Connectivity

Service Description Document

V. 03.2~~1~~, APRIL 2026

1. Introduction and purpose

1.1. Document purpose

The purpose of this document is to describe the Connectivity options for accessing Euronext Securities Milan services as part of the European Offering initiatives. All connectivity topics covered in this document will be available by September 2026 or earlier.

1.2. Target audience

This document is intended primarily for prospective and existing Participants of Euronext Securities Milan and relevant for:

- IT Participants and technical teams responsible for implementing connectivity solutions.
- Project managers overseeing the onboarding and integration process.
- Business stakeholders who require an understanding of the connectivity options and requirements.

By addressing both technical and non-technical audiences, this document aims to support Participants throughout their onboarding journey and facilitate successful access to Euronext Securities' Milan services.

Please note:
As expressed above, Euronext Securities Milan is also supporting legacy services that are not included in this document due to the intention of Euronext Securities to refresh its public offering of services. Legacy services will continue to be supported for current CSD Participants but will no longer be offered to new CSD Participants due to the implicit onboarding costs of such services on the CSD Participant side that suggest targeting to newer and fresher solutions for new joiners.

1.3. Document overview

The document should be read in the context of the following definition of the stack of facilities that deliver the final service to the customer:

Layer	Description	Reference in document
Physical Connectivity	The physical connectivity enables the actual transit of information to/from Euronext Securities. Physical connectivity is offered by the Euronext Securities Connectivity teams and is cross to the entire CSD. With the natural evolution of Euronext Securities, more services will become available in the future through the same connectivity lines, allowing for the best customer TCO optimisation in the mid to long term.	Chapter 2
Information Exchange Protocols	Applications can use messaging or other protocols to exchange information. This layer defines and documents all the protocols available as time progresses in the offer of Euronext Securities.	Chapter 03
Applications and Services	IT services are rendered by single applications or bundles of applications. This layer then describes which services are supported by which application and in which local entity belonging to Euronext Securities.	Chapter 4
Messaging	Application to Application (A2A) services carry messages in agreed and published formats. This layer determines which format the messages need to be exchanged for the specific application/service to be accomplished.	Chapter 5.15

1.4. Available environments

The environments in the present document are available on a per Euronext Securities Milan approach as clarified in the tables of the next sections.

Nevertheless, all the services described in the present document are available to Euronext Securities Milan Participants in:

- End User Acceptance / External TEST environment (single instance, fully integrated to T2S).
- Production Environment (primary data centre), fully redundant and multi "availability zone" designed.

- Disaster Recovery Environment (secondary data centre), running in out of region from the Production Environment.

Service-specific Disaster Recovery information and procedures are provided at the time-of-service subscription, including the Disaster Recovery approach. Below is a summarised view:

- Internet-based services (e.g. Direct web access or VPNSSL web access) and SWIFT based services seamlessly move from the Euronext Securities primary data centre to the Euronext Securities secondary data centre with minimum client reconfiguration, if any.

- Message-based services require proper coordination with the Participants to allow for safe moving of services to the secondary data centre: this could imply re-pointing activities on the Participant side. This allows for more controlled "crisis"-based failover that assures proper synchronisation with Euronext Securities' Participants.

1.5. Complementing service description documentation

In addition to this Service Description Document, and for connectivity solutions that are not described in this document, separate Service Description Documents are available on our website CSD expansion documentation.

On this page, you will find service descriptions, technical documentation and other key materials relating to our service offering.

The documents available on this page are provided to help participants understand and prepare for upcoming changes across the relevant markets. The page is updated regularly to ensure access to the most current information.

1.6. Disclaimer

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2. Connectivity offer

2.1. Introduction to Euronext Securities Milan connectivity

This section aims to provide a brief overview of the current target physical connectivity that Euronext Securities supports.

Please refer to section 6. Connectivity Matrices for a holistic view of the connectivity matrices that can link connectivity to services, applications and protocols.

2.2. Direct connection (EMC and CMC) and Connection via Service Provider

Euronext Securities' connectivity model offers participants the opportunity to access Euronext Securities' Services in addition to Euronext Trading, Market Data and Clearing services.

Participants can access Euronext Securities' services in two different ways: via **Direct Connection** (i.e. direct leased lines through CMC or EMC model) or via **Indirect Connection** (i.e. leased lines contracted with authorised Service Providers).

Participants already connected (directly or indirectly) can leverage the existing connection to also include access to Euronext Securities' services.

Euronext's Production Data Centre is in the north of Italy (at Aruba IT-DC3) and Euronext's DR Data Centre is located near Paris.

Euronext Point of Presences (POPs) are available in London (at Interxion LON1 and Equinix LD4), Frankfurt (at Equinix FR2) and in Milan (at Retelit-X).

2.3. Direct connection model description

In case of **Direct Connection**, the Participant signs a Connectivity Agreement with Euronext selecting the connectivity solution it prefers from the Euronext Connectivity portfolio.

Euronext Securities offers two different connectivity solutions:

- **CMC (Client-Managed Connectivity)**

CMC is an open connectivity model, according to which the Participant can buy their own circuit from their preferred carrier and Euronext Securities provides an Access Port to access the Euronext Securities services at Euronext Data Centres or at Euronext POPs.

Access Ports in the Production Data Centre allow access to Production and Test environments, but they do not allow access to the DR environment.

Access Ports in the DR Data Centre allow Participants to reach the DR environment only.

Access Ports in each POP allow access to all Euronext Securities environments: Production, DR and Test.

Participants choosing to connect via the CMC solution benefit from a low-latency network infrastructure built to ensure reliability and resiliency.

The CMC solution offers different bandwidth Access Port(s): 10 Mbps*, 100 Mbps, 1 Gbps and 10 Gbps.

Participants with a Point of Presence in the Euronext POPs can benefit from connectivity to Euronext Securities via cross-connects within each Point of Presence.

The Client-Managed Connectivity Agreement is made of the CMC Order Form, the CMC Specific Terms, the Euronext Data Centre Services General Terms and Conditions and related documents, which are available on the Euronext Connect Portal.

