

DERIVATIVES SERVICE BUREAU

TECHNOLOGY ADVISORY COMMITTEE

09 August 2018 FINAL v01

PUBLIC

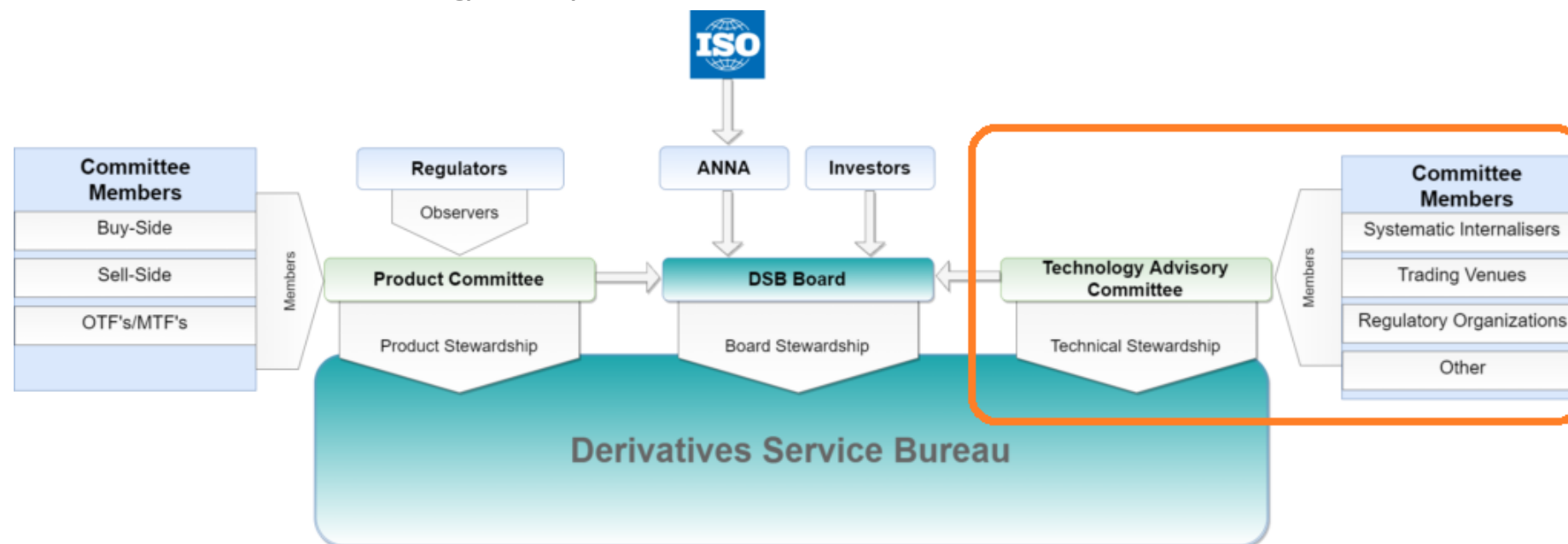
Agenda

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Introduction

The DSB Technology Advisory Committee (TAC) will provide advice on the application and utilization of new and existing technologies. The TAC will provide advice on the appropriate level of investment in technology, and advise on the strategies to implement services to support the DSB's responsibility to ensure the integrity of a critical market infrastructure for providing financial instrument identifiers:

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



Committee Members

Institution	Category	First Name	Last Name	Position / Title
Citigroup	SI	Souvik	Deb	VP, Regulatory Reform
Credit Suisse	SI	Prem	Ananthakrishnan	IT
HSBC	SI	Andrew	Woolley	MiFID II Technical Architect
JP Morgan	SI	Rajiv	Malik	VP, IT
Lloyds Bank	SI	Stephen	Pond	FI E-Trading & Rates Pricing Dev Manager
Morgan Stanley	SI	Shari	Lines	Financial Instrument Ref Data Architect
Rabobank	SI	James	Brown	Delivery Manager, IT Systems
SEB	SI	Henrik	Martensson	Markets CTO Office
Standard Chartered Bank	SI	Andrew	Poulter	Sabre Development Manager
State Street Bank	SI	Kimberly	Cohen	MD - Business Technology Solutions
UBS	SI	Tony	Chau	IB CTO for Regulatory Initiatives
BGC Partners	TV	Jimmy	Chen	Development Manager
Bloomberg LP	TV	Chris	Pulsifer	Software Development Manager
Nex	TV	Ziv	Yankowitz	VP - Research and Development
State Street FX Connect	TV	Tony	Flamand	Head of Regulatory Reform
Thomson Reuters MTF	TV	Alex	Petts	Senior Technologist, Transactions Admin
Tradeweb	TV	Elodie	Cany	Director, Technology Product Development
Asset Control	Other Industry	Martijn	Groot	VP - Product Management
Simplitium	Other Industry	Aanya	Madhani	Head of Product Development
SIX Group Services AG	Other Industry	Stephan	Schaub	Senior Architect
SmartStream	Other Industry	Rocky	Martinez	CTO
Thomson Reuters Data	Other Industry	David	Bull	Head of FI Content Management
BVI	Other Industry	Felix	Ertl	VP, Legal
EFAMA	Other Industry	Vincent	Dessard	Senior Policy Advisor
FIX	Other Industry	Lisa	Taikitsadaporn	FIX Global Technical Committee
Investment Association	Other Industry	David	Broadway	Investment Operations Lead
ISDA	Other Industry	Karel	Engelen	Senior Director
Independent Expert	Other Industry	Jim	Northey	ex officio as ISO TC 68 Chair Elect

DSB Sponsor:

Marc Honegger
DSB Board Member

TAC Chair:

David Broadway
Investment Association

Designated DSB Officer:

Sassan Danesh
DSB Management Team

Observers	Name	Position / Title
ESMA	Olga Petrenko	Senior Officer, Markets
FCA	Paul Everson	Senior Associate – Market Oversight
JSDA	Eiichiro Fukase	General Manager

Purpose of Meeting

1. To provide guidance to the Board on the appropriate investment levels in technology and services in the 2019 budget cycle.
2. To kick-start discussions on a longer-term DSB strategic vision for technology.

Milestones

27 June – First TAC meeting

09 August – Second TAC meeting

20 August – Publication of final consultation report

30 September – Publication of finalised User Agreement

05 December – Finalised 2019 costs

Purpose of Meeting

1. To provide guidance to the Board on the appropriate investment levels in technology and services in the 2019 budget cycle.
2. To kick-start discussions on a longer-term DSB strategic vision for technology.

Consultation Topics - Overview

The DSB conducted a second and final consultation on the 2019 User Agreement, and included technology related questions on:

- Functionality (2 questions)
- Service Levels (6 questions)
- Service Resiliency (1 question)

15 Responses representing 19 entities available at <https://www.anna-dsb.com/industry-consultation/>:

- Trading venues – 1 x TA (EVIA) and 6 x TVs (Bloomberg, NEX, EBS, 2 x State Street, 1 x Anonymous)
- Sell-side – 1 x TA (ISDA) and 5 x sell-side (Bank of America, State Street, 3 x Anonymous)
- Buy-side – 1 x TA (BVI) and 2 x buy-side (2 x Anonymous)
- Vendors – 3 x vendors (Bloomberg, RDS, 1 x Anonymous)

Consultation Topics - Functionality

Question	Response Summary	Proposed Next Steps
<p>Q4 – Product template change process</p>	<p>Majority comprising a mix of sell-side, trading venues and vendors in agreement to enhance the product template change process, subject to caveats.</p> <p>Minority comprising of EVIA and its members in disagreement due to cost impact.</p>	<p>Propose to implement, subject to caveats</p>
<p>Q5 – ISIN creation analytics</p>	<p>Majority comprising a mix of sell-side, buy-side, trading venues and vendors in agreement to provide ISIN analytics, subject to caveats.</p> <p>Minority comprising of EVIA and a sell-side in disagreement due to lack of relevance of the data.</p>	<p>Propose to implement, subject to caveats</p>

Consultation Topics - Functionality

Q4. Should the DSB improve its product template change process to allow the incorporation of much faster enumeration changes?

