

ESMIG Connectivity Services Agreements

- Q&A -

The document addresses questions of market participants on the rights and obligations of the Network Service Providers (NSPs) stemming from the Concession Contract, which forms a basis of the negotiations on the connectivity offers with those NSPs.

Further questions on the ESMIG connectivity can be sent to: ESMIG-Connectivity@bancaditalia.it

Monthly updates of this document will be performed on the basis of new questions received and will be published on the websites of Banca d'Italia and the ECB.

1. Can a NSP make a single, all-inclusive offer with a single price for both (a) ESMIG/TARGET services and (b) also market infrastructures not connected to ESMIG?

No. The NSP must disclose the price detail for the TARGET Services (for the time-being: T2, T2S, TIPS and ECMS), in order to enable the participant to check that the maximum prices set out in the Concession Contract for the ESMIG connectivity services are not exceeded.

2. Can a NSP charge different fixed/recurrent prices to a client (a) using only T2 (b) using both T2 and TIPS?

Only if the aggregate prices do not exceed the maximum prices set out in the Concession Contract. For the avoidance of doubt, the maximum prices included in the Concession Contract cover all TARGET Services, i.e. there are no separate maximum prices set up per TARGET Service. For example, if a NSP has set as maximum price a recurrent cost of "x":

- It may not charge more than "x" for access to T2 and TIPS
- It may charge a portion of "x" for access to T2 only and maximum "x" for access to both T2 and TIPS

3. Is a NSP obliged to publish a service description document or can it be provided on a bilateral basis?

Under Requirement ESMIG.30020 the NSP is obliged to "develop a catalogue of Connectivity Services as part of the ESMIG overall service catalogue to the ESMIG Operator and the Di.Co.A.s." (See attachment 1.1 to the Concession Contract). Since the Concession Contract contains no provisions on how the NSPs should make these documents available, either solution is possible.

4. What is considered as a value-added service? How to determine whether such a service falls within the scope of the concession contract (and is subject to a maximum price)?

These questions can be answered via a 2-step analysis.

Step1:

Based on Article 7.5 of the concession contract, **verify if the services are "necessary for a Di.Co.A to make efficiently and securely use of the Connectivity Services"**.

- **if YES** --> they are covered by the concession contract and **have to be provided within the maximum price set out by the NSPs**, because Article 7.5 of the Concession Contract states: "The NSPs shall be obliged to supply, but shall not charge for any services not included in the below list (Attachment 1.4), but which are necessary for a Di.Co.A to make efficiently and securely use of the Connectivity Services"
- **if NO** --> see Step 2 (Article 7.3 of the Concession Contract)

Step2:

Based on Article 7.3 of the Concession Contract, verify if the services might qualify as "**higher service levels than those envisaged by the Concession Contract**".

- **if YES** --> they are covered by the Concession Contract but **the NSPs are not bound by the maximum prices**, because Article 7.3 of the Concession Contract states: "If and to the extent Di.Co.A. require the Network Service Provider to provide any or all of the connectivity services at higher service level than those envisaged by this Contract, than the NSP is not bound by the maximum prices"
- **if NO** --> **the services are not covered by the Concession Contract, and therefore the NSPs are not bound by the maximum prices or other requirements applicable to the NSPs set out in the Concession Contract.**

5. Can a NSP require a customer to install a software/hardware component which is not listed in the Concession Contract, as a prerequisite to ensure connectivity to a given TARGET service?

Under Attachment 1.4 to the Concession Contract (item A.2) NSPs are obliged to provide a solution featuring all the software and hardware components "required to access and utilise all the NSP's services in a secure and reliable way". This "basic" set of components is subject to the maximum prices set out in the Concession contract.

Only hardware and software components that do not qualify as "required to access and utilise all the NSPs service in a secure and reliable way" can be considered as not subject to the maximum prices (see previous bullet point) and as not part of the NSPs' obligation to include them in its ESMIG solution. Therefore, the NSPs cannot oblige a customer to install a software/hardware component at its own cost and under its own responsibility as a prerequisite to ensure connectivity to a given TARGET service.

6. In case a ~~TARGET participant (Di.Co.A)~~ outsources its IT architecture to an external IT provider, what is the required contractual set-up (i.e. bilateral contract between the external service provider and a NSP, bilateral contract between the ~~TARGET participant (Di.Co.A)~~ and a NSP or a tri- lateral contract)?