Please refer to the following documents by connecting to the Euronext Connect Portal webpage:

- Euronext Client Managed Connectivity (CMC) Agreement
- Euronext Connectivity Services - Specific Terms
- Euronext Data Centre Services – General Terms and Conditions

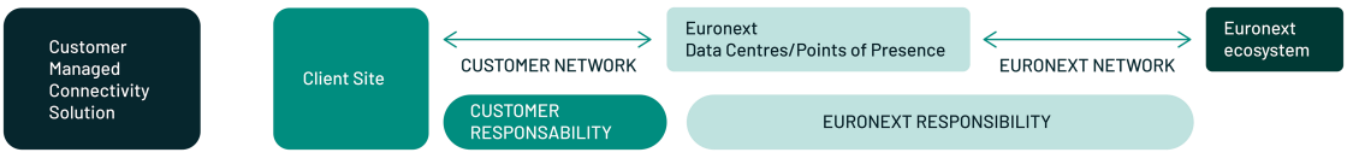


Figure 1 - Graphical View of the CMC Solution

*Note: the 10 Mbps Client Access Port is only available for CSD Participants and cannot be used to connect to the matching engine or to obtain, distribute or otherwise process Market Data. It is for Clearing and Settlement services only.

- **EMC (Euronext Managed Connectivity)**

It is a turnkey solution that offers end-to-end connection to services described in the document offered by Euronext Securities.

Participants can choose either a resilient or a non-resilient solution, according to their specific requirement.

The EMC solution is available with different bandwidth options: 2 Mbps, 10 Mbps, 100 Mbps, 1 Gbps and 10 Gbps.

As a turnkey solution, both network equipment and leased lines (provided by international carriers) are supplied, installed, managed and monitored (24/7) directly by Euronext Securities.

Leveraging the Euronext Securities backbone network, the EMC leased lines can be connected to either Euronext Production and Disaster Recovery Data Centres and/or any Euronext POP (London, Frankfurt or Milan).

The Euronext Managed Connectivity Agreement is made of the EMC Order Form, Specific Terms, the Euronext Data Centre Services General Terms and Conditions (GTC) and related documents, which are available on the Euronext Connect Portal.

Please refer to the following links to download the documents directly:

- EMC Order Form
- General Terms and Conditions
- EMC Specific Terms

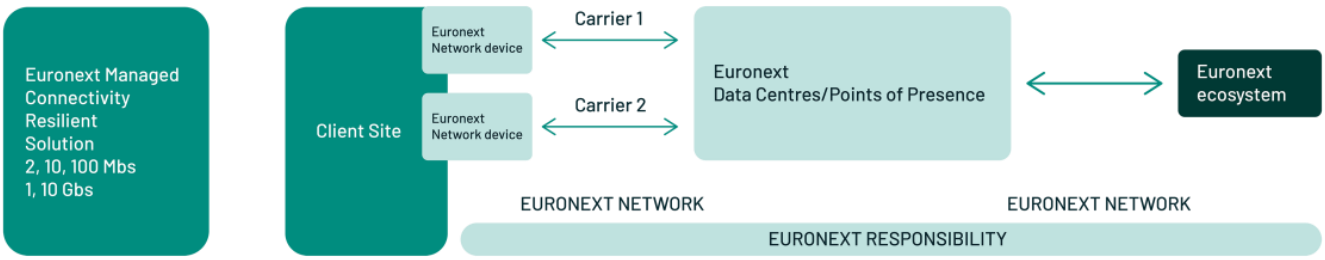


Figure 2 - Graphical View of the EMC Solution

For more information on the technical setup and/or for the pricelist of CMC and EMC services, you can contact the Client Connectivity team at connectivity.support@euronext.com.

2.4. Indirect connection (via Service Provider)

In case of **Indirect Connection**, the Participant signs an agreement with a third party, an authorised Service Provider (SP).

The Service Provider is responsible for providing (and maintaining) the connection between the Participant and Euronext.

The Service Provider connects to Euronext directly and is the owner of the Connectivity Agreement with Euronext.

Please refer to the list of Extranet Service Providers authorised to provide access to Trading and Market Data Services reported on the Euronext website for more details.

2.5. Euronext connectivity to access test environment (CMC VPN LAN to LAN)

Connectivity to the IBM MQ UAT (TEST) environment will be available also using a site-to-site VPN (IPsec LAN-to-LAN) over the Internet. This solution is meant to allow Participants not yet directly connected to the target connectivity model, depicted in 2.2 EMC, CMC and Connection via Service Provider2.2, to test the services while adopting the leased lines connectivity as per section 2.2 EMC, CMC and Connection via Service Provider for access both Production and TEST services.

Specific information regarding the VPN IPsec configuration parameters and encryption domains will be shared via ad hoc technical documentation.

Participants willing to adopt this solution will have to adhere to the CMC terms as described in the CMC (Client-Managed Connectivity) section above.

2.6. SWIFT

SWIFT can be also used to access Euronext Securities services in both FIN/InterAct protocol for messaging.

2.7. Internet

Many services, especially the end user GUI/Web pages, are exposed over the Internet either directly or by means of VPNSSL tunnels. In case of VPNSSL tunnels, clients are provided with user credentials and personal digital certificates to be installed on the client browser, but no additional appliances are required.

3. Information exchange protocols

This section provides an overview of the connectivity options available for Participants interacting with Euronext Securities Milan systems.

3.1. IBM MQ connectivity

One of the key methods for establishing secure and reliable communication is using Message Queue (MQ) connections and in particular IBM MQ services.

3.2. Connection overview

Euronext Securities Milan offers Participants the ability to connect to its services using IBM MQ technology over dedicated lines. This approach enables the secure exchange of messages between Participants systems and Euronext platforms, supporting a range of business and operational needs.

With reference to the connectivity approach as per section 2.2 EMC, CMC and Connection via Service Provider and 2.3 Euronext EMC/CMC – site-2-site VPN for test environment access leased line connections, the MQ sessions will support and require bidirectional communication (e.g. initiated from both Participants and central Euronext Third Party Access IBM MQ systems), this is usually referred to as "IBM MQ Server to Server" setup.

3.3. MQ Connection configuration

IBM MQ (Message Queue) over private/leased lines brief overview:

- IBM MQ is used for secure, reliable messaging between applications (A2A) as it ensures guaranteed delivery, transactional integrity and high throughput to avoid missing data and ensure consistency.
- IBM MQ is widely used across the industry for mission-critical financial transactions and batch processing, as it benefits from features and functionalities such as low latency, enhanced security and resilience.

- IBM MQ requires server-to-server configuration, bilateral authentication via public CA certificates, proper queue management, definition and access management.
- IBM MQ connectivity will be encrypted at application level in both directions.

Please note: the IBM MQ Server-to-Server setup requires Participants to provide their own IBM MQ licensing for the server on their side.

To help our Participants establish their IBM MQ connections, Euronext Securities Milan provides a dedicated ad hoc technical document. This document outlines the necessary steps and requirements for setting up the connection, including:

- The types of information needed to initiate the connection process.
- The general process for requesting and configuring access.
- Key considerations for ensuring a secure and stable connection.

