burst affects the ability of the market participant to proceed with its trading activity? If so, please provide the scenario detail.***
1 minute is a long time. We would expect a response to indicate the request had been received with this type of lag. In addition, and very importantly, any time lag should be localized to a specific request and should not impact other requests.

***Q19: Are there other performance and throughput variables that you feel aren't listed here and that will have a significant impact on cost or the service quality? If so, please list and describe them and their effect.***
Batch creation of ISINs certainly needs to be provided. Where an ISIN has been requested how long until this is available to subscribers?
Remediation and resolution should be factored into the SLA, mentioned in the introduction.

***Q20: Are there market participants who must access the DSB outside of the hours specified above to meet the industry's immediate requirement? If so, please explain for what purpose and why this must take place outside those hours.***
As indicated in the introduction, the service should be available 24/6 at a minimum. ISINs will be requested on Sunday to prepare for trading on Monday morning. This availability is required both for the creation of ISIN functions and for the querying functions. Availability needs to be guaranteed on holidays including bank holidays.

Requirement to have 24 x 6 availability:

- Even though MIFID mainly affects EEA entities, it has cross-border implications and will certainly affect the non-EEA branches of MIFID eligible entities, and the EEA branches of Firms located outside of EEA, and these entities might require availability of the DSB system during local business hours for critical requests.
- Firms might want to process some of their queries outside business hours or during the week-end; unavailability of the DSB system means all queries need to be done during EEA business time.
- To work as a more generalised solution, the ISIN needs to be a global identifier, and should not be focussed around European time zone availability.

Regarding the 99.9% SLA, we point out that downtime potentially prohibits firms from fulfilling their regulatory obligations and we want to make sure regulators are aware of and agree with the SLA and are made aware of any unforeseen downtime during operations.

***Q21: If the view is to extend the availability hours to allow global access, we may need to extend the system hours to 24 x 5.5. This will increase the support cost of the utility. Please specify and demonstrate any business use cases that require the DSB, in this first phase, to be running and supported for 24 x 5.5.***
All significant infrastructure providers offer 24/6 or 24/5.5 as the absolute minimum.
Can the DSB provide information on the cost impact to go to a 24/5.5 or a 24/7 working environment respectively? As indicated before, we believe there should be a 24/6 availability from the start.

***Q22: Are there other availability variables that you feel aren't listed here and that will have a significant impact on cost or the service quality? If so, please list and describe them and their effect.***
No response.

***Q23: Do you think the DSB being implemented in the cloud will prevent your ability and/or willingness to connect to the service? If so, please explain and evidence your reasoning.***
More information is required on the cloud and the standards and service levels under which it will operate. Individual firms will need that information to do their due diligence from a Legal, Compliance, Data Security and Vendor Risk Management perspective.

***Q24: The DSB intends to execute 1,2 and 5 before launch and then conduct 3 on an annual basis. Do the you think this provides a sufficient test of the system's defences against penetration? If not, please explain your reasoning and provide references to industry standards or best practices to support your response.***
We note that PCI data security standards relate to payments and are not the most relevant ones in this case. We suggest some alternative standards to consider:

- ISO/IEC 27001 / 27002
- ISAE 3402 or its US counterpart SSAE16 SOC 1 & 2

We expect testing to happen in accordance with the standard chosen and for the DSB to provide the results to proof compliance with the agreed standard.

Specifically, with regard to the tests mentioned:

- All 5 activities should be performed on an annual basis.
- All 5 activities should be performed after a significant change is implemented.

***Q25: In addition, the DSB will execute a quarterly vulnerability scan or after any significant change. Do you think this frequency provides a sufficient test of the system's defences against penetration? If not, please explain your reasoning and provide references to industry standards or best practices to support your response.***
Please define vulnerability scanning and the activities which will be covered.
Generally, as indicated in the previous question, we refer back to the requirements detailed in the standard chosen and expect the DSB to document and share with the participants the adherence to the standard.

***Q26: Are there other security variables that you feel aren't listed here and that will have a significant impact on cost or the service quality? If so, please list and describe them and their effect.***
We refer back again to the proposed alternative standards in Q24 and expect the DSB to follow one of these.

"Denial of Service" attacks are not called out but are the most common attacks.

***Q27: The DSB is also investigating alternative connection types:***

- *Leased line*

- *Access via third party networks such as BT Radianz*
- *Direct Cross-connect*

***Please indicate if any of these other options would be preferable to your institutions.***
This will depend on the overall infrastructure put in place and the ISIN scope and requirements. None of which are sufficiently detailed for the moment.

