

ESMIG Terms of Reference

The connectivity to ESMIG: definition of ESMIG and actors involved

Developed in the context of the Market Infrastructure Services' Consolidation project, the Eurosystem Single Market Infrastructure Gateway (ESMIG) will provide a single access point for external inbound and outbound communication to all the TARGET Services, the market infrastructure common components and applications. Two network service providers (NSPs), SIA-COLT and SWIFT, have been selected, based on the result of the public awarding procedure run under Italian public procurement law, to provide connectivity services for ESMIG. For this purpose, two contracts were signed between:

- the Eurosystem (represented by Banca d'Italia) and SIA-Colt Technology Services;
- the Eurosystem (represented by Banca d'Italia) and SWIFT.

Each of the two contracts (Concession Contracts) grants a 10-year concession for the provision of connectivity services to ESMIG. Starting from the contract signature and for the whole concession duration, the NSPs have to comply with the legal, business and technical requirements and obligations set out in their own Concession Contract, in order to be qualified as ESMIG NSPs, i.e., for what is of relevance in this Terms of Reference, to be allowed to validly offer connectivity services for ESMIG testing and production environments.

The main actors involved in the preparation and implementation of the connectivity to ESMIG, having rights and obligations set out by the Concession Contract, are:

- The Eurosystem, as the subject who decides on the go-live dates of ESMIG and the TARGET services and the related project and connectivity milestones, with Banca d'Italia as its mandated agent to select and award the concessions to provide ESMIG connectivity and to manage the ensuing contracts;
- Di.Co.A. as any entity that is authorized to exchange electronic data with a Eurosystem market infrastructure. The authorization is granted by a TARGET Central Bank through a TARGET participation agreement or through a different participation type as foreseen by the legal framework ruling these services; Any authorized entity willing to exchange traffic with ESMIG, therefore qualifying as a Di.Co.A, shall buy ESMIG Connectivity Services exclusively from an ESMIG NSP in accordance to Concession Contract rules;
- The ESMIG NSPs that will provide ESMIG Connectivity Services according to the Concession Contract.

Important dates and milestones related to ESMIG

The main target dates for the preparation of connectivity agreements, the implementation of connectivity by the Di.Co.A., and the go-live of the TARGET services in ESMIG are:

- 31 March 2021: Completion by participants of NSP selection and contract preparation
- 30 June 2021: Completion of NSP procurement (contracts with NSP have been signed)
- 1 September 2021: Start of network connectivity tests for user testing (T2);
- 22 November 2021: go-live of TIPS community in ESMIG;
- 30 November 2021: Completion of network connectivity tests and start of user testing (T2);
- 1 December 2021: Start of user testing;
- 1 May 2022: Start of network connectivity tests on the production environment;
- 11 June 2022 (T2S R 6.0): migration of TARGET2-Securities to ESMIG connectivity;
- 31 July 2022: Completion of network connectivity test in production;
- 21 November 2022: go-live of T2 service (CLM and RTGS).

How to connect to ESMIG: technical solutions

The ESMIG project has been developed to ensure maximum resiliency for the connection to TARGET Services, while granting low prices leveraging on competition among NSPs. As an application of this principle, there is a standard solution for connection foreseeing two incoming physical lines in a redundant set-up. In this scenario, the NSPs are bound to offer those lines under the maximum price for item A.1 (for installation, see *links at the end*) and for item B.1 (for maintenance, see *links at the end*) of the annex 1.4 of the two Concession Contracts.

Another different scenario of particular relevance is that where a Di.Co.A. has several sites connected to ESMIG. In this case, two incoming physical lines may be an overshoot for the Di.Co.A.'s connectivity needs. The Di.Co.A. may then opt for a solution (as referenced in Q&A no. 21, see *links at the end*) in which every single PoP is connected with a single dedicated line and the sites configuration is active-active (i.e. the sites are connected at the same time) or an automated process is in place to allow for a prompt switchover. It should be noted that this setup grants nonetheless the required level of resiliency to the ESMIG connectivity solution.

Another solution that has been allowed to meet the different Di.Co.A. needs is the so called "cloud based solution". Under this scenario the Di.Co.A. and the NSP agree (as allowed by requirement ESMIG.30280 see also Q&A 27, *links at the end*) 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. In this case the perimeter of the ESMIG connectivity solution starts from the agreed demarcation line. It should be noted that in this scenario the provisions of the Concession Contract apply only inside this perimeter (i.e., among others, prices and SLAs). Any occurrence outside this perimeter, including, e.g., the impossibility for the Di.Co.A. to reach the NSP premises, falls outside the Concession Contract and, as such, it cannot create any obligation for the NSP.

Relationship between the NSP and Di.Co.A.: selection, quotation, contract, “demarcation line”

Selection. Di.Co.A. may select the ESMIG NSP of their choice for the provision of ESMIG connectivity services. The way in which the Di.Co.A. selects the ESMIG NSP may differ according to its own nature. If the Di.Co.A. qualifies as a contracting authority, the selection process will follow the procedures set out by the relevant applicable public procurement law. If the Di.Co.A. qualifies as a private entity not subject to any public procurement law, it will enjoy the full spectrum of contractual self-determination within the limits of the Concession Contract. Regardless of the qualification of the Di.Co.A., it remains an ESMIG NSP’s duty to guarantee *vis-a-vis* the Di.Co.A. the compliance with the Concession Contract of the terms under which ESMIG services are provided (i.e., among the others, SLAs and the maximum prices, *links at the end*). The NSP offer will include, among the others:

- maximum prices for installation of a standard connection to each data center (referred also in the Concession Contract as PoP, Point of Presence) of a Di.Co.A. The standard connection includes a redundant configuration (i.e. installation with two incoming physical lines, also on different sites, with a basic bandwidth of 10 Mb/s in a redundant set-up);
- maximum prices for a minimum set of software and hardware components required to access and utilize all the NSP’s services in a secure and reliable way, using the abovementioned connection; (e.g. VPN, HSM, router, network gateway ...).

The abovementioned connections, software, and hardware, should be provided by the NSP at no more than the maximum prices set out in the Concession Contract for the services and SLAs indicated therein.

Quotation. Following a request by the Di.Co.A., the NSP will provide a clear and detailed quotation (Q&A 1, *links at the end*) of the various items falling under the scope of the Concession. This quotation, together with other documentation part of the NSP offer, has the purpose and must be drafted in such a way to enable the Di.Co.A. to verify immediately and on its own the compliance with maximum prices, functional, and technical requirements of the offer, according to the criteria set out in the Concession Contract (*links at the end*).

Contract. The duration of the ESMIG contract between the Di.Co.A. and the ESMIG NSP cannot exceed that of the concession (10 years from the start of the first service that migrates to ESMIG, currently estimated for TIPS at 22/11/2021). The Concession Contract does not prevent that the contract between the Di.Co.A. and the ESMIG NSP also covers other services (ESMIG service with value added, or services totally detached from ESMIG). This includes the possibility of hybrid use of hardware and software lines: in the event of an agreement between ESMIG NSP and Di.Co.A. part of the existing or newly installed infrastructure, completely provided by the NSP, directly or by authorized subcontractors, can be used both for ESMIG and for extra ESMIG purposes, as long as it is always clear (see above) what is included under the ESMIG cap and what is not.

Contract execution and subcontracting. Once the contract has been signed, it can be executed by both the NSP and the Di.Co.A. However, if the NSP, chosen by the Di.Co.A., uses other companies (subcontractors) for performance of some of the obligations falling under the Concession, the contract can only be performed,

for the part of it that requires the subcontractors services, if and when the NSP has been duly authorized by the Eurosystem to subcontract the performance of those obligations. As per Italian law, governing the concession, no contract regulating any item or service falling under the concession can be validly signed with any entity other than the two ESMIG NSP.

“Demarcation line”. The Concession Contract defines a set of service levels, superior to the standard usually found on market, and that, in regards of the systemic relevance of the traffic exchanged, the Eurosystem has assessed as adequate for ESMIG connectivity. For this reason, it is important to define where those service levels are applicable and where they are not, and, therefore, where the demarcation line of responsibilities falls. The demarcation lines define the boundaries of the responsibilities either between the ESMIG NSP and the ESMIG or between the ESMIG NSP and the Di.Co.A. The demarcation line between the NSP's perimetral network device and the ESMIG must be the Ethernet interfaces defined in ESMIG.40040.

The demarcation line between the ESMIG NSP and the Di.Co.A. is bilaterally agreed by the Parties. It should be noted, however, that the demarcation line only defines where it is NSP's duty to intervene in case problems arise; what will be delivered by the NSP – and for that the NSP is responsible of the proper behavior – is defined by the agreement with the DI.CO.A. in compliance with the Concession Contract and the approved Service Description. The prices for every item falling under the concession must always be compliant with the maximum regardless of where the demarcation line is set.

For what Di.Co.A. is concerned, the latter demarcation line is of relevance. The Concession Contract provides as a standard connectivity solution the one including two incoming physical lines and a minimum set of software and hardware. However, the Concession Contract leaves to the ESMIG NSP and Di.Co.A. the possibility to define a different setup with a different demarcation line, which may fall (see Q&A 27, *links at the end*) in any point between the ESMIG NSP's premises to the Di.Co.A.'s premises. However, it should be noted that all that falls outside the demarcation line that defines the boundary of responsibility of the ESMIG NSP will not be subject to the superior service levels that the Concession Contract ensures.

Services level envisaged by the Concession Contract, higher service levels, value added services

The ESMIG Concession guarantees all the services provided at the levels envisaged by the Concession Contract.

Should a service be provided at a level that is higher of that foreseen in the Concession Contract, the Concession Contract provisions still apply with the exception of the maximum prices. In any event, no portion of the latter services should fall below the minimum threshold set out in the Concession Contract.

Any other service falling outside the Concession Contract are not bound by any provision of the Concession and are referred to as a "value added service" (Q&A 4, *links at the end*). These latter type of services are for the parties to regulate.

Reuse of existing lines and hardware, new ESMIG lines and hardware used for non-ESMIG purposes

A Di.Co.A., who has already in place a connectivity solution with one of the two ESMIG NSPs, may choose to connect to ESMIG by reusing the infrastructure already provided by the ESMIG NSP, directly or by authorized subcontractors. In order to do so it is required that the ESMIG NSP agrees to such a reuse and that it remains in full control (directly or through a subcontractor) of the infrastructure. In order to enable the participant to verify that the maximum prices set out in the Concession are respected for the usage of that infrastructure falling within the Concession contract, the ESMIG NSP quotation to the Di.Co.A or other documentation part of the ESMIG NSP offer must disclose the prices in detail (*links at the ends*; the two signed concession contracts can be downloaded and maximum prices can be found on the last pages of both contacts). It should be noted that, regardless of whether the setup agreed upon between the ESMIG NSP and the Di.Co.A. includes or not a reuse, the ESMIG NSP shall provide to the Di.Co.A. ESMIG connectivity services according to the same service levels, as guaranteed by the ESMIG Concession Contract. Furthermore, should the Di.Co.A. need physical lines for the part of traffic that is related to ESMIG, the agreement for the provision thereof should be only between the ESMIG NSP and the Di.Co.A., and any fee for the installation and/or usage of these lines for ESMIG should be paid to the NSP only.

Two NSPs Setup

Within the boundaries of the Concession, the flexibility allowed does not end here. A Di.Co.A. may decide, in fact, also to use an ESMIG NSP for a subset of items falling under the concession (i.e. TIPS) and another ESMIG NSP for a different set of items, in order to satisfy their ESMIG connectivity needs.

The Di.Co.A. can select an ESMIG NSP for a service and the other for a different service (both from the infrastructural point of view, lines and hardware, and the messaging of each service), based on its functional needs, provided that the services considered in aggregate meet the needs of the Di.Co.A. and are within the limits of the concession contract. As an example, a Di.Co.A. may enter into two separate agreements with both ESMIG NSPs in order to acquire two fully fledged solutions, as a contingency set up, or to acquire two different connections, one fully fledged and the other just low volume U2A access.

Useful links

Concession Contracts and documentation related to the selection procedure can be found at:

<https://gareappalti.bancaditalia.it/esop/guest/go/opportunity/detail?opportunityId=244>

The consolidated and updated version of the Q&A concerning the Concession Contracts can be found at:

https://www.ecb.europa.eu/paym/target/t2s/profuse/shared/pdf/faq_esmig_connectivity_services_agreement_s.pdf