3.4. Support and guidance

While the technical document contains detailed instructions, Euronext Securities Milan' support teams are available to assist Participants throughout the setup process. Participants are encouraged to review the document and reach out for guidance if they encounter any questions or challenges.

3.5. Secure File Transfer Protocol (SFTP)

Secure File Transfer Protocol (SFTP) is a de facto standard for file exchange over public networks across the industry. In Euronext Securities SFTP can be used with RSA public key authentication on Participant side. Moreover, the server side of the channel can whitelist the source IPs of the inbound Participants for further access security.

SFTP key facts:

- Used for secure file exchange between systems (A2A) such as batch data transfers, reports, and large files.
- **Benefits:** High security, compliance with data protection standards, reliable delivery, and provides encryption and authentication for data in transit.
- **Requires:** SFTP server/client configuration and user management.

3.6. Graphical User Interfaces (GUIs)

The following points summarise their key features, benefits and security requirements:

- Used for direct user interaction with applications (U2A).
- Suitable for different platforms, dashboards and operational tools.

- **Benefits:** It can be accessed via the Internet.
- **Requires:** user authentication and authorisation via IdPs, session management and data protection.

3.7. SWIFT network connectivity

The following points highlight how SWIFT ensures global reach, security and compliance in financial transactions:

- Used for secure financial messaging and payments between institutions (A2A).
- Operates over the SWIFT global network, which can be accessed via private/leased lines for added security.
- Supports standardised message formats (MT, MX) for payments, securities, and trade finance.
- **Benefits:** Global reach, high security, regulatory compliance, and reliability for financial transactions.
- **Requires:** SWIFT interface software (SAA), network configuration and compliance with SWIFT security standards.

4. Applications and services

4.1. Application quick reference table

Application/Services	Description	Reference	Application Type
X-TRM	Pre-Settlement Engine	4.2.2	A2A
MEGARA	Corporate Action Engine	4.2.3	A2A
PTCS	Post Trade Confirmation System	4.2.4	A2A
MT-X (A2A) Solution	FIS Service for Italian Issuers	4.2.5	A2A
Proxy Voting (via Votaccess and MEGARA)	Delegation of voting power	4.2.6	A2A
FRS IRI – Files	French Registered Shares Services	4.2.7	A2A
MyEuronext	Euronext Securities TARGET GUI for End Users	4.3.1	U2A
PTCS GUI	GUI for end users for PTCS service	4.3.2	U2A
MT-X U2A	Asset Servicing and Corporate Action End User GUI	4.3.3	U2A
X-TRM online	Pre-Settlement Engine End User GUI	4.3.4	U2A
Tax services (FTT) - Acupay	FTT services	4.3.5	U2A
FRS IRI – WEB GUI	French Registered Shares Services	4.3.6	U2A

4.2. A2A applications

Application-To-Applications (also called A2A applications) are meant to manage programmatic data and instruction exchange between applications in a secure and reliable manner.

The following sub-sections provide an overview of each supported A2A application, including the technical architecture, connectivity features and main use cases.

4.2.1. T2S for ICP and DCP Participants

Overview:

- Euronext Securities supports both Direct (DCP) and Indirect (ICP) T2S CSD Participants when it comes to settlement functionalities in T2S.
    - The DCPs are allowed to directly interact with T2S and choose their own approved VANSP: Euronext Securities receives a copy of the settlement transactions of its DCPs to keep its internal bookkeeping entries aligned and to support the community within the context of the "T2S Recovery" activities.
    - The ICPs can instead instruct Euronext Securities Milan via different services and connectivity patterns that allow for better synergies for the Participants.
- For more information about the services that Euronext Securities Milan provides for T2S interaction, please check the following chapters.

Connectivity for the ICPs is documented in section 2. Connectivity Offer while the connectivity matrix, by application, is kept updated in section 6. Connectivity Matrices.

4.2.2. X-TRM

Overview:

- X-TRM is designed as a robust Application-to-Application (A2A) pre-settlement platform, enabling seamless, secure and reliable data exchange between enterprise systems. As part of the overall connectivity architecture, X-TRM facilitates automated workflows, integration of heterogeneous applications and real-time information sharing across organisational boundaries.

Architecture:

- X-TRM offers a modular and distributed system with a dedicated web-based operational interface (Web Monitor) that connects Euronext Securities Milan internal back-office and IT Service Operations users to the core processing environment, enabling real-time monitoring and manual intervention to cater best-in-class settlement services to ICPs and markets running within the Euronext Group.

Connectivity features:

- STP (Straight Through Processing) Protocol Support: X-TRM supports multiple information exchange protocols (SWIFT and/or MQ over direct channels) to enable interoperability within diverse systems.
- Data transformation: X-TRM comes equipped with dedicated tools for mapping and transforming data formats between source and target applications.
- Error handling: X-TRM provides robust mechanisms for error detection, notification, and automated retries to ensure reliable message delivery.

- Security: Strict access controls are enforced to protect sensitive data during transmission and end user access to the web-based operational interface.

Use cases:

- Automated data exchange: Streamlines the transfer of business-critical information between customer back-office systems, central settlement platforms, and external partners.
- Regulatory reporting: Facilitates timely and accurate submission of regulatory data by integrating with compliance systems.

4.2.3. MEGARA provided by Vermeg

Overview:

- MEGARA application for corporate events powers the Euronext Securities CA4U project, currently deployed across our Euronext Securities CSDs.

- MEGARA is the newly developed Corporate Action management layer that introduces more flexible and scalable asset servicing activities along with a general refreshment of the practices related to the Corporate Action events for Euronext Securities. This application is being delivered in a phased approach across the Euronext Securities entities but has the benefit of harmonising flows across locations.

Architecture:

- As part of Euronext Securities' effort to continuously improve its services, MEGARA is the first of a series of new applications that leverage the flexibility of containerisation patterns that enable higher resiliency and automated recovery in service delivery.

Connectivity features:

- MEGARA provides its services using SWIFT or IBM MQ over direct connectivity as physical connection and ISO 15022 and ISO 20022 messages.

Use Cases:

- Corporate action events management in full automated mode.

- Management of Corporate action on flow and on stock.

- Mandatory and elective events management.

4.2.4. Post-Trade Confirmation System (PTCS)

Overview:

- PTCS is the newly built service running within Euronext Securities Milan that allows for Broker to Custodian trade matching and deferred settlement activities on specific eligible ISINs.

Architecture:

- PTCS is built on a performing and scalable containerised architecture part of the Euronext Securities IT strategy to reach hyper convergent architecture.