ESMIG connectivity services agreements pursuant to article 7 of the Concession Contract can exclusively be concluded between a NSP and a Di.Co.A. This is without prejudice to the Di.Co.A.'s right to outsource technical tasks related to ESMIG connectivity in whole or in part.

7. Application of the Concession contract's provisions to the ESMIG Connectivity Services Agreements.

Are there any legal grounds to limit the application of the provisions of the Concession contract in the ESMIG Connectivity Services Agreements concluded between a Di.Co.A and the selected NSP? Can the ESMIG Connectivity Services Agreements stipulate that not all the provisions of the Concession contract apply to the NSP - Di.CO.A relation, e.g. that only

Article 7 as transposed in the Service Description of the NSP apply and all other provisions of the Concession Contract apply uniquely to the relationship between the NSP and the Eurosystem (as owner of ESMIG)?

Article 7.2 of the Concession Contract provides that each ESMIG Connectivity Services Agreement shall meet “the minimum requirements more specifically described in, and be otherwise consistent with, this Contract (including its Attachments) and the Specifications”. It follows that the application of the Concession contract to ESMIG Connectivity Services Agreements concluded between a Di.Co.A. and a NSP is not limited to Article 7 and encompasses all terms and conditions of the Concession Contract, (including its Attachments) and the Specifications”. It follows that the application of the Concession contract to ESMIG Connectivity Services Agreements concluded between a Di.Co.A. and a NSP is not limited to Article 7 and encompasses all terms and conditions of the otherwise relevant to the provision of the Network Connectivity Services to a Di.Co.A.. A provision in an ESMIG Connectivity Service Agreement providing that only Article 7 applies to the NSP-Di.Co.A. relationship and all other provisions of the Concession Contract apply uniquely to the relationship between the NSP and the Eurosystem (as owner and operator of ESMIG) would be inconsistent with Article 7.2 of the Concession Contract. The foregoing cannot be interpreted as entitling the Di.Co.A. to request changes to the ESMIG Connectivity Services or other matters which are for the NSP and the Eurosystem to consider under the Concession Contract.

- 8. Transposition of the Concession contract’s provisions into the NSPs’ Service Descriptions**
Can the NSPs transpose the provisions of the Concession contract in their Service Descriptions? What is the order of precedence between the Service Descriptions and the Concession contract, in case of conflict between them?

NSPs can transpose the provisions of the Concession Contract in their Service Descriptions and/ or other contractual documents forming the ESMIG Connectivity Services Agreements, provided that they are consistent with the Concession Contract. The transposition of certain provisions of the Concession Contract into the NSP Service Descriptions or other contractual documents is without prejudice to the application of Concession Contract provisions which, in the event of inconsistency with the NSP Service Descriptions or other contractual documents, shall prevail.

- 9. Provisional vs. final version of the Service Descriptions**
In case a Di.Co.A awards an ESMIG Connectivity Services Agreement (i.e. bilateral Order) to an NSP, including a draft/provisional Service Description ~~that will be subject to changes/finalisation at a later stage~~, will the updated/finalised versions automatically substitute the previous version that was part of the NSPs offer and the resulting bilateral contract between the Di.Co.A and the relevant NSP? If it is the case, will the substitution be retroactive from the date of signature of the bilateral order or will its effect start only from the date of the updated/finalised version?

~~NSPs Service Description are currently under review by the ESMIG operator to check their compliance with the Concession contract. The ESMIG operator confirmed on 20 May 2020 the compliance of NSPs Service Descriptions with the Concession contract.~~ It follows that the Service Descriptions ~~currently~~ ~~previously~~ being circulated by the NSPs in the context of their commercial contacts with potential Di.Co.A customers are to be considered provisional. Amendments made by the NSPs to their Service Descriptions as a result of the ESMIG operator review ~~currently in progress~~ will be retroactive insofar as they are necessary to ensure compliance of the said Service Descriptions with the Concession Contract.

10. With reference to the NSP provisioning of a PoP (as per points A1 and B1 of the Maximum Prices) our understanding is that the PoP access, telco lines and telco equipment, are provided by the NSP and the related fees (both one-off and recurrent) are included in the NSP offer. Is our understanding correct?