***Q28: If you are considering a third-party network, which vendors are you considering? Please note that answers to this question will NOT be published – this question is to inform the DSB regarding any possible prioritization of third-party network connectivity.***
No response.

***Q29: Are there other connectivity variables that you feel aren't listed here and that will have a significant***
No response.

***Q30: Is 7 years' audit log retention sufficient to meet your company data retention policy needs? If not, please explain why they should be stored for longer and provide evidence to your reply.***
No response.

***Q31: Is 7 years' audit log retention too long and therefore incurring unnecessary costs? If so, please explain why a shorter period is sufficient and provide evidence to your reply.***
No response

***Q32: Currently, ISINs will be retained permanently and be available in the same way as a brand new ISIN. Is there an age at which an ISIN can be archived away from the main data set? If so, please explain your reasoning and the access requirement for such an archive.***
The period after maturity date that ISINs need to be available should align with the retention policies of firms. ISIN should be available on the "live" database until a number of years after maturity (as specified by the retention policies), then move it to archive with intraday access requirement. Once used, an ISIN should never be re-used for another set of attributes.

An additional check, before moving an ISIN to archive would be whether there has been recent activity, querying the underlying metadata for a particular ISIN.

***Q33: Are there other aspects of storage requirements that you feel aren't listed here and that will have a significant impact on cost or the service quality? If so, please list and describe them and their effect.***
We would like to ensure that any change or amendment on the attributes of an ISIN (even if it does not result in new ISIN attribution) is logged and subject to audit/recordkeeping requirements. The "old" version should be retained with a "from – to" timeline, a link to the "new" version, indication of the type of change and who requested the change.

***Q34: Is a recovery time of 4 hours sufficiently fast enough for you to meet your requirements for obtaining OTC Derivative ISINs? If not, please detail the business cases that evidence this.***
The maximum acceptable recovery time will be influenced by the use cases and scope covered with shorter recovery times needed in pre-trade and trade usage than in a post-trade context. However,

reporting requirements are as soon as 15 minutes and an ISIN is needed to report, which means the recovery time should stay under 15 minutes. While we expect users to be insulated from the failover to disaster recovery, we want to see a recovery time of the order of 5 minutes or less. Note that a longer recovery time will be exacerbated by a growing backlog created during the outage period.

***Q35: There will be an annual internal system failover test. Should there be a separate failover test with the industry to enable participants to test their failover procedures? If so, please indicate how often this should occur.***

We expect users to be insulated from the failover to disaster recovery and from that perspective leave it up to the DSB to decide how often they should test disaster recovery procedures to ensure a smooth functioning of the infrastructure. We would expect disaster recovery and failover to be tested on a regular basis, with a minimum of once a year, in line with the standards proposed in Q 24.

***Q36: Are there other disaster recovery aspects that you feel aren't listed here and that will have a significant impact on cost or the service quality? If so, please list and describe them and their effect.***

We refer again to the standards mentioned in Q24. Scenarios to consider include complete loss of connectivity and site loss.

***Q37: Is the additional cost (at most double) appropriate, considering the risks of not providing this level of resiliency?***

The ISIN infrastructure needs to be High Availability. It would be welcome if the DSB could provide more specifics on their cost estimates. We want to point out that the cost of two geographically separate systems, depending on implementation, can potentially be more than double the cost of only one system.

***Q38: Given the objective to use at least two geographical locations for the system, do you have any specific locations that should not be considered? If so, please explain why and provide evidence where possible.***

See response to Q16.

***Q39: What other key technical milestones does your organization need to know regarding the implementation of the DSB? Please explain your reasoning and also indicate the date by when you would need that information.***

More detailed information is required describing the milestones. The following are example questions to be addressed for the implementation steps:

- What are the criteria used to open UAT?
- When will a 'Final FIX API' be published?
- What is the UAT structure? Will there be a working Group, code drops, bug fixing etc.?
- When will the full JSON specification be published? Will there be a review process?
- When will the product templates and the levels of granularity be defined?
- When will the infrastructure details and production connectivity details be made available?

***Q40: The DSB production service will run in parallel to the UAT and only certified users will be permissioned to connect to the DSB production. The DSB is planning to utilize the UAT environment to complete certification. Do you agree to this approach? If not, please explain your reasoning and provide evidence where possible.***

Is the plan to keep the UAT environment in perpetuity for certification purposes? What is the plan around ongoing testing, release cycles etc. after go-live?

ANNEX 1: ISDA study on granularity and number of ISINs - attachment