Comments in Favour	Comments Against
<ul style="list-style-type: none"> • Sell-side – ISDA + Bank of America ML, 2 x Anonymous • Trading venues – Bloomberg, 1 x Anonymous • Vendors – Bloomberg, RDS • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • Need to understand the basis for incremental cost • Need a much more specific outline on DSB plans for this change • Need the DSB implementation timeline published well in advance 	<ul style="list-style-type: none"> • Trading venues – EVIA + EBS, NEX • Vendors – 1 x Anonymous • Sell-side – • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • Trading venues just don't want nor require this functionality
<ul style="list-style-type: none"> • Any revised template design needs to remain backwardly compatible so that users can utilise the updated enumerations when their individual production cycles allow • Provide TAC with more detail regarding the different types of reference data contemplated and the templates impacted • We are concerned by the high cost proposed by this with minimal benefit to certain users [eg FX] • We are significantly surprised at the suggested build costs given our and other users' understanding of the rudimentary functionalities of the DSB already having been built 	

Consultation Topics - Functionality

Q4. Should the DSB improve its product template change process to allow the incorporation of much faster enumeration changes? Continued...

Next Steps

DSB is minded to proceed with this enhancement, subject to the following caveats:

- Revised template designs to be backwardly compatible so that users can utilise the updated enumerations when their own production cycles allow
- Specifications for the revised template designs to be reviewed by both Product Committee and TAC
- More detailed cost figures to be provided, describing the incremental work and benefits

Anticipated Costs:

- Build cost: €500K - €750K depending on the implementation details, amortized over a 4-year period
- Run cost: No impact
- Total cost impact: increase of €125K - €187.5K pa time-limited to 4 years, equating to a 1.4% - 2.0% increase from 2018 cost base for this duration

Consultation Topics - Functionality

Q5. Should the DSB provide monthly analytics into ISIN creation and search trends, in a csv file placed on the DSB web-site?

Comments in Favour

- Trading venues – Bloomberg, 2 X State Street
- Sell-side – ISDA + State Street, 2 x Anonymous
- Vendors – Bloomberg, RDS, 1 x Anonymous
- Buy-side – BVI

Comments

- Add: **top 5 users**; top 5 product templates; # of searches resulting in new ISIN
- Add: # lookups per ISIN; # ISIN creates per minute across the day; # ISIN lookups per minute across the day
- Add: # of lookups per given ISIN; # of look-ups for any ISIN referencing a given underlying ISIN – e.g. look-ups for ISINs referencing US0378331005; # of look-ups for any ISIN referencing a given underlying LEI – e.g. look-ups for ISINs referencing HWUPKR0MPOU8FGXBT394; # of look-ups for any ISIN referencing a given underlying index – e.g. look-ups for ISINs referencing 6M EONIA.
- Add: volume per type of user

Comments Against

- Trading venues – EVIA
- Sell-side – Bank of America ML
- Vendors –
- Buy-side –

Comments

- I don't feel the remit of the DSB is any type of analytics generation

- No objections as long as this can be provided at no additional cost

Consultation Topics - Functionality

Q5. Should the DSB provide monthly analytics into ISIN creation and search trends, in a csv file placed on the DSB web-site? Continued...

Next Steps

DSB is minded to proceed with this enhancement, subject to the following caveats:

- **No analytics that lists user specific information**
- Initial set of analytics as per DSB proposal
- Follow-on analytics as per provided suggestions, prioritised and refined by TAC in 2019 if resources allow

Anticipated Costs:

- Build cost: No impact
- Run cost: No impact

Consultation Topics – Service Levels

Question	Response Summary	Proposed Next Steps
Q8(i). Should the DSB increase its support coverage?	<ul style="list-style-type: none"> Majority comprising a mix of sell-side, trading venues and vendors in agreement, subject to caveats. Minority comprising of EVIA and its members in disagreement primarily due to cost impact. 	Propose to implement, subject to caveats
Q8(iii) & (iv). Telephone access to technical & product support?	<ul style="list-style-type: none"> Majority comprising EVIA and its members, plus some sell-side, and vendors in disagreement. Minority comprising of a mix of sell-side, trading venues and vendors in agreement, subject to caveats 	Under review. If implemented, the service will be optional and outside the cost recovery ring-fence.
Q9. Should the DSB provide the proposed latency metrics?	<ul style="list-style-type: none"> Majority comprising a mix of sell-side, trading venues and vendors in agreement, subject to no cost increase. Minority comprising of EVIA and its members in disagreement. 	Propose to implement.
Q10. Should the DSB enhance the Acceptable Use Throughput caps?	<ul style="list-style-type: none"> Majority comprising a mix of sell-side, trading venues and vendors in agreement, subject to no cost increase. Minority comprising of a sell-side and a trading venue in disagreement. 	DSB proposes no change to the throughput caps.

Consultation Topics – Service Levels

Q8(i). Should the DSB increase its support coverage?

Comments in Favour	Comments Against
<ul style="list-style-type: none"> • Trading venues – Bloomberg, 2 x State Street • Sell-side – Bank of America ML, State Street, 1 x Anonymous • Vendors – Bloomberg, RDS • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • Before agreeing to these levels, DSB should produce statistics regarding initiating emails per day or week. Do we really need two more staff to handle email responses? For a stable system with a limited customer base, the existing technical support team should be able to handle a significant percentage of this load. We also do not see the basis for another manager to cover the increase. • Request 24/7 operational support to match user’s own service commitments to their clients • Operations and support needs to be available wherever trading is being executed • DSB should eliminate holiday downtime and move to 24/6.5 or 24/7 • DSB operations should follow the FX trading cycle, with adequate staffing and availability on holidays 	<ul style="list-style-type: none"> • Trading venues – EVIA + EBS, NEX, 1 x Anonymous • Vendors – 1 x Anonymous • Sell-side – • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • Not required. Should be outside cost recovery if implemented • We would like to see the DSB operating in a BAU environment so that fees can be reduced • Target 2 holidays are sufficient
<ul style="list-style-type: none"> • If the DSB doesn’t believe they can implement this without cost, then non-enterprise users who wish to get extended support, should pay for the expanded service 	

Consultation Topics - Service Levels

Q8(i). Should the DSB increase its support coverage? Continued...

Next Steps

DSB is minded to proceed with the increased support coverage:

- Remain operational across all holidays (0.2 FTE)
- Increase availability hours from 24x6 to 24x6.5 (0.6 FTE)
- Improve email response times for Power Users (0.2 FTE support + 0.5 FTE product specialist – **reduced from original proposal**)
- Instigate on call rota for technical support during unavailability hours (0.5 FTE)
- Move to a monthly release schedule for all BAU functionality with the ultimate aim of quarterly release cycles (no FTE impact)

...and subject to the following caveats:

- Publish monthly support statistics onto DSB website from 2019, with an additional snapshot publication for 2018 (no FTE impact)
- Review resource needs in Q2 2019, taking into consideration the support statistics after SI regime implementation (**FTE impact TBC post review**)

Anticipated Costs:

- Build cost: No impact
- Run cost: €382K pa
- Total cost impact: an increase in annualised fees of €382K pa, equating to a 4.2% increase from 2018 cost base

Consultation Topics - Service Levels

Q8(iii). Should the DSB provide telephone access to technical support?

Comments in Favour	Comments Against
<ul style="list-style-type: none"> • Trading venues – Bloomberg • Sell-side – Bank of America ML • Vendors – Bloomberg, RDS • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • 24/5 telephone support is required • Telephone support is required and a minimum offering for this industry • While we agree with the need to add phone support, we don't agree with the head count estimates 	<ul style="list-style-type: none"> • Trading venues – EVIA+ EBS, NEX, 2 x State Street, 1 x Anonymous • Vendors – • Sell-side – ISDA + State Street • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • Service not required. Cost should be outside cost recovery model. • Not an immediate requirement • Focus should be on faster email response times

Consultation Topics - Service Levels

Q8(iii). Should the DSB provide telephone access to technical support? Continued...