Yes, your understanding is correct. NSPs have an obligation to provide the said components under the terms and conditions laid down in the Concession contract. Maximum prices for items A1 and B1 set out in Attachment 1.4 to the Concession contract include one-off and recurring fees related to the provision and utilization of the said components respectively. The foregoing applies both in case of re-use of an existing connectivity solution, to the extent that such solution is re-used for ESMIG, and in case of provision of a new ESMIG-dedicated connectivity solution. Please refer also to the Q&A document No. 1 published on January 17th on NSPs' price transparency obligations in case of bundled offers (i.e. offers concerning ESMIG and non-ESMIG connectivity services).

11. With reference to the NSP provisioning of Software and Hardware components required to access and utilize all the NSP's services, in a secure and reliable way (points A2 and B2 of the Maximum Prices), our understanding is that the hardware and software components shall be provided by the NSP and the related fees (one-off and recurrent) must be included in the NSP offer. Is our understanding correct?

Yes, your understanding is correct. NSPs have an obligation to provide the said components under the terms and conditions laid down in the Concession contract. Maximum prices for items A2 and B2 set out in Attachment 1.4 to the Concession contract include one-off and recurring fees related to the provision and utilization of the said components. The foregoing applies both in case of re-use of an existing connectivity solution, to the extent that such solution is re-used for ESMIG, and in case of provision of a new ESMIG-dedicated connectivity solution. Please refer also to the Q&A document No. 1 published on January 17th on NSPs' price transparency obligations in case of bundled offers (i.e. offers concerning ESMIG and non-ESMIG connectivity services).

12. Is it mandatory to use one NSP for all TARGET Services, or can different NSPs be used to access different TARGET services (e.g. one NSP for TIPS and another NSP for T2S and T2)? Will it be possible to have different NSPs for different services?

No provision in the Concession contract obliges a Di.Co.A. to use the same NSP for all connectivity services. Therefore, it will be possible to have different NSPs for different services.

13. Will Central Banks maintain the role of an alternative path to T2 after the implementation of ESMIG?

No, they will not. A Di.Co.A. can enter into ESMIG Connectivity agreements with both NSPs if it wants to have an alternative connection. The U2A channel constitutes a convenient alternative network access solution.

14. Is the introduction of ESMIG expected to impact the fixed connectivity costs of TIPS?

TIPS connectivity prices are covered by Annexes 1.4 to the two NSPs' Concession contracts, which set out the one-off, recurring and messaging fees that the NSPs commercial offers cannot exceed. It is worth to recall that for both NSPs TIPS messaging prices for the production environment cannot exceed € 0,0005 (item C.5 of Annex 1.4 to the Concession contracts).

- 15. To what extent will T2 payment settlement tracking be supported via gpi? Can gpi be used in the ESMIG context and, if yes, can it be used with both NSPs? Please confirm that both NSPs can be used for all services, including gpi.**

gpi is a service offered by one of the NSPs, independently from the provision of ESMIG Connectivity Services. ESMIG does not feature any gpi tracking support functionality. Di.Co.As can use gpi for T2 and TIPS payments without any impact on ESMIG. Di.Co.As need to review with their NSP(s) how to support their use of gpi in the context of ESMIG.

- 16. Will Internet access be offered as an opportunity for participants with low volumes to connect to TARGET Services via ESMIG?**

Item A1 of Annex 1.4 to the Concession contract provides for a single connectivity model, i.e. Di.Co.As have to rely on two incoming physical lines in a redundant set-up to be provided by the NSPs with guaranteed minimum bandwidth and KPIs, whether they use both A2A and U2A or only U2A for low volume participants. Therefore, access via public Internet is not an option. With reference to low volume participants, it is worth to recall that specific price caps apply for the minimum set of software and hardware components (items D1 and E.1), registration (item D.2), customer support (item E.2) and messaging (item F.1).

- 17. If a participant decides to remain with its current NSP for the connection to the future TARGET services as of November 2021, can the existing, currently installed physical infrastructure be reused? If yes, is it still mandatory to sign a new contract with the NSP and how does it relate to the maximum prices committed in the concession contract by each NSP?**

No provision in the concession contract prohibits the re-use of an existing connectivity infrastructure. However, signing a new ESMIG Connectivity contract with the NSP is mandatory since the provision of ESMIG connectivity services is subject to a new set of rules set out by the Concession contract. Maximum prices apply to the extent that an existing connectivity solution is used for ESMIG connectivity. Please refer also to the Q&A document No. 1 published on January 17th on NSPs' price transparency obligations in case of bundled offers (i.e. offers concerning ESMIG and non-ESMIG connectivity services).

