

QUESTIONS RAISED AFTER THE TECHNICAL DIALOGUE OF 26 OCTOBER 2010

All questions and comments have been copied into the below table as they have been received. However, the text between square brackets in the question/comment column, as well as the footnotes, have been added by the Eurosystem to make the question or comment more accessible for readers who have not attended the technical dialogue.

Q=Question -- C=Comment		T2S answer
Danmarks Nationalbank		
Q	In the presentation on page 14, it looks like reports can only be received A2A. Is it not possible to get for instance the report "liquidity forecast" by U2A?	In general, reports can be downloaded via the U2A interface. For more details please refer to the General Functional Specifications (available on the ECB website) where it is indicated which functionality and reports are available via A2A and/or U2A.
Q	There might be some small payment banks who would like only to have U2A access to T2S and then they would not be able to receive these reports. Is that correctly understood?	
BNP Paribas		
C	Following yesterday's meeting, I've verified internally the MQs [file] size ¹ accepted. If MQs accepts max 100 mega[Byte], we today manage max 35 mega (so no pb [problem] versus 32 mega limit indicated). My contact indicates that going to 50 mega and over would require real controls and stress testing.	The Eurosystem considered this information very useful for the preparation of the Selection Acts ² .
Clearstream		
C	To begin, I would first like [to] express my appreciation for the great collaborative effort that was made at the meeting. I think everyone felt comfortable expressing their views and a lot of progress was made. I strongly suggest having another session in the near future, once you have	The Eurosystem took note of the appreciation and the suggestions.

¹ The maximum file size that can be sent or received over the MQseries (MQs).

² The Selection Acts are the documents that are published, and which are the basis for the selection of the T2S Network Service Providers.

	collected and digested all the feedback. Extra clarity gathered earlier in the process will allow NSPs ³ to quote a more "unpadded" economic bid which will be in the best interest of all stakeholders.	
C	More information needs to be provided in the area of non-repudiation. Everyone agrees that a "proof-of-origin" A2A approach is good but we need to know exactly who will store the messages at every stage of the message life cycle.	The Eurosystem agrees that the NSP needs a complete set of requirements related to non-repudiation in order to deploy a solution. However, the Eurosystem does not see a need to enforce all those requirements. The Eurosystem is of the opinion that the NSP will have to either enforce some of those requirements or negotiate them with its DiCoAs. Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
C	As non-repudiation is a legal concept more than a technical concept, T2S can specify what they consider non-repudiation between themselves and the network provider but will not understand what is acceptable between the NSP and the end customer. Non-repudiation between the NSP and the A2A will have to be negotiated depending upon laws of the countries involved although general end-2-end principles should be understood from the beginning.	<p>The Eurosystem agrees that the non-repudiation is in general a legal concept.</p> <p>The Eurosystem has no intention to intervene in the technical setup or the contractual relationship between the NSP and its customers unless any of the requirements set in the Selection Acts is breached.</p> <p>The Eurosystem understands that countries have different legal regimes concerning non-repudiation. The Eurosystem has no intention to intervene in negotiations of this kind between the NSP and its customers unless any of the requirements set in the Selection Acts is breached.</p> <p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
Q	For the store and forward messages as well as for non-repudiation, the NSP will need to keep this data in a database. For how long does this need to be kept? Normally we need to keep this type of information for 15 years. If so, we will face a huge buildup of data in our databases. Is there some sort of requirement for data archival?	<p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p> <p>The Eurosystem has no intention to intervene in the technical solution the NSP is going to deploy in order to satisfy all requirements set in the Selection Acts.</p>
Q	For this store and forward data as well as the non-repudiation data, how should it be possible to retrieve this data if needed, in court for example? Should some sort of report be constructed or GUI for instance? Or should we just use some sort of	<p>The Eurosystem has no intention to enforce an interface definition for the access to the non-repudiation logs. However, the Eurosystem insists on the completeness of these logs.</p> <p>Given the relatively rare need to access the</p>