Next Steps

DSB will perform further analysis on the requirements for telephone support.

If implemented, the service will be optional and outside the cost recovery ring-fence.

Anticipated Costs:

- Build cost: No impact within cost recovery
- Run cost: No impact within cost recovery

Consultation Topics - Service Levels

Q8(iv). Should the DSB provide telephone access to product support?

Comments in Favour	Comments Against
<ul style="list-style-type: none"> • Trading venues – Bloomberg • Sell-side – Bank of America ML • Vendors – Bloomberg, RDS • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • We don't see the need for additional management staffing for this service improvement. Shouldn't there already be someone with this complex knowledge who answers the questions when they are received via email? • having telephone support 24/5 is required with a resource that would be able to respond to the more complex questions is optimal • The majority of our issues have involved more complex or nuanced issues which require discussion and understanding that is not typically available via the existing communication channels 	<ul style="list-style-type: none"> • Trading venues – EVIA+ EBS, NEX, 2 x State Street, 1 x Anonymous • Vendors – 1 x Anonymous • Sell-side – State Street • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • Service not required. Cost should be outside cost recovery model. • Product support is not generally time-sensitive enough to require additional telephone support
<ul style="list-style-type: none"> • As a Power User we are currently happy with our service plan and support. 	

Consultation Topics - Service Levels

Q8(iv). Should the DSB provide telephone access to product support? Continued...

Next Steps

DSB will perform further analysis on the requirements for telephone support.

If implemented, the service will be optional and outside the cost recovery ring-fence.

Anticipated Costs:

- Build cost: No impact within cost recovery
- Run cost: No impact within cost recovery

Consultation Topics - Service Levels

Q9. Should the DSB provide the proposed latency metrics?

Comments in Favour	Comments Against
<ul style="list-style-type: none"> • Sell-side – ISDA + Bank of America ML, I x Anonymous • Trading venues – Bloomberg • Vendors – Bloomberg, RDS • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • We need these high level metrics for accountability. More detailed analytics should not be the responsibility of the DSB • OK to implement as there is no additional cost. We reiterate that, in our view, there is too much focus on latency 	<ul style="list-style-type: none"> • Trading venues – EVIA + I x Anonymous • Vendors – • Sell-side – • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • the current DSB service performance is acceptable for our use of the DSB therefore we do not see the need to change the DSB performance SLA • Any query response time under a single second is welcome, but to delve into sub-second performance is irrelevant to the user agreement or the needs of those who use the DSB and have a longer horizon within that trading day.

Consultation Topics - Service Levels

Q9. Should the DSB provide the proposed latency metrics? Continued...

Next Steps

DSB is minded to implement the proposed approach:

- 500ms latency for 99% of workflows related to ISIN Record retrieval
- 1,000ms latency for 99% of workflows related to ISIN Create Requests
- 5,000ms latency for 99% of workflows related to ISIN Search (by metadata)

Anticipated Costs:

- Build cost: No impact
- Run cost: No impact

Consultation Topics - Service Levels

Q10. Should the DSB enhance the Acceptable Use throughput caps?

Comments in Favour	Comments Against
<ul style="list-style-type: none"> • Vendors – RDS, 1 x Anonymous • Trading venues – • Sell-side – • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • Doubling of caps is an appropriate start. Burst mode Burst mode could potentially cause companies to act irrationally and over flow systems at single points in the day • There are occasions where burst mode would be useful to us, however it is something we would need to analyse further to decide if the cost was worth it. 	<ul style="list-style-type: none"> • Trading venues – EVIA + Bloomberg, EBS, NEX, 2 x State Street, 1 x Anonymous • Sell-side – ISDA + State Street, 1 x Anonymous • Vendors – Bloomberg • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • Current throughput caps and levels are sufficient • Increased caps not needed. Should be charged outside cost recovery model • We do not believe either change to be necessary because a power user connecting vi a FIX can use up to ten connections simultaneously.