- 18. We are currently using SWIFT for access to Target, TIPS and for sending/ receiving payment files and FIN messages. The communication equipment (VPN boxes) has been purchased from SWIFT and we are also paying a yearly maintenance fee. Communication lines have been installed and are being paid by the Bank. What happens in case SWIFT wins the competition for the NSP procurement? Will they have to install new communication lines and equipment?**

Re-use of existing infrastructure is not prohibited (see Answer no. 6 above). However, with specific reference to the physical lines please note that NSPs have an obligation to provide them as a part of their ESMIG connectivity solution at a capped price under items A.1 and B.1 of Annex 1.4 to the Concession contract. Maximum prices apply to the extent that the existing connectivity solution is used for ESMIG connectivity. Please refer to the Q&A document No. 1 published on January 17th on NSPs' price transparency obligations in case of bundled offers (i.e. offers concerning ESMIG and non- ESMIG connectivity services).

- 19. Can we expect a digital certificate from one or both NSPs which would bring the FMIs into the position to eliminate the need for Hard Tokens, e.g. T2S certificates?**

The "Technical Requirements and Compliance Check" annex to the Concession contract requires the

NSPs to grant access also using a solution based on a virtual token in a remote HSM. Quoting the requirement ESMIG.50110: "The NSP must provide an authentication mechanism based on remote HSM for storing all digital keys used for U2A. These devices must be compliant with FIPS 140-2 Level 3. The Di.Co.A. can either use the "Authentication in U2A mode – Smartcard/USB token" (ESMIG.50100) or this "Authentication in U2A mode – Remote HSM" (ESMIG.50110). This authentication is two factor based (because of the user's knowledge of the PIN). The NSP must check validity of the digital certificate". This removes the obligation to have physical tokens (e.g. in T2S).

- 20. Both NSPs mentioned that MQ Server is required in order to access ESMIG. We do not currently have MQ Server. We asked both NSPs and both replied that MQ Server will not be included in their offer. Is this in line with the requirement that they should provide everything? Does the requirement refer to U2A access only, while MQ Server is required for A2A?**

MQ Server is not needed for U2A-only access. MQ Server is one of the possible options for A2A solutions. Please contact your NSP for more details on the integration options. Since it is a general purpose piece of software and it is not explicitly mentioned as a part of the minimum set of hardware and software components to be provided by the NSPs, the Di.Co.A. must provide for it outside the Concession contract.

- 21. Item A1 in Annex 1.4. to the Concession Contract refers to the provision by the NSPs of " two incoming physical lines at a single Di.Co.A. site". Does this mean that Di.Co.As need to connect through two physical lines per site?**

Not necessarily. For Di.Co.As. using two sites, connectivity solutions based on a leased line in each of the two sites also comply with the requirements applicable to NSPs under the Concession Contract as long as the two sites' configuration is active-active (i.e. both sites are connected at the same time) or an automated process is in place to allow for a prompt switchover.

- 22. Is there a requirement for network connectivity from a Di.Co.A. to the NSP to have two physical lines with a capacity of 10Mb? If yes, can you please point us to the documentation where the requirement is stated?**

Under art. 7.5 of the Concession contract "The maximum prices specified in Attachment 1.4 shall apply for a connection with a basic bandwidth of 10 Mb/s between any data centres of a Di.Co.A., located in the EEA or Switzerland to the ESMIG data centres, except for items D.1, D.2, E1,E.2, F.13, where a basic bandwidth of 1 Mb/s is assumed".

- 23. In our country a national network exists to which all RTGS participants in our country are connected. Considering this national network is connected to one of the NSPs, is it permitted to reuse that existing connection to access ESMIG?**

The provision of physical connectivity for ESMIG falls within the scope of the services to be provided by the NSPs under the Concession Contract. Consequently, it is not permitted to use another network than the one provided by the NSP you will select to access ESMIG.