³ Network Service Providers

	database utility like TOAD as needed?	non-repudiation logs, the Eurosystem anticipates that the simple extract should be sufficient.
C	You use the term "file" to mean a single MQ message containing a payload of multiple 20022 messages. I believe everyone in the conference found this very misleading. Normally the term "file" refers to data residing on a file system rather than a MQ message. It may be more clear to everyone to use a different term such as "single payload message" and "multiple payload message".	The Eurosystem does not see a need to avoid using the term "file". This term is recognised by the ISO 20022 standard as a structure to bundle together a number of single messages. However, the Eurosystem will make best efforts to avoid any confusion originated from the possible different interpretations of the term "file".
C	T2S plans to have 2 different messaging channels. One for RT ⁴ messages (single payload) and one for files (multiple payload). The RT message max size is 32KB and the file min size is 32KB. As it is possible for a single message to be greater than 32KB plus it is possible for a file to be less than 32 KB, it would be easier to just say that one channel must contain only single messages and the other multiple messages (to a max of 32 MB).	The Eurosystem has set the maximum message size and the minimum file size after thorough considerations of number of aspects, out of which two, i.e. (i) the performance aspect and (ii) the fairness aspect, have had the main influence on the final configuration. Consequently, the Eurosystem does not consider the simplification suggested inside the question as feasible.
C	Regarding the concept of files, I find it very restricting to force CSDs to use either/both the single payload or multiple payload channels. I understand that within the T2S system that multi-payload messages must be ungrouped before being processed as single messages. I prefer a more flexible solution where all payloads can have either 1 or X number of messages. This simplifies the configuration for everyone. Also, it helps ensure the sequencing of instructions which is normally important to the CSDs.	The Eurosystem has defined two separate services, related to messages and files, after thorough considerations of number of aspects, out of which two, i.e. (i) the quality of service aspect and (ii) the fairness aspect, have had the main influence on the final setup. One of the Eurosystem's major requirements leading to the request for two separate channels was to avoid a situation where the transfer or processing of a big file (or big single MSG - if still in line with customised ISO 20022) is blocking urgent single small messages and leading to a bottleneck in the whole architecture. The Eurosystem is of the opinion that strict sequencing is an issue to be covered at the higher application level and has marginal influence on the technical connectivity infrastructure.
C	Please document that data compression will only be handled at the network (hardware) level. A flag will be present in the envelope, however, for future consideration.	The Eurosystem made best efforts to document all relevant information in the Selection Acts. Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
C	From a T2S crash point of view, you mentioned	The IP virtualisation planned on the T2S side is