Consultation Topics - Service Levels

Q10. Should the DSB enhance the Acceptable Use throughput caps? Continued...

Next Steps

DSB is minded not to make any changes to the Acceptable Use Throughput caps. These are:

REST API: 60 calls per minute per connection (10 connections allowed)

FIX API: 1 in-flight message per connection (10 connections allowed)

Anticipated Costs:

- Build cost: No impact within cost recovery
- Run cost: No impact within cost recovery

Consultation Topics – Service Resiliency

Question	Response Summary	Proposed Next Steps
<p>Q11. Should the DSB implement a multiple primary-based DR architecture?</p>	<ul style="list-style-type: none"> Majority comprising of a mix of sell-side, trading venues and vendors request further analysis before a decision is made Minority comprising EVIA and its members in disagreement, primarily due to cost. 	<p>Further analysis, with decision made by 30 September</p>

Consultation Topics - Service Resiliency

Q11. Should the DSB implement a multiple primary-based DR architecture?

Comments in Favour	Comments Against
<ul style="list-style-type: none"> • Vendors – Bloomberg, RDS • Trading venues – Bloomberg • Sell-side – Bank of America ML • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • We agree with the need to reduce the DR downtime from 4 hours. However, more detail is required to understand why this cannot be absorbed into the carry over technical budget • Agree as long as we use the same provider and do not attempt to cross vendor and primary to primary. • We concur as the existing model does not seem suited to a major disruption. 	<ul style="list-style-type: none"> • Trading venues – EVIA + EBS, NEX, Ix Anonymous • Vendors – • Sell-side – • Buy-side – <p><u>Comments</u></p> <ul style="list-style-type: none"> • The cost versus benefit of this approach is not proportionate
<ul style="list-style-type: none"> • We recommend that the DSB test its existing DR and share the results with the PC and TAC before proceeding with costly changes. • The risk associated with downtime should be clearly articulated to the regulators and the DSB TAC to help make an informed decision. The cost seems very high to gain 2 hours of “uptime”. If the regulators are comfortable with current downtime of 4 hours, no change would be required. 	

Consultation Topics - Service Levels

Q11. Should the DSB implement a multiple primary-based DR architecture? Continued...

Next Steps

DSB proposed to follow two streams of activity:

1. Request regulatory guidance on the need for a lower RTO than the current 4 hours
2. Schedule an industry-wide DR test in 2019, with the results published and made available to the TAC for analysis

If a regulatory recommendation is received before 30 September for a lower RTO than the current 4 hours, then the DSB will liaise with the TAC to define the proposed new DR architecture with a view to implementation in 2019

If regulatory feedback is not forthcoming or is unclear, the DSB will request the TAC for a recommendation based on the analysis of the 2019 DR test, for possible implementation in 2020.

Anticipated Costs:

- Build cost: **TBC**
- Run cost: **TBC**

Purpose of Meeting

1. To provide guidance to the Board on the appropriate investment levels in technology and services in the 2019 budget cycle.
2. To kick-start discussions on a longer-term DSB strategic vision for technology.

Strategic Vision – Overview

The DSB proposes to start the process of creating a strategic vision for the DSB’s use of technology, in collaboration with market participants.

The TAC is a vital part of the process to create this strategy.

The key principles the DSB proposes to follow to create its technology strategy are:

- To take forward the technology-related work of the original ISO working group (“SG2”), produced in May 2016 and completed under the co-convenorships of ANNA and ISDA
- To follow an open and inclusive process with a diverse stakeholder base
- To take into consideration other relevant regulatory and industry initiatives that the DSB should aim to be consistent with

Anticipated 2018 Cost impact: None

Anticipated 2019 Cost impact: None

Strategic Vision – Timelines

- 12 Sep 2018 – Publication of the Terms of Reference for a new TAC Strategy Subcommittee to define the DSB’s technology strategy, alongside a call for participation
- 11 Oct 2018 – Announcement of TAC Strategy Subcommittee members
- 08 Nov 2018 – Kick-off meeting of TAC Strategy Subcommittee