- 24. Do NSPs have to provide a software to sign message payload and they are obliged to provide this within the maximum prices?**

As part of the "minimum set of software" (i.e. item A2) included in the maximum prices, the NSPs have an obligation to provide software or a software-based solution to sign/verify message payload (i.e. BAH/BFH signature). This signing solution can be provided by the NSP by either offering a

service receiving the XML payload directly and returning it with the signature or offering a service receiving a computed hash of the XML payload and returning the resulting signature to insert in BAH/BFH. The NSPs are obliged to provide this solution (including the supporting documentation) within the maximum prices.

25. What is the signing software (or solution) that has been approved in the certification process of the NSPs?

As part of the "minimum set of software" (i.e. item A2) included in the maximum prices, the NSPs have an obligation to provide software or a software-based solution to sign/verify message payload (i.e. BAH/BFH signature). This signing solution can be provided by the NSP by either offering a service receiving the XML payload directly and returning it with the signature or offering a service receiving a computed hash of the XML payload and returning the resulting signature to insert in BAH/BFH. The NSPs are obliged to provide this solution (including the supporting documentation) within the maximum prices.

26. Our ESMIG connectivity infrastructure is based on multiple sites. We need to buy physical connectivity as described in item A1 of Attachment 1.4 to the Concession contract for all sites. In this scenario, do the maximum prices for items A1 and B1 apply for all sites or they apply limited to just one site?

The maximum prices for items A1 and B1 apply for a single Di.Co.A.'s site with no limitation on the number of sites (i.e. in case of multiple sites, the maximum prices for items A1 and B1 apply for each site). Pursuant to art. 7.5 of the Concession contract, the maximum prices specified in Attachment 1.4 apply for a connection with a basic bandwidth of 10 Mb/s or, as the case may be, 1 Mb/s between any data centres of a Di.Co.A., located in the EEA or Switzerland, to the ESMIG data centres.

27. The two NSPs are proposing new cloud-based solutions. Where would the NSP-Di.Co.A. demarcation line fall in the context of these connectivity solutions? How does the obligation to provide physical connectivity to the ESMIG apply in this case?

The Banca d'Italia, acting on behalf of the Eurosystem, is completing its review of the cloud-based solutions being proposed by the 2 NSPs. Following a successful preliminary assessment, the 2 NSPs have been authorized to start commercializing these solutions. The cloud-based solutions' architecture (whereby all key components are operated by the NSP at its data-center) in conjunction with requirement ESMIG.30280 (pursuant to which "The demarcation line between the NSP and the Di.Co.A. is bilaterally agreed by the Parties") allows alternative ways of providing connectivity between the Di.Co.A.'s premises and the NSP's data-center.

In particular, if all of the following conditions are satisfied:

1. the Di.Co.A buys an ESMIG cloud solution from a NSP;
2. the Di.Co.A. and the NSP agree (as allowed by requirement ESMIG.30280) that the demarcation line is drawn at the NSP's premises in such a way that the NSP's premises can be considered as the Di.Co.A.'s as far as ESMIG connectivity is concerned, the perimeter of the ESMIG connectivity solution starts from the agreed demarcation line; as a consequence, the provisions of the Concession contract apply only inside this perimeter. For the avoidance of doubt, if the Di.Co.A asks that the demarcation line is drawn at its premises, the NSP must provide a physical connectivity solution (configured as cloud-based or as standard solution) to the Di.Co.A.'s premises pursuant to the provisions of the Concession contract.

28. Will the ECB publish the set of documents with all contracts that need to be signed (including the NSP contracts)?

The concession contracts signed between the Eurosystem and the NSPs are available on [Banca d'Italia procurement portal](#) and include information concerning e.g. technical requirements and maximum prices. Contracts between the NSPs and their clients are negotiated bilaterally and therefore there is no single format proposed or published.

In addition, please refer to Q&A document no. 1 published on January 22nd 2020 (Q&A no. 3 in the [consolidated and updated version of the Q&A](#)).

29. Are there two options to connect, one through cloud connection and the other through two direct lines?

There is no such an alternative between a cloud connection on the one hand and a connection through direct lines on the other hand, since all obligations for the NSPs, stemming from the Concession Contract, including the provision of physical connectivity, apply anyway. Indeed, the NSPs proposed new cloud-based solutions, which may allow alternative ways of providing connectivity between the Di.Co.A.'s premises and the NSP's data-center, depending on a bilateral agreement between the NSP and the Di.Co.A. on where the demarcation line, which defines the perimeter of the ESMIG connectivity, is set. As stated in Q&A document no. 7 published on September 10th 2020 (Q&A no. 27 in the [consolidated and updated version of the Q&A](#)), if the Di.Co.A requests that the demarcation line is drawn at its premises, even in case it opted for a cloud-based solution, the NSP must provide physical connectivity to the Di.Co.A.'s premises, pursuant to the provisions of the Concession contract. This means that the provision of direct lines depends not on the choice of a cloud-based solution in itself, compared to the standard solution, but on where the demarcation line is bilaterally agreed among the parties.

30. Is it possible to connect to ESMIG via an API?

A connection through APIs is currently not foreseen by ESMIG requirements and functionalities. Nevertheless, should such a functionality be requested by any of the TARGET Services, ESMIG could be adapted accordingly in the future.

31. What additional considerations should participants take if they wish to engage both service providers for increased resilience?

Different scenarios may be considered:

- A Di.Co.A. wants to engage with one NSP for the A2A mode and with another NSP for U2A mode, e.g. for contingency reasons. In this case there are no additional considerations to take into account by the Di.Co.A.;
- A Di.Co.A. wants to engage with two different NSPs at the same time for the A2A mode. In this case, while for the incoming messages there are no additional considerations to take into account and the Di.Co.A. can choose which NSP to use to send messages, for the outgoing traffic only one message destination is possible to set, so the possibility to use two different NSPs depends on whether the relevant service allows intraday vs. end-of-day-only changes in the addresses.

32. In case there is an ACH exchanging traffic with ESMIG for the purpose of connecting to TIPS on behalf of its clients, who should enter into an ESMIG Agreement with an NSP? The ACH, its clients, or both?

TIPS is part of the TARGET Services and its provision is governed by the TARGET2 Guideline, which clearly defines the role of each TIPS Actor. However, under the Concession Contract, a Di.Co.A. can be any legal entity authorized to exchange traffic with ESMIG. It follows that, in order to exchange traffic with ESMIG, an ACH, duly authorized by the Eurosystem, regardless of its qualification under the TARGET2 Guideline, is required to enter into an agreement with an ESMIG NSP. Should its clients not exchange any traffic directly with ESMIG for the purpose of connecting to TIPS, it is not required for them to enter into an ESMIG Agreement with an NSP.

The foregoing applies equally to client banks connecting through any other party acting as their Instructing Party, as defined in the TARGET2 Guideline, provided that the Instructing Party has been duly authorized by the Eurosystem to connect to ESMIG on behalf of the client banks.

- 33. If services or goods are provided by an entity different from an ESMIG NSP or an authorized subcontractors, and some of the services or goods provided by this entity are used to provide services falling under concession, how can the Di.Co.A. properly address its possibilities in view of its joining of the ESMIG community while remaining compliant with the concession? As the infrastructure is re-used, are there attention points, if any, when the sub-contractor is not approved or is not the same currently than the one approved in the context of the Concession contract? Can the sub-contractors further sub-contract to other entities?**

Services or goods falling under concession provided directly by an entity different from the NSP cannot be used. This includes the service provided through re-use of an existing infrastructure. Such reuse is possible provided it falls under the Connectivity Services Agreement between the Di.Co.A. and its NSP, which can provide such re-use directly or through an authorized subcontractor. [For more information, see the section “Reuse of existing lines and hardware, new ESMIG lines and hardware used for non-ESMIG purposes” in the ESMIG Terms Of Reference.]

The provision of the ESMIG Connectivity Services may neither be subcontracted if not previously authorized, nor it can be further subcontracted by authorized subcontractors. An ESMIG NSP or an authorized subcontractor can procure basic and standardized products or services from other third party suppliers, different from the Di.Co.A. Such basic and standardized products or services may include telecommunication equipment and capacity or other commodity services and products which must be distinguished from the obligation assumed by the NSP. In other words, the arrangements between an ESMIG NSP or an authorized subcontractor and other entities referred to in your question should be considered as mere supply arrangements of basic and standardized telecommunication capacity, just like any other commodity, and not as some further subcontracting of the Connectivity Services to be provided under the Concession Contract.