⁴ Real-Time

	<p>that the T2S system may need to migrate from one datacenter to another, or in extreme circumstance, across regions. You also explained that the abstraction of this will be handled at the network level through some sort of IP virtualisation software. So in essence, when you bring down your system, our MQ channels will stop and the NSP system will lose connectivity until the T2S system is again brought online. At this point, the MQ channels should automatically startup and processing resume. Due to the use of the IP virtualisation software and MQ series, the NSP has absolutely nothing to do. Please document this accordingly.</p>	<p>an internal T2S routing optimisation and whether this solves a switching problem of the network provider too, depends on its concrete solution.</p> <p>The Eurosystem has currently no view on the specific setup the NSP(s) are going to propose for the T2S User Connectivity and consequently is not in a position to deny or confirm the statement included in the question.</p> <p>In general, the Eurosystem has no intention and is not in the position to assess similar statements.</p>
<p>Q+C</p>	<p>The 3 primary types of communication were discussed:</p> <ul style="list-style-type: none"> • Real-time (only for queries) • Store-and-Forward (for all settlement messages) • Pull (only for reports) <p>I question the necessity of the 3 different types as it adds additional complexity for questionable value. Others agreed that the pull method of retrieving reports may have no business case. I believe that the difference in performance between real-time and store-and-forward is most likely so negligible, that a purely store-and-forward solution may be a better approach for everything. Consider billing, for instance. How do you bill on a per-message scheme if you don't store the message? I suggest using only store-and-forward but allowing the purging of certain message types (queries and reports) after a certain period. Of course, settlement messages will need to persist in the DB in accordance to legal requirements. The timeout concept can still be kept but altered per data category (queries, settlement and reports).</p>	<p>The pull type of communication is not requested.</p> <p>The Eurosystem anticipates that the Store-and-Forward type of communication might be more expensive than the simple Real-Time communication. Consequently, the Eurosystem proposes these two channels in order to allow the DiCoA(s) for more cost efficient interaction with the T2S platform.</p>
<p>C</p>	<p>You clarified that the T2S “envelope” only needs to be used between the “NSP” and T2S. There is no need for the CSD to send their messages using the envelope.</p>	<p>The T2S infrastructure interface will communicate with the NSP(s) using the DEP protocol over the WSMQ and TCP/IP network.</p> <p>The Eurosystem has no intention to force a protocol for communication between each individual NSP and its DiCoA(s). However, the NSP(s) are obliged to translate their internal protocol into the DEP protocol for communication with T2S.</p>
<p>C</p>	<p>In respect to ACK/NAK, in most cases the MQ Reports functionality will be used to prove that the message was technically delivered. There will be, under certain circumstances, the need for a</p>	<p>The scope of the Selection Acts is limited to a technical communication between T2S and NSP(s). Consequently, the business ACK/NAK flows are out of the scope of these documents</p>

	business ACK/NAK to be delivered. The exact circumstances that the MQ reports will be used compared to an application ACK/NAK will be specified by T2S in a future document update.	and will not be included in the future updates. The business messages flows are and/or will be described in detail in the GFS and UDFS. The Eurosystem invites all interested parties to consult these two documents for further details.
C	The NSP system needs to keep track of which [real-time] messages are still under processing within T2S. If a certain time limit is breached (60 seconds) a timeout is send to the originator. This means that if a CSD sends 3 messages (numbered 1,2 and 3) there is a potential that message 2 will get stuck inside T2S. In this case, a timeout message needs to be sent to the originator only for message 2. The NSP system will therefore need to construct some sort of unique message identifier that gets passed into T2S so that when a response is received, it understands to what previously sent message it applies.	The Eurosystem has currently no view on the specific solution the NSP(s) are going to propose for the T2S User Connectivity and more specific for the time-out management, and consequently is not in a position to deny or confirm the statement included in the question. In general, the Eurosystem has no intention and is not in a position to assess similar statements. Nevertheless, the Eurosystem can confirm that time-out management is required.
C	The NSP needs to construct some sort of GUI to allow users to get PKI information such as certificates and special PKI reports. None of this is yet specified. Some people mentioned that allowing users to have access to PKI information is a potentially dangerous thing.	The NSP(s) are obliged to provide a security platform as a service for T2S and the DiCoA(s) in line with security standards specified in the Selection Acts. The Eurosystem does not perceive this requirement as highly risky for the overall security of the information kept on and/or exchanged with the T2S platform. Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
C	In respect to the performance requirements, I mentioned that a key element behind all these numbers is the number of CSDs making up this peak volume information. This number directly influences the parallelism that the NSP system can leverage. Although T2S may not know exactly, an assumption should be listed in the requirements document. Based on the discussion at the workshop, less than 80 or so customers would interact to T2S through the 3 NSPs	The Eurosystem made best efforts to include relevant information in the Selection Acts. However, because of the nature of the information the Eurosystem shall not be liable for the correctness of this information. Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
C	T2S mentioned again that each system must prove to be able to handle 100% of the customers so horizontal scalability is a must.	The Eurosystem shares this conclusion.
Q+C	Along with the network tender, a TAC (technical acceptance criteria) must be clearly explained. All NSP candidates would then be later judged based on the exact same performance tests. The TAC should include: <ul style="list-style-type: none"> • Data profile (how much data in the NSP database during the test – I suggest at least 1 	The Eurosystem made best efforts to include all relevant information in the Selection Acts.

	<p>year. Running a performance test on an empty database will not give realistic results)</p> <ul style="list-style-type: none"> • Number of customers • Channel configuration per customer (RT, S&F, Pull) • Message types and volumes per customer (assume some are bigger than others) • Target TPS <p>The concept of TPS must be clearly explained along with the performance requirements. Does a transaction mean a settlement transaction that may actually be composed of 6 MQ messages? This should be explained so that there is no misinterpretation of your volume figures or performance targets. Please document this in the requirements.</p>	
<p>Q</p>	<p>Is it a goal that the method of interaction between the A2A and the NSP to be identical? This would allow an A2A to switch from one NSP to another NSP, if desired, with little technical changes. For the moment, I have the impression that each NSP can choose how they interact with the A2As as they want.</p>	<p>No, the Eurosystem does not have such goal.</p>
<p>Sampo Bank Plc</p>		
<p>Q</p>	<p>In the session there was not mentioned what kind of network quality requirements will be for the NSP:</p> <ul style="list-style-type: none"> • For example Committed round trip delay (will be defined to SLA) • End to end packet loss requirement • End to end jitter requirement <p>Are you going to define those requirements to the RFP?</p> <p>On technical level also MQS has some limits, if the network latency is too high.</p>	<p>The Eurosystem made best efforts to include all relevant information in the Selection Acts.</p>

SWIFT		
Q+C	<p>Before a more detailed review of the desirable technical clarifications, we wish to take this opportunity to highlight the <u>need for further information about the qualification/quantification of addressable market sizing</u>. Otherwise, it will be very difficult to develop a meaningful business case and commercial proposal which, we understand, must include maximum prices for 7 years (that is, a 10 years horizon if we consider the 3 years up-front investment period imposed on the Network Service Providers before any revenue stream).</p>	<p>The Eurosystem made best efforts to include all relevant information in the Selection Acts.</p> <p>However, because of the nature of the information, the NSP shall treat it as the non-binding estimations only.</p> <p>The Eurosystem understands that the NSP(s) will have to bear (and cover) some level of risk in this respect.</p>
	<p>For the same reasons, we are also seeking <u>clarity on the proportions of the different types of traffic</u>. In particular, <u>what are the expected volumes, not only globally</u> (as on slide 27), but in each of each envisaged flow and service (e.g. directional flows, real-time versus store and forward, user to application versus application to application, messages versus files, number and average size of messages, of files, concentration of volumes across participants versus evenly spread volumes, etc), expected peak(s) volume and timing for each of the type of flows, and the impact of Directly Connected Participants (DCP) on these volumes?</p>	<p>The proportions of the different types of traffic depend largely on the way how DiCoA(s) will use the T2S services and this cannot be precisely estimated at this point in time.</p>
	<p>Moreover, it would be useful to understand if and how these proportions of different types of traffic will be considered in the <u>envisaged weighting mechanism to evaluate the overall price offer of a given NP</u>.</p> <p>During the presentation, it was mentioned that Network Providers would be requested to provide prices per type of service, per message, per size or bandwidth without further comments. Will the RFP <u>fully clarify these concepts?</u></p>	<p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
Q	<p>We expect the RFP documentation to be <u>self-explanatory and self-standing</u>. For example, there would be no need to refer to other documents such as URD, GFS, etc. Is any early information available about the structure of the RFP documentation?</p>	<p>The Eurosystem made best efforts to make the Selection Acts self-explanatory and self-standing.</p>
Q+C	<p>The <u>non-repudiation requirements need to be crystal clear</u>. We understand that the non-</p>	<p>The Eurosystem agrees that the NSP needs a complete set of requirements related to non-repudiation in order to deploy a solution.</p>

	<p>repudiation covers the following three flows:</p> <ul style="list-style-type: none"> i. SnF⁵ A2A from user to T2S and handled by T2S ii. Real Time U2A from user to T2S and handled by T2S iii. SnF A2A from T2S to user and handled either by the end user or as a service provided by the Network Provider to the end user <p>The other real time flows and the message acknowledgements do not require non-repudiation.</p> <p>Is the above understanding of the non-repudiation requirements correct?</p> <p>To avoid any ambiguities, can the Eurosystem provide the <u>full definition</u> of effective use cases and expectations for each party involved in the T2S service (e.g. non-repudiation log storage, detailed expectations from Network Provider in supporting the envisaged non-repudiation mechanism, availability period of the information, processes, services, etc)?</p> <p>More generally, we would welcome a further dialogue with the Eurosystem on the non-repudiation requirements.</p>	<p>However, the Eurosystem does not see a need to enforce all those requirements. The Eurosystem is of the opinion that the NSP will have to either enforce some of those requirements or negotiate them with its DiCoAs.</p> <p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
<p>Q</p>	<p>We note that the real-time service whereby the Network Service Provider is expected to support a „publish and subscribe“ delivery whereby T2S publishes files to be pulled by the individual subscribers is no longer in the slide deck. Can the Eurosystem expressly confirm that this requirement is withdrawn?</p>	<p>Such a pull service is not requested.</p>
<p>Q</p>	<p>We understand that for the selection process, there will be a classification of requirements between mandatory and optional requirements. At this stage in the presentation, we are unclear about what these optional requirements are and what the weighting between mandatory and optional will be. Can the Eurosystem provide clarifications on mandatory and optional requirements and how this will be considered in the weighting mechanism?</p>	<p>The Eurosystem specified only mandatory requirements in the Selection Acts.</p>
<p>Q</p>	<p>Can the Eurosystem provide an exact definition of the Proof of Concept, its purpose, the tests that will be applied to it and other related obligations for the Network Service Providers? This should also include detailed information about the precise throughput and sizing requirements, the operational location(s), the features, the services,</p>	<p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>

⁵ Store-and-Forward

	etc.	
Q	The presentation did not contain any time line; please confirm that the RFP will contain a clear implementation plan of the different environments and related connectivity? The assumption is that each environment would be deployed very close to its use; doing differently would unduly increase the cost to the Network Provider.	Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
Q	Handling of changes and evolutions: With the understanding that price per service will be fixed, that requirements will be fixed, etc for a rather long period, please confirm how change requests, evolution of systems, etc will be handled and how this will impact prices?	Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
Q	Slide 3: the RFP needs to provide the <u>exact location of the T2S sites</u> to properly assess the connectivity and other costs. Please confirm that the precise addresses of the T2S sites will be provided?	Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
Q	Slide 5: <u>Please clarify the use of the term “transparent” to avoid interpretations and misleading definition of the requirements?</u>	In this particular case the term “transparent” means that DiCoAs don’t have to perform any intervention.
C	Slide 6: the RFP needs to provide a full definition with all details of the DEP.	Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
Q	Slide 8: a flag indicates that content is compressed. Since compression can be handled at the network level, the usefulness of this is questionable. Moreover, if compression has to be available E2E then it requires an agreement on the algorithm(s) to be used which another complexity level that should be clearly indicated as a requirement. <u>Please clarify your specific requirements for compression?</u>	A compression flag and an algorithm field are foreseen in the T2S envelope, this information needs to be forwarded by the NSP to the receiver of the message/file. Example: It can be potentially useful when an original file is bigger than 32MB and after the compression it fits into the limit. Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
Q	Slide 9: The slide does not indicate how the static user data will be synchronised between the Network Provider and T2S. <u>Please clarify how static user data will be synchronised between the Network Provider and T2S?</u>	Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
Q	Slide 18: It could be understood that the network service provider will perform a <u>CRL checking</u> „on-the-fly on signed messages (for A2A) and signed XML (for U2A). This also implies (on slide 17) that the U2A session between the user and T2S	CRL checking on signed message/file in A2A and signed XML in U2A will be done by the T2S platform or the DiCoAs (based on who is the sender/receiver). Please refer to the Selection Acts for the

	consists of two HTTPS sessions, one from user to Network Provider and one from Network Provider to T2S. Another understanding could be, in an end to end mode, that the CRL is checked by the T2S and its users (i.e. not in the middle). <u>Please confirm which understanding is correct?</u>	Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
Q	Slide 11: please clarify if it is expected to have a <u>download/upload capability available through the U2A?</u>	Functionality provided over the U2A channel is not in the scope of the Selection Acts. In general, the T2S platform will provide download functionality over the U2A channel. The upload functionality is not foreseen. For more details please refer to the GFS and UDFS documents available on the ECB website.
Q	Slide 18: please can you provide clearer definitions of terms used: “T2S logical domain”, “Encryption keys”, “Monitor technical operations”? The Sentence “4CB staff will manage all encryption keys...” this needs to be further clarified please?	The Eurosystem made best efforts to clarify these terms and make them unambiguous in the Selection Acts. Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
Q	Slide 20: <u>please can you further clarify your requirements for different key pairs for signing and authentication?</u> Signing already provides authentication besides integrity and non-repudiation.	The Eurosystem made best efforts to clarify these requirements in the Selection Acts. Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
Q	Slide 23: we have understood that 5 environments are necessary: <ul style="list-style-type: none"> • <u>please provide clarification regarding the “any additional” environment in the slide?</u> The Network Provider, with the type of expected commitment, needs to know upfront what it needs to provide. 	The Eurosystem reserves the right to request the NSP(s) to stand ready to logically connect additional test and training environments, if deemed necessary. The NSP will in that case be asked to provide connectivity for these additional test and training environments in the same T2S physical locations. Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
	<ul style="list-style-type: none"> • Please provide a <u>further definition of logical segregation</u>, e.g. will the Eurosystem accept that the connectivity to all the environments are on same physical platform and therefore evolves together at same time (e.g. for changing an operating system)? 	The Eurosystem will not accept a setup which allows that changes to the NSP connectivity environment for the T2S test and training environments have an impact on the T2S production environment. The Eurosystem will not accept a setup which allows a delivery of messages/files from one T2S environment to another without explicit changes applied to the DEP protocol headers and trailers.

		Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
	<ul style="list-style-type: none"> We understand the “access to authorised party” as each of the environment will have its own list of users, etc, we don’t assume that the Eurosystem needs access to the systems. Please confirm this understanding or further explain the sentence. 	<p>The technical and operational support will be typically implemented via the internal Eurosystem network.</p> <p>However, the Eurosystem may require a connection via the NSP(s) network for interconnection of ancillary systems (T2, CCBM2 ...).</p>
	<ul style="list-style-type: none"> In general, can you please provide the <u>expected level of services</u> of the different environments? 	Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
Q	<p>Slide 27, there is a need to be coherent and complete (see overall comment on different flows). The slide speaks about “transactions”, “messages”, “instructions”, mixing the three. The slide states that <u>75% of instructions will be sent by big files. How will they be confirmed? A big file as well? A single message? A series of single messages</u> See also the introductory question on having detailed flows and volumes per type of service.</p>	<p>The Eurosystem shares the opinion that the information provided has to be coherent. The Eurosystem invites interested parties to consult URD, GFS, UDFS and other T2S documents available on the ECB website in order to get a better understanding of the meaning of the terms specified in the question in the specific T2S context.</p> <p>The scope of the Selection Acts is limited to the technical communication between T2S and NSP(s). Consequently, the business confirmation (ACK/NAK) flows are out of the scope of these documents.</p> <p>In general, each big file will be confirmed with a single message on the technical level. Additionally, each business message included in the file will be validated. In case of unsuccessful validation a single message containing the relevant error code will be sent to the originator of the file.</p> <p>The business message flows are described in detail in the GFS and UDFS specifications. The Eurosystem invites all interested parties to consult these two documents for further details.</p>
Q	<p>Slide 29: while the beginning of the slide seems obvious, i.e. each NSP shall size for its expected customer size, the remaining is unclear.</p> <ul style="list-style-type: none"> <u>Is it required to be able to serve 100%?</u> 	<p>The Eurosystem requests that each NSP will be able to provide services to the whole market on its own in case all DiCoAs choose the same NSP as a provider of T2S connectivity.</p> <p>It does not mean that the NSP will have to scale up in order to cover the whole market from one day to another. It rather means that the NSP has</p>

		<p>to be prepared to carry out necessary investments, organisation changes, etc. in case all DiCoAs choose that NSP as their provider of T2S connectivity.</p> <p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
	<ul style="list-style-type: none"> Is it up to the NSP to share with the Eurosystem <u>capacity/forecast figures</u>? <u>Should it not be the opposite?</u> i.e. <u>the Eurosystem provides the projections and evolution of the business perspectives?</u> 	<p>The Eurosystem expects NSP(s) to share the capacity/forecast figures related to their expected market share. At the same time the Eurosystem stands ready to provide projections and evolutions from a business perspective as a total for the whole T2S platform.</p> <p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
Q	<p>Slide 30, 31 <u>please can you confirm that these are requirements for services to be priced separately and then weighted as any other messaging service?</u></p>	<p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
Q	<p>Slide 32: the proof of concept needs further clarification and possibly a section by itself. What it is? What tests will be applied? What throughput requirements? Which technology? Etc.</p> <p>This POC being an important part of early investment costs, it needs to be properly defined initially and over the long period of time of the commitment. <u>Please confirm that POC detailed requirements will be contained in the RFP?</u></p>	<p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
Q	<p>Slide 33: please provide more specific information on the business continuity requirements? What is called few minutes? What is exactly expected in these few minutes? simple switching of traffic and/or some recovery of information?</p>	<p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
<p>British Telecom</p>		
Q	<p>Question 1. Disaster Recovery Message Replay – [The technical and Operational criteria – Frankfurt 14 July 2010] Slide 15</p> <p>Does this mean that only the preceding 5 minutes worth of files/messages will have to be held for potential replay, or does it mean that all messages EXCEPT for the last 5 minutes will be held for potential replay? Does the replay requirement apply equally to A2A real time, U2A messages and A2A Guaranteed Delivery?</p>	<p>The Eurosystem has removed this requirement.</p>

<p>Q</p>	<p>Question 2. Personally Identifiable Certificates [T2S User Connectivity – Amsterdam 26 Oct 2010] Slide 21</p> <p>The ECB states that "NSP shall identify the user in the institution by means of digital certificates". Can the ECB confirm that this means that the VANS would give each user of the U2A service within an organisation a unique certificate. Will the application of this in the A2A service be fully explained in the RFP?</p>	<p>The Eurosystem can confirm that each U2A user will be identified in T2S by a unique identifier (DN⁶) and each DN will have to be associated with one or more PKI certificates.</p> <p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
<p>COLT</p>		
<p>Q</p>	<p>It would be useful to also know when the MQ DEP Specification will be available?</p>	<p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
<p>C</p>	<p>SLIDE 5: 1. T2S communication interface; General connectivity architecture</p> <p>It was stated that connectivity to the live site could be achieved via the backup site within a region. Presumably this is intended to facilitate communications link and gateway resilience and load balancing.</p> <p>COMMENT: Whilst Colt could conform with this requirement, it would probably not rely on this facility as it introduces additional complexity and dependencies. Colt would supply sufficient communications link and gateway resilience and capacity to both live and standby sites, in both regions. This requirement should remain optional.</p>	<p>The Eurosystem has no intention to force NSP(s) to use links of the 4CBNet between the two sites in one T2S region.</p>
<p>Q+C</p>	<p>SLIDE 7: 1. T2S communication interface; A2A – sample message/file structure</p> <p>COMMENT: As the NSP should not alter the content of the business data, should the signature not be placed in the technical header? Consideration should be given as to whether the existing Giovannini Envelope format as used by Euroclear (inter alia) would be an appropriate existing standard to use rather than introducing a new standard.</p>	<p>The signature placed in the BAH (Business Application Header) refers to End-To-End non-repudiation between a directly connected T2S actor and T2S as described on slide 9.</p>
<p>C</p>	<p>SLIDE 8: 1. T2S communication interface; A2A – sample message/file structure</p> <p>COMMENT: Compression should be a matter for the NSP to use if they choose, and data should be delivered to/from the NSP Gateway in decompressed format. Use of compression should</p>	<p>The Eurosystem considers it more cost effective for the T2S community to allow compression not only on the network infrastructure level.</p>