Connectivity features:

- PTCS is available only via direct physical connectivity. Physical connectivity can either be IPSec VPNs over the Internet (only available for the TEST environment) and standard EMC/CMC Euronext connectivity. The Information Exchange protocol is IBM MQ in "server to server" mode.

Use cases:

- Proper Custodian vs Broker settlement alignment.

4.2.5. MT-X (A2A) Solution

Overview:

- When operating in A2A mode, MT-X enables automated, system-level interactions between enterprise applications. This integration supports high-volume, programmatic exchanges of data and instructions, facilitating seamless business processes without manual intervention.

Architecture:

- Interfaces: MT-X can use file transfer interfaces for direct system integration. All A2A connections are authenticated using SSL keys, and files in transit are encrypted using industry-standard protocols (TLS/SSL) using SFTP.
- MT-X supports asynchronous file exchanges, with built-in mechanisms for message validation, error handling, and delivery confirmation.
- The application is built to assure:
    - Redundancy: The A2A infrastructure is designed for high availability, with redundant network paths and failover capabilities to ensure uninterrupted service.
    - Monitoring: Automated monitoring tools track the health and performance of A2A connections, enabling rapid detection and resolution of issues.

Connectivity features:

- MT-X can initiate connections to Internet Exposed SFTP servers and allows whitelisting of IPs at destination.

Use cases:

- MT-X can be used in the Italian Euronext Securities Milan market to manage the FIS service (shareholder book service for issuers).

4.2.6. Proxy Voting (via VoteAccess and MEGARA)

Overview:

- MEGARA shall be the Euronext Securities pivot for notification processing.
- MEGARA shall be fully integrated with an externally sourced proxy voting platform, Votaccess.

Architecture:

The architecture is shared in section 4.2.3 MEGARA provided by Vermeg.

Connectivity features:

- The messages shall be flowing over SWIFT or IBM MQ over direct connectivity as physical connection in ISO 20022 format.

Use cases:

- Facilitate the General Meeting notification processing, voting, confirmations and results.

4.2.7. French Registered Securities (FRS) – Information on Registered Investors (IRI) - Files

Overview:

- SFTP section of the French registered shared service

Architecture:

- The architecture provides a scalable and flexible service that accounts for future additional features and connectivity options that are being made available in a phased approach.

Connectivity features:

- The information between the service and Custodians shall be flowing over SFTP in custom format (IRI protocol). The channel expected at this stage is SFTP over Internet with mandatory IP whitelisting.

Use cases:

- Allow Custodians to adhere to the French regulatory prescriptions for registrar notification.

File Naming convention: As part of file transfers related to French Registered Shares between the IRI platform and the market participants, a standardized file naming

convention is applied to ensure unique identification, traceability, and proper sequencing of exchanged files.

The file name follows the structure:
<Flow id> <IRI Type>_<Participant Code>_<Timestamp>

Component description:

- **IRI Type:** Identifies the category of the file on the type of movements processed and the involved actors. These IRI types are defined in the SDD French Registered Shares chapter 7.3.1 and are coded from IRI01 to IRI07. For technical **acknowledgements** and **non-acknowledgements**, the messages received by the platform will contain **"Pack"** and **"Nack"** information in this field. ~~It can also include "Pack" & "Nack" information~~
- **Participant Code:** Corresponds to the IRI code of the platform acting as file sender or receiver. The definition and allocation of this code are described in the SDD French Registered shares, chapter 7.3.10
- **Timestamps:** Indicates the exact date and time at which the file is generated by the sending system "YYYYMMDDHHMMSSmmm"
- **Flow id:** This 8-digit number will be assigned by **Euronext Securities Milan** during the onboarding process. It will be a unique identifier for each participant. A single **Flow ID** will be used for all messages received, and a separate, specific **Flow ID** will be used for all messages sent.

Example: "E31PC061 IRI01_62000061_20260320153655678"

4.3. U2A applications

The following sub-sections provide an overview of each supported U2A application, including the entities involved, technical architecture, connectivity features and main use cases.

4.3.1. MyEuronext

Overview:

- MyEuronext represents the target GUI for End User Web Access for all of Euronext Securities and adds, from time to time, more functionalities visible as "widgets" in users' browsers.

Architecture:

- Fully containerised platforms allow for scalable workloads and low response times.
- It is enforcing the target authentication solution for Euronext Securities, OKTA, that allows for enterprise-grade authentication security, automatic threat intelligence and MFA for all accesses. OKTA, best in class in IDP solutions, embeds "self-

service" functionalities that make the end user experience seamless and easy to maintain.

Please note: Users activated in OKTA can be extended upon request to also access other OKTA-enabled services, allowing a full Single Sign On (SSO) approach to MyEuronext applications.

Connectivity features:

- MyEuronext is fully available as a web application via the Internet and protected by advanced DDOS and WAF security features.

Use cases:

- MyEuronext is the end user web GUI of MEGARA and shall provide related functionalities thus allowing the management of corporate action events with the point of view of Issuers, Issuer Agents, Paying Agents and Participants.

4.3.2. Post-Trade Confirmation System (PTCS) GUI

Overview:

- The PTCS End User Front End GUI allows both Custodians and Brokers to access and monitor bespoke interactions and keep the process of sharing transactions with counterparts under control.

Architecture:

- The PTCS is built on a performing and highly scalable containerised architecture part of the Euronext Securities IT strategy to reach hyper convergent architecture.

Connectivity features:

- The PTCS End User Front End GUI is available via the Internet as a web application and protected by advanced DDOS and WAF security features.
- It enforces the target best-in-class Authentication solution for Euronext Securities, OKTA, that allows for enterprise-grade authentication security, automatic threat intelligence and MFA for all accesses.

Please note: Users activated in OKTA can be extended upon request to also access other OKTA-enabled services, allowing a full SSO approach to MyEuronext applications.

Use cases:

- Front end GUI to the PTCS A2A service.

4.3.3. MT-X

Overview:

- In U2A mode, MT-X provides a secure and user-friendly interface for individuals to interact directly with the application. This mode is designed for manual operations, such as data entry, reporting and monitoring.

Architecture:

- User access: Users connect to MT-X via a web-based portal, accessible through standard browsers over the Internet using VPNSSL.
- User authentication is enforced through MFA based on credentials and personal digital certificates provided by Euronext Securities Milan.
- Role-based Access Control (RBAC) ensures users only see and interact with data relevant to their permissions.
- Session management: Secure session management practices are in place to prevent unauthorised access and protect user data during active sessions.
- The MT-X portal is designed for ease of use, with intuitive navigation and responsive design.
- Support: Helpdesk and technical support are available to assist users with connectivity or operational issues.
- Security and monitoring:
    - Encryption: All user interactions flow via encrypted channels like VPN SSLs tunnels.
    - Audit trails: User activities are logged for compliance and security monitoring.