Next Steps

20 Aug 2018 – Publication of final consultation report

12 Sep 2018 – Publication of the Terms of Reference for TAC Strategy Subcommittee

30 Sep 2018 – Publication of finalised User Agreement

11 Oct 2018 – Announcement of TAC Strategy Subcommittee members

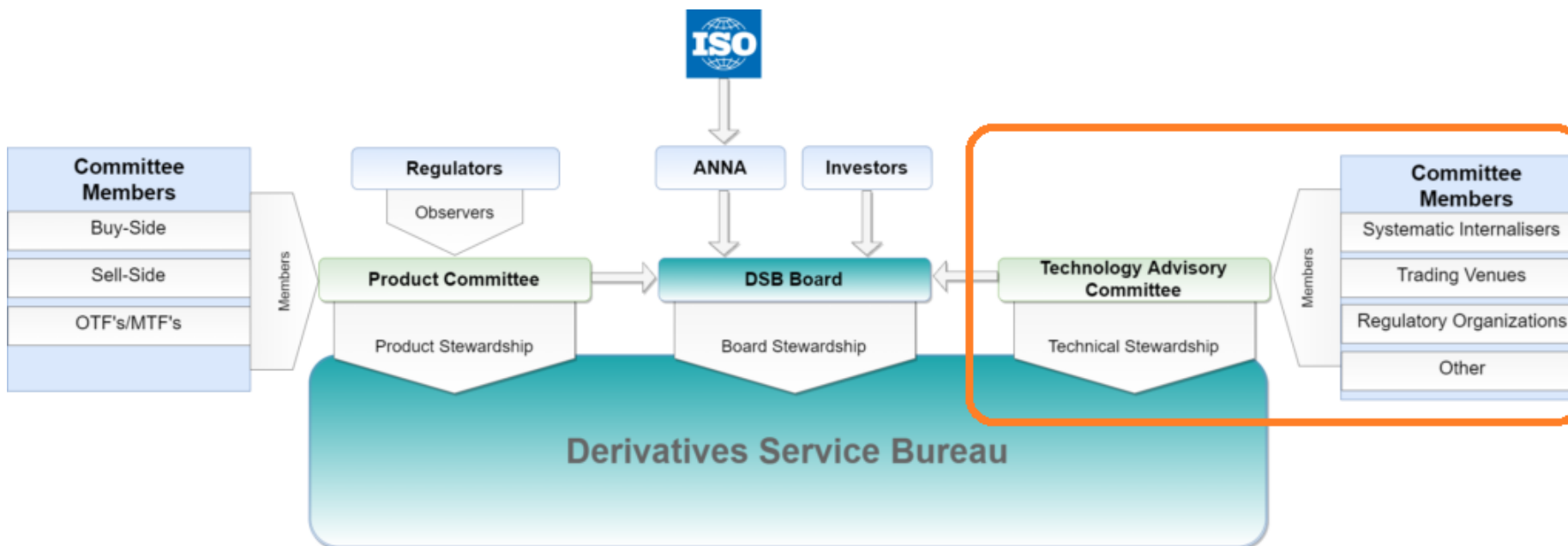
08 Nov 2018 – Kick-off meeting of TAC Strategy Subcommittee

05 Dec 2018 – Finalised 2019 costs

AOB

Appendix – Mission Statement

The DSB Technology Advisory Committee (TAC) will provide advice on the appropriate level of investment in technology, and advise on the strategies to implement services to support the DSB's responsibility to ensure the integrity of a critical market infrastructure for providing financial instrument identifiers



Appendix – Further Information

- Details of TAC Roles, Scope of Activities, Logistics can be found at <https://www.anna-dsb.com/download/technology-advisory-committee-charter/>
- DSB Operational Status: <https://www.anna-dsb.com/operational-status/>
- TAC information: <https://www.anna-dsb.com/technology-advisory-committee/>
- To receive updates on DSB service, email technical.support@anna-dsb.com