⁶ Distinguish Name

	therefore be transparent to the T2S Platform and T2S Actors.	
C	<p>SLIDE 10: 1. T2S communication interface; A2A communication protocol T2S actor – NSP</p> <p>COMMENT: Non-repudiation between the NSP and the T2S Actor should remain an optional service.</p>	The Eurosystem has no intention to intervene in the technical setup or the contractual relationship between the NSP and its customers unless any of the requirements set in the Selection Acts is breached.
C	<p>SLIDE 11: 1. T2S communication interface; U2A communication protocol</p> <p>COMMENT: Colt would like T2S to confirm that the NSP will be required to implement the issue and management of certificates to individual users within their PKI scheme to facilitate U2A communication.</p>	<p>The Eurosystem can confirm that NSP(s) are required to provide a security platform as a service for their DiCoA(s) and T2S.</p> <p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
C	<p>SLIDE 13: 2. Various modes of communication; Message and file definition</p> <p>COMMENT: Colt recommends that T2S rigorously validates MQ's ability to handle files as large as 32Mb and its performance when so doing. Colt also observes that there is a proportional correlation between the size of the file being transmitted and the probability of transmission interruption</p>	The Eurosystem specified the 32MB as a maximum size for the file transport over the WSMQ. The Eurosystem assumes that the average size of transported files will be lower.
C	<p>SLIDE 14: 2. Proposed modes of communication; Mapping matrix.</p> <p>COMMENT: Colt can see no business reason for the A2A file real time (Pull) option. Holding data increases risk. Colt believes that when data is ready to be delivered it should be delivered.</p>	The Eurosystem confirms that this requirement has been withdrawn.
Q	<p>SLIDE 22: 3. Security characteristics; Public Key Infrastructure (PKI)</p> <p>COMMENT: Colt would propose to use a private PKI scheme. Is there a requirement for this PKI scheme to be accredited? Will any other data security, security or operational management accreditations or audits be required?</p>	Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.
Q	What will be the average message size?	<p>The Eurosystem estimates the average message size to be 4KB.</p> <p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
Q	What %age of the day-time messages will be screen-based (https:)?	The Eurosystem did not make such a projection.

<p>Q</p>	<p>What will the target SLA be for screen response times (round-trip)?</p>	<p>Please refer to the Selection Acts for the Network Service Providers (in particular the License Agreement and its Attachments) for further details on this matter.</p>
<p>Q</p>	<p>What will be the sending to T2S window for overnight messages - i.e. what is the earliest time in the day that sending can commence and what is the latest time in the day by which sending must be complete?</p>	<p>This information is available in the T2S User Requirements (Chapter 3 -Processing schedule and calendar) available on ECB website.</p>
<p>Q</p>	<p>What will be the receiving from T2S window for overnight messages - i.e. what is the earliest time in the day that receiving can commence and what is the latest time in the day by which receiving must be complete?</p>	<p>This information is available in the T2S User Requirements document (Chapter 3 -Processing schedule and calendar) available on ECB website.</p>
<p>Q</p>	<p>What will be the sending/receiving window for day-time messages - i.e. what is the earliest time in the day that sending/receiving can commence and what is the latest time in the day by which sending/receiving must be complete?</p>	<p>This information is available in the T2S User Requirements document (Chapter 3 -Processing schedule and calendar) available on ECB website.</p>