

APPENDIX 1

REQUIREMENTS FOR PARTICIPANTS:

1. INTRODUCTION

This Appendix aims to describe the technical and functional requirements that must be met by the participants.

Participants must have the proper control systems and technical resources to address their functions if they are to access the ARCO System and maintain their status as participants.

The resources include the hardware for processing and storing information, basic general-purpose software, specifically developed computer applications and communications hardware and software for compliance with the general technical and functional requirements set out below, notwithstanding any additional specifications or specifications in greater detail that are stipulated in Manuals of the Information System (PTI) or successive Circulars or Instructions published by IBERCLEAR. The scale of these resources must also be in proportion to the estimated volume of registration of the participant.

Participants may use the technical resources of another IBERCLEAR participant or of a Stock Exchange Management Company. These delegated entities must at all times maintain the proper control systems and technical resources to address their functions or the functions of the entities who have delegated the technical resources

2. FUNCTIONAL SPECIFICATIONS

IBERCLEAR participants must deploy IT programmes and procedures that enable them to carry out the functions described in the Registration and Settlement System's Procedures Manual and Post-trade Interface Manual (PTI). Specifically, they must adhere to their rules of operation, their operational mode specifications, transmission formats and time frames.

3. CONTROL PROCEDURES

At the request of IBERCLEAR, system participants must be able to send, for the purposes of cash counts, information concerning the balances in their archives, in accordance with the procedures and formats established in the Supervision and Control Procedures Manual.

4. CONNECTIVITY REQUIREMENTS

All IBERCLEAR participants must have at least one communication channel with IBERCLEAR and a communication channel with PTI. Participants may also connect directly to the technical provider T2S (T2S).

IBERCLEAR participants do not connect directly to T2S will connect to T2S through IBERCLEAR.

The following communication channels can be established for each of the Participant's BIC code.

a) IBERCLEAR connectivity:

This connectivity is mandatory for all participants. This is a two-way channel between IBERCLEAR and the participant.

Participants will be able to use their own technical resources or third-party resources, by delegating this connectivity to a delegated entity.

b) Direct connectivity with the T2S platform:

This connectivity is optional. If applied, this will be in addition to IBERCLEAR connectivity. This is a two-way channel between the Participant and T2S. IBERCLEAR will receive copies of all trades carried out.

A DCP will be able to use its own technical resources for connectivity with the T2S platform, or the resources of another-DCP acting as a delegated entity.

A DCP will not be able to communicate any instructions to T2S from a participant not authorised by IBERCLEAR as a DCP.

c) Connectivity with PTI:

This connectivity is mandatory. All participants must have a communication channel with the PTI.

The communication channel with the PTI is independent of connectivity with IBERCLEAR. In other words, either the participant or another entity acting in its name (irrespective of whether it is its Delegated Entity) may communicate with the PTI.

d) Additional communication channel:

Participant-DCPs that delegate their IBERCLEAR connectivity to a Delegated Entity will still be able to receive information directly from IBERCLEAR, by setting up an additional communication channel.

This communication channel is optional. This is a one-way channel between IBERCLEAR and the Participant. This channel is exclusively for information.

5. PHYSICAL CONNECTION REQUIREMENTS

Participants may use BME's IP networks to connect to the IBERCLEAR system, including the IBERCLEAR IP Extranet system, or the SWIFTNet system. The physical requirements for each of these connection formats, in terms of characteristics, line speeds and other parameters, will be those

stipulated in the regulations of BME or IBERCLEAR, for access via the BME and IBERCLEAR IP Extranet systems; or of SWIFT, for the SWIFTNet system.

In case of direct connectivity with T2S, T2S official technical providers should be used according to T2S specifications.

6. COMMUNICATION PROTOCOL

Participants will be connected to IBERCLEAR using the IP protocol.

Whenever necessary, connections using the IP protocol will be encryption-protected.

7. REQUIREMENTS FOR THE TRANSFER OF INFORMATION

IBERCLEAR participants must have real-time communications in both modes of operation, "computer to computer", using the products approved by IBERCLEAR: MQ Series or SWIFTNet InterAct, and BME-PC using the software developed by IBERCLEAR. Participants will also use file transfer as a method for exchanging information, and to this end may use any of the products approved by IBERCLEAR: EDITRAN, sFTP or SWIFTNet FileAct.

Nevertheless, If IBERCLEAR participants with no direct connectivity with T2S that only participate in Fixed Income transactions or have an exclusive BIC for Fixed Income, and act only for their proprietary account and are not in charge of the technical resources of another participant entity, it will be possible for them to have real time communications only through BME-PC.

Access to the BME-PC application will be mandatory as it will be used as the back-up system for information exchange. User access to the BME-PC application will be via a web browser and a digital certificate (PKI) will be used to identify users.

Entities must implement computer programmes and procedures that enable them to save the information dispatched to IBERCLEAR on a daily basis, in such a way that, where necessary, they can redeliver the information sent in the course of the day. Requests for redelivery of information may be selective, by applications, or may concern all the information sent by the participant.

In the absence of any indications to the contrary, IBERCLEAR will always act as a server centre, whereas the entities will act as client centres. In this way, transmissions sending or receiving information with IBERCLEAR must commence at the entity.

The specific parameters for using each of the approved data transfer packages for direct communication with the IBERCLEAR computer will be furnished by IBERCLEAR during the connection and test process for an entity, to enable both the entity and IBERCLEAR to draw up the definitions required in their computer systems.

Connectivity to T2S is available via Application to Application (A2A) using the Swift messaging implemented for T2S or via User to Application (U2A) using the ECB browser solution GUI (Graphic User Interface).

8. DISTINGUISHING REGISTRATIONS RECEIVED

Entities acting as the authorised parties of a participant will identify the entity referred to in the registrations received in any of the intended transmissions, in accordance with the participant code for this purpose in all transmission formats.

If, as a result of validation of the registrations that make up each transmission, the entity ascertains it has received information from IBERCLEAR that does not concern the entity, it must notify this circumstance to IBERCLEAR as soon as possible.

9. BME-PC

The BME-PC application will permit the entry of instructions and their modification and cancellation, as well as management of static data (permission to access, open and manage securities accounts, cash accounts, etc.)

User access will be via a web browser, and a digital certificate (PKI) will be used to identify users, in line with the T2S GUI (graphical user interface).

The service access browser will be designed to be compatible with the three of the major internet browsers currently in use:

- Microsoft Explorer
- Google Chrome
- FireFox