4.3.4. X-TRM Online

Overview:

- X-TRM provides a comprehensive User-to-Application (U2A) interface called X-TRM online (XTO), enabling end-users to interact directly with the application through a secure and intuitive online platform. As part of the connectivity landscape, X-TRM's U2A capabilities are designed to facilitate efficient, real-time access to business functions, data and services for a wide range of users
- A key feature of X-TRM, as pre-settlement system, is its seamless integration with the TARGET2-Securities (T2S) platform, supporting, , the settlement of securities transactions across European markets. Through its U2A interface, X-TRM Online allows users to initiate, monitor and manage settlement activities, ensuring compliance with T2S requirements and providing real-time visibility into settlement processes. This integration enables users to efficiently handle settlement instructions, track Settlement statuses, and manage exceptions, all within a secure and user-friendly environment.

Architecture:

- X-TRM Online is built on a three-layer architecture, a secure web interface, a C# back-end for business logic and an SQL database for data persistence. The dashboard is optimised for intuitive user interaction and real-time access to post-trade data.

Connectivity features:

- Users access the platform via a secure web portal HTTPS over Internet, with regular security testing and proper DDOS/WAF protection, performance monitoring.
- The dashboard allows manual data entry, search, export and reporting.
- User authentication is enforced through MFA based on credentials and personal digital certificates provided by Euronext Securities Milan.
- Role-based Access Control (RBAC) ensures users only see and interact with data relevant to their permissions.

Use cases:

- Operators can manually enter transactions, search and export data, generate customisable reports, manage penalties (automatic/manual), handle buy-ins and external settlements, and monitor settlement activities in real time.

4.3.5. French Tax Transactions (FTT) - Acupay

Overview:

- FTT is a portal that allows Participants to manage their tax reporting duties.

Architecture:

- It is a modern and scalable microservices-based application.

Connectivity features:

- Users access the platform via a secure web portal HTTPS over the Internet, with regular security testing, proper DDOS/WAF protection, and performance monitoring. The dashboard allows manual data entry, search, export and reporting.

Use cases:

- Users provide information on French transactions regarding securities through uploads or front-end entry. The Acupay system collects the information and provides reporting on the transactions.
- Acupay provides reporting on French transactions to the paying agents.
- Users will provide information on French transactions regarding securities. This is done through uploads or front-end entry.
- The Acupay system will collect the information and providing reporting on the transactions.
- Undetermined**:** Acupay executes tax calculations on the provided transactions to determine tax payments and provides reporting on the French transactions to the paying agents.

4.3.6. French Registered Securities (FRS) – Information on Registered Investors (IRI) - WEB GUI

Overview:

- WEB Gui to the FRS IRI services.

Architecture:

- Complementary part of the FRS IRI – Files service, this U2A GUI allows custodians to access and manually manage and retrieve their registrar information.

Connectivity features:

- Users access the platform via a secure web portal HTTPS over the Internet, with regular security testing, proper DDOS/WAF protection, and performance monitoring. The dashboard allows manual data entry, search, export and reporting.

Use cases:

- Allow customer end user access to FRS IRI service.

4.3.7. Protocols and network

Euronext Securities Milan supports secure access to its GUI via only HTTPS protocol communication. Connectivity is built on a defence-in-depth perimeter architecture, with Enterprise Grade DDoS/WAF/IPS solutions. Connectivity details.

The connectivity details for Euronext Securities Milan's GUI, covering both user acceptance test and production environments, are as follows:

Protocol	Environment	Port	DNS
HTTPS	Production	443	frs.euronext.com
HTTPS	User acceptance test	443	frs-eua.euronext.com

Connectivity is provided over the public Internet, and firewall allow-listing of the relevant source IP addresses is required.

4.3.8. Onboarding process description

The onboarding process for GUI connectivity includes the following steps:

- The client must communicate each IP address that will be used to connect with Euronext GUIs.
- Euronext communicates the available roles and profiles that end users can be assigned to.
- The client provides company name, location, contacts, roles, profiles and email addresses for user creation.
- Euronext's Authentication Platform (OKTA) system sends an automated email with login instructions for user credential generation.

4.3.9. Security and identification

Security and identification for GUI connectivity are ensured through multiple mechanisms:

- All traffic is routed through Enterprise Grade anti DDoS/Reverse Proxy/WAF services, which provides TLS termination at the edge, enforcing HTTPS-only communication with strong cipher suites and comprehensive certificate management.

- Strict Client IP allow listing is enforced at the application network boundary
- Cry toptographic standards include TLS 1.3
- User authentication is managed via OKTA, with credentials issued to authorised users only and with OKTA VERIFY TOTP enforcement that mandates the Multi Factor Authentication.
- Further details shall be provided during the onboarding process.

5. IRI protocol for exchanges

5.1. Introduction

This section describes the way exchanges are made between the IRI platform and the different actors.

It contains:

- The structure of exchanges
- The technical header specification
- The acknowledgement description
- Connectivity information.

The format for IRI will be a "flat file zoned."

5.2. Purpose

The purpose of this section is to provide all the information needed by the different actors to exchange with the IRI Platform:

- With files exchanged with SFTP.

5.3. Workflow

Any actor who sends an exchange to the IRI Platform will receive an acknowledgement sent by the IRI Platform.

5.4. Exchange structure

An exchange is compound of a technical header followed by business data, for example an IRI.

The exchange can contain several business data, but all the business data contained in each exchange must be of the same type. For example, an exchange can contain several IRI01.

5.5. Technical header specification

The technical header is the first line of the exchange and is a concatenation of the following fields of fixed length:

Name	Type	Length	Mandatory / Optional	Description
Filler	AN	31	O	Reserved by the IRI platform – blank
RecordType	N	1	M	Value is always 0 for consistency with IRI messages
ExchangeId	AN	12	M	Type of the business data following this technical header
SenderRef	AN	64	M	Reference of the exchange given by the sender
SenderId	AN	11	M	Identifier of the sender
SenderIdType	AN	4	M	Type of identifier of the sender: - BICC: BIC 8 or BIC 11 - IRIC: IRI platform code
ReceiverId	AN	11	M	Identifier of the receiver
ReceiverIdType	AN	4	M	Type of identifier of the receiver: - BICC: BIC 8 or BIC 11 - IRIC: IRI platform code

5.6. Exchange acknowledgement

An exchange acknowledgement is an expanded technical header. It starts with the technical header, with the addition of the following fields:

Name	Type	Length	Mandatory / Optional	Description
NetworkDeliveryStatus	AN	4	M	Statuses: PACK: the exchange is accepted and validated for further processing NACK: the exchange is not accepted
ReasonCode	N	6	O	Reason of the status. Mandatory if the exchange is not acknowledged
AdditionalReasonInformation	AN	50	O	Additional information about the status

5.7. SFTP connectivity for IRI

The IRI platform is designed around the secure exchange of files that underpin the registration and de-registration processes for investors in French registered securities.

All exchanges are conducted exclusively via the SFTP protocol, which ensures confidentiality and integrity through authentication and encryption.

The file transfer solution supports both inbound and outbound exchanges, with dedicated folders and clear naming conventions to indicate the direction of transfer. Credentials and cryptographic keys are exchanged out-of-band to further strengthen security.

5.7.1. Protocols and network

The IRI platform supports file exchanges exclusively via the secure file transfer protocol (SFTP) over the Internet. All connectivity is established using SFTP, which provides encrypted transmission and mutual authentication between client and server.

Access is restricted to pre-approved IP addresses, and all connections require the use of SSH keys for authentication.

No other protocols or network channels are supported for these exchanges.

5.7.2. Connectivity details

The connectivity details for Euronext Securities Milan, covering both the user acceptance test and production environments, are as follows:

Protocol	Environment	IP address	DNS
SFTP	Production	212.157.21.46	sftp-frs.euronext.com
SFTP	User acceptance test	212.157.21.47	sftp-frs-eua.euronext.com

All exchanges are conducted exclusively via SFTP over the Internet.

5.7.3. Onboarding process description

The onboarding process for the IRI platform ensures that each participant is set up securely and correctly for file exchanges with Euronext Securities Milan.

- SSH key pairs are exchanged to enable mutual authentication for SFTP connections.
- Authorised IP addresses are registered to restrict access to the platform.
- Dedicated folders are created for each user or account, with appropriate access permissions.
- Connectivity is first established in the user acceptance test environment before moving to production.

5.7.4. Security and identification

Security is a central component of the IRI platform's file exchange service. Several measures are in place to safeguard data and control access:

- Authentication is required for all SFTP connections, achieved through the use of SSH key pairs. These keys are exchanged securely during the onboarding process, ensuring that only verified parties can establish a connection.
- Data is encrypted end-to-end during transmission, protecting sensitive information from interception or unauthorised access.
- Access to the SFTP service is strictly limited to whitelisted IP addresses, which are agreed and configured during onboarding. This prevents unauthorised systems from attempting to connect.
- User accounts and permissions are managed to ensure that only authorised organisations and individuals can access specific folders and files, supporting granular control over data visibility.

- Password-based authentication is disabled; only key-based authentication is permitted, further reducing the risk of credential compromise.

- All connection attempts and file transfers are actively monitored and logged, enabling rapid detection of suspicious activity or anomalies.

These measures work together to provide a secure, controlled environment for all file exchanges, supporting regulatory compliance and protecting client data.

5.7.5. File transfer mechanisms

The IRI platform implements structured file management practices to ensure secure, efficient and transparent exchanges between participants and Euronext Securities Milan.

- Each user or account is provided with a dedicated HOME Folder, ensuring that files are clearly segregated and access is restricted to authorised parties.

- A file retention policy is applied in line with Euronext Securities policy and regulation.

- All files must adhere to a defined naming convention and be exchanged using proper folder structure: [HOME]**/<direction>/<file_type/<file_name>**.

  The **<direction>** specifies whether the file is inbound ("IN" to Euronext) or outbound ("OUT" to the client that shall have to "pull" and "poll" the responses and acknowledge files)

6. Messaging details

6.1. Quick reference on ISO messages

Euronext Securities Milan supports SWIFT messaging with reference to standards such as ISO 15022 and ISO 20022. The support of such standards is available via SWIFTNet and/or IBM MQ depending on the supporting service. In particular:

Messaging Context	ISO 15022 Available via SWIFT	ISO 15022 Available via IBM MQ	ISO 20022 Available via SWIFT	ISO 20022 Available via IBM MQ
Settlement (X-TRM)	Yes	Yes	No	Yes**

Messaging Context	ISO 15022 Available via SWIFT	ISO 15022 Available via IBM MQ	ISO 20022 Available via SWIFT	ISO 20022 Available via IBM MQ
Corporate Action Messages (MEGARA)	Yes	Yes	Yes	Yes
SHID disclosure (via MEGARA) (e.g. seev.045/seev.047)	No	No	Yes	Yes
Other Asset Servicing Messages (e.g. statement of holdings)	Yes	No	No	No
Proxy Voting (via Votaccess and MEGARA) (e.g. seev.001/seev.004)	No	No	Yes	Yes

For the actual list of messages that are bundled in the above-mentioned "Messaging Context", please contact your Euronext Securities representative.

**: settlement penalties report is not available via ISO 20022. Interested Participants should opt for the MT537 format over SWIFT or access the same reports via the U2A X-TRM Online application.

6.2. Message anatomy

This section provides an overview of message structure as it relates to Euronext Securities Milan's message types. All messages, whether incoming or outgoing, consist of a header and a body. Supported message structures include ISO 15022 and ISO 20022 standards.

Each ISO 15022 message contains a single message header, which provides essential information about the message, such as the sender, receiver, message type and other routing details.

For ISO 20022 messages, the standard specifies an optional, separate application header that is appended to the business document. The application header is transport independent, so when sending an ISO 20022 message via MQ, a separate transport header is added to the business message. This arrangement is commonly known as a transport wrapper or envelope. To ensure clarity, this guide uses the term "transport envelope".

Further details on message structure are provided in the following section, message types and headers.

6.3. Message types & headers

For the purposes of this guide, the following assumptions apply:

Message type	Transport options	Message format / syntax	Header format
ISO 15022	MQ, SWIFT	ISO 15022 std / tagged, fixed length fields	ISO 15022
ISO 20022	MQ, SWIFT	ISO 20022 std / XML	ISO 20022 BAH, SWIFT Application Header.

6.4. SWIFT messages (ISO 15022/ISO 20022)

The next two sections describe the message headers used for SWIFT messages at Euronext Securities Milan, focusing solely on the technical aspects of ISO messages. Information on implementing SWIFT services can be obtained directly from SWIFT.

6.5. ISO 15022 header

A general representation of ISO 15022 message headers is as follows:

{1:Basic Hdr Block}{2:Application Hdr Block}{3:User Hdr Block}

When communicating with Euronext Securities Milan using ISO 15022 messages, the following rules apply. The examples below show the Participant's perspective and use sample BICs; please substitute these with the actual BICs provided to Euronext Securities as indicated above.

For messages from Participants to Euronext Securities Milan
Messages sent to Euronext Securities Milan must be addressed to the appropriate Euronext Securities Milan using the correct BIC and transport method.

Euronext Securities Milan	BIC Address
Milano	MOTIITMMXXX

For messages sent by Participants to Euronext Securities Milan
{1:F01BANKSENDABIC1234123456}{2:I565EURONEXTAXXXN}{4: … -}

For messages from Euronext Securities Milan to Participants
{1:F01BANKRECEABIC1234123456}{2:O5641200010103EURONEXTAXXX1234123456 0101031201N}{ 4: … -}

Further information regarding ISO 15022 messages is available from SWIFT.

6.6. ISO 20022 header (and envelopes)

When communicating with Euronext Securities Milan using ISO 20022 messages, the following rules apply. The examples below are from the Participant's perspective and use sample BICs and distinguished names (DNs); please replace these with the actual values provided to Euronext Securities Milan as indicated above.

For messages from Participants to Euronext Securities Milan
Messages sent to Euronext Securities Milan must be addressed to the appropriate Euronext Securities Milan using the correct distinguished name (DN) and transport method.

Euronext Securities Milan	DN	BICFI
Milano	ou=xxx,o=motiitmm,o=swift	MOTIITMMXXX

Message elements
ISO 20022 messages consist of three parts:

- A **TransportWrapper**, which depends on the communication network (SWIFT or MQ queues). The transport wrapper includes the network addresses (distinguished names, DN) for both sender and receiver, as well as the network service code.
- An **AppHdr**, which is determined by the service and market practices. The AppHdr contains business application routing and identification details (such as To and From BICFI and OtherID) used to identify the parties within the business applications.
- A **Document**, which contains the actual business message content.

6.7. MyStandards

Euronext Securities Milan offers comprehensive settlement services designed to ensure efficient and secure post-trade operations for market Participants.
Our settlement solutions are fully aligned with international standards, supporting seamless processing and reconciliation.

Euronext Securities Milan adheres to both ISO 15022 and ISO 20022 messaging formats, facilitating interoperability with global financial institutions.
These standards enable automated, accurate and timely exchange of settlement instructions and confirmations.

All message specifications and guidelines related to ISO 15022 and ISO 20022 are accessible via SWIFT MyStandards.

SWIFT MyStandards provides detailed documentation and up-to-date references for all relevant ISO 15022 and ISO 20022 message types.
CSD Participants can consult MyStandards to ensure compliance and streamline their integration processes using the following links:

ISO 15022: https://www2.swift.com/mystandards/#/mp/mt/_zm5laIjNEfCVy-viBZBJ8Q/version/2!usage_guidelines

ISO 22022:
https://www2.swift.com/mystandards/#/mp/mx/_acPWnJkvEfC2xLDkaK61yg!usage_guidelines

Our dedicated support team assists clients in navigating messaging standards and procedures. For further information, please refer to SWIFT MyStandards or contact Euronext Securities Milan's client services team.

7. Connectivity matrices

7.1. Applicationvs connectivity view

The following table outlines the possible connectivity for each service provided by Euronext Securities at the time of publication.

7.2. A2A applications

Service	Business Service	VPN over Internet	Direct Connectivity	SWIFT	Internet
XTRM: T2S settlement (OTC) and cross border	Settlement	**Messaging**: ISO 15022 and ISO 20022 **Information Exchange Protocol**: IBM MQ server to server **Physical Connectivity**: VPN site to site (**test environment only**)	**Messaging**: ISO 15022 and ISO 20022 **Information Exchange Protocol**: IBM MQ server to server **Physical Connectivity**: EMC/CMC connection (direct or via Approved Service Provider)	**Messaging**: ISO 15022 **Information Exchange Protocol**: SWIFT FIN protocol **Physical Connectivity**: SWIFT to/from MOTIITMM BIC	N/A
Corporate actions (via MEGARA)	Corporate events	**Messaging**: ISO 15022 and ISO 20022 **Information Exchange Protocol**: IBM MQ server to server **Physical Connectivity**: VPN site to site (**test environment only**)	**Messaging**: ISO 15022 and ISO 20022 **Information Exchange Protocol**: IBM MQ server to server **Physical Connectivity**: EMC/CMC connection (direct or via Approved Service Provider)	**Messaging**: ISO 15022 and ISO 20022 **Information Exchange Protocol**: SWIFT FIN protocol/ SWIFT InterAct protocol **Physical Connectivity**: SWIFT to/from MOTIITMM BIC (ES-MIL) || VPDKDKKK BIC (ES-CPH) || IBLSPTPP (ES-PTO)	N/A

Service	Business Service	VPN over Internet	Direct Connectivity	SWIFT	Internet
PTCS	Post-trade Confirmation and Deferred Settlement Services	**Messaging**: Custom (Not Standard / Proprietary) **Information Exchange Protocol**: IBM MQ server to server **Physical Connectivity**: Euronext EMC/CMC – site-2-site VPN (**test environment only**)	**Messaging**: Custom (Not Standard / Proprietary) **Information Exchange Protocol**: IBM MQ server to server **Physical Connectivity**: EMC/CMC connection (direct or via Approved Service Provider)	N/A	N/A
MT-X (A2A) Solution	FIS	N/A	N/A	N/A	**Messaging**: custom files **Information Exchange Protocol**: SFTP **Physical Connectivity**: outbound SFTP client connections over the Internet
SHID disclosure (via MEGARA)	Corporate events	**Messaging**: ISO 20022 **Information Exchange Protocol**: IBM MQ server to server **Physical Connectivity**: Euronext Securities EMC/CMC – site-2-site VPN (**test environment only**)	**Messaging**: ISO 20022 **Information Exchange Protocol**: IBM MQ server to server **Physical Connectivity**: EMC/CMC connection (direct or via Approved Service Provider)	**Messaging**: ISO 20022 **Information Exchange Protocol**: SWIFT FIN protocol/ SWIFT InterAct protocol **Physical Connectivity**: SWIFT to/from MOTIITMM BIC (ES-MIL) || VPDKDKKK BIC (ES-CPH) || IBLSPTPP (ES-PTO)	N/A
Proxy Voting (via Votaccess and MEGARA)	Corporate events	**Messaging**: ISO 20022 **Information Exchange Protocol**: IBM MQ server to server **Physical Connectivity**: Euronext Securities EMC/CMC - site-2-site VPN (**test environment only**)	**Messaging**: ISO 20022 **Information Exchange Protocol**: IBM MQ server to server **Physical Connectivity**: EMC/CMC connection (direct or via Approved Service Provider)	**Messaging**: ISO 20022 **Information Exchange Protocol**: SWIFT FIN protocol/ SWIFT InterAct protocol **Physical Connectivity**: SWIFT to/from MOTIITMM BIC (ES-MIL) || VPDKDKKK BIC (ES-CPH) || IBLSPTPP (ES-PTO)	N/A

Service	Business Service	VPN over Internet	Direct Connectivity	SWIFT	Internet
FRS IRI - Files	Conversion and and registrar				**Messaging**: custom files (IRI protocol) **Information Exchange Protocol**: SFTP **Physical Connectivity**: Inbound SFTP connections

7.3. U2A applications

Application	Business Service	VPN over Internet	Direct Connectivity	SWIFT	Internet
MyEuronext	Corporate events	N/A	N/A	N/A	**Information Exchange Protocol**: GUI over HTTPS **Physical Connectivity**: standard customer Internet access. OKTA ENABLED
PTCS GUI	Post-trade Confirmation Services	N/A	N/A	N/A	**Information Exchange Protocol**: GUI over HTTPS **Physical Connectivity**: standard customer Internet access. OKTA ENABLED

Application	Business Service	VPN over Internet	Direct Connectivity	SWIFT	Internet
Tax services (FTT) - Acupay	Tax	N/A	N/A	N/A	**Information Exchange Protocol**: GUI over HTTPS **Physical Connectivity**: standard customer Internet access.
MT-X U2A	Asset Servicing and Corporate Action End User GUI	N/A	N/A	N/A	**Information Exchange Protocol**: GUI over VPNSSL **Physical Connectivity**: standard customer Internet access.
X-TRM online	Pre-Settlement	N/A	N/A	N/A	**Information Exchange Protocol**: GUI over VPNSSL **Physical Connectivity**: standard customer Internet access.
FRS IRI - WEB GUI	Conversion and registrar	N/A	N/A	N/A	**Information Exchange Protocol**: GUI HTTPS **Physical Connectivity**: standard customer Internet access.

7.4. Connectivity vs application view

The below table provides a quick reference on the connectivity available and the service access it guarantees:

Connectivity	Application Type	Accessible Service	Information Exchange Protocols	Messaging	Notes
SWIFT	A2A	Corporate events (via MEGARA)	SWIFT FIN (ISO 15022) and InterAct (ISO 20022)	ISO 15022 and ISO 20022	Please refer to the section 5.1 Quick reference on ISO messages (Euronext Securities Milan) for a more detailed view of the messages supported in ES-MIL.
	A2A	SHID disclosure (via MEGARA)	SWIFT InterAct (ISO 20022)	ISO 20022	
	A2A	Proxy Voting (via Votaccess and MEGARA)	SWIFT InterAct (ISO 20022)	ISO 20022	
	A2A	X-TRM – pre-settlement	SWIFT FIN (ISO 15022)	ISO 15022	
Euronext Securities EMC/CMC and supported Service Providers	A2A	X-TRM pre-settlement	IBM MQ	ISO 15022 and ISO 20022	Please refer to the section 5.1 Quick reference on ISO messages (Euronext Securities Milan) for a more detailed view of the messages supported in ES-MIL.
Direct Lines	A2A	SHID disclosure (via MEGARA)	IBM MQ	ISO 20022	

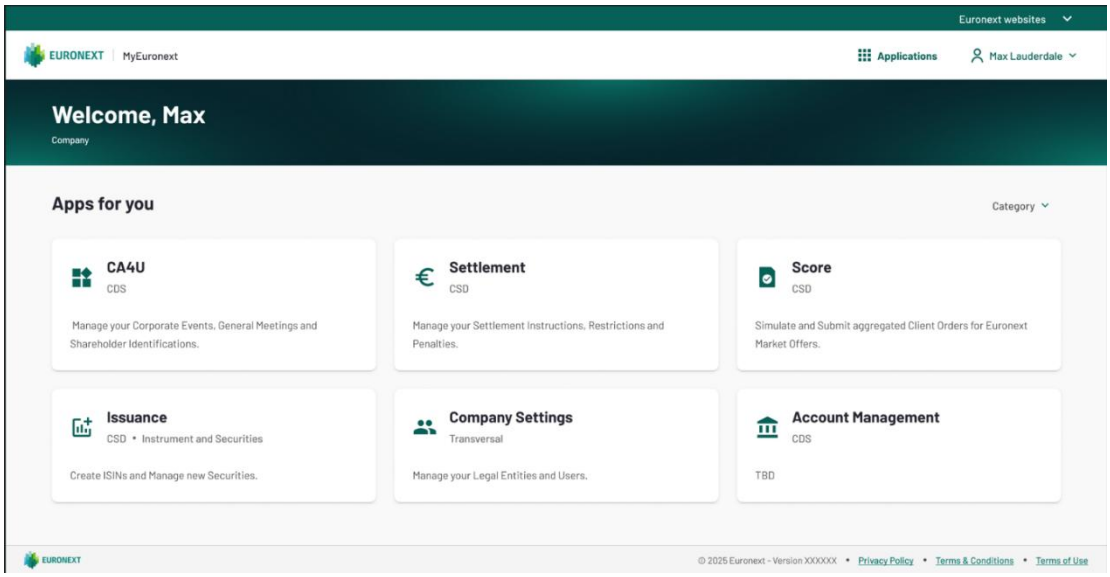
Connectivity	Application Type	Accessible Service	Information Exchange Protocols	Messaging	Notes
	A2A	Corporate events (via MEGARA)	IBM MQ	ISO 15022 and ISO 20022	
	A2A	Proxy Voting (via Votaccess and MEGARA)	IBM MQ	ISO 20022	
	A2A	PTCS	IBM MQ	Custom format	
Euronext Securities EMC/CMC Site to Site VPNs	A2A	X-TRM pre-settlement	IBM MQ	ISO 15022 and ISO 20022	**VPNs support TEST Environment only** Please refer to the section 5.1 Quick reference on ISO messages (Euronext Securities Milan) for a more detailed view of the messages supported in ES-MIL.
	A2A	SHID disclosure (via MEGARA)	IBM MQ	ISO 20022	
	A2A	Corporate vents (via MEGARA)	IBM MQ	ISO 15022 and ISO 20022	
	A2A	Proxy Voting (via Votaccess and MEGARA)	IBM MQ	ISO 20022	
	A2A	PTCS	IBM MQ	Custom format	

Connectivity	Application Type	Accessible Service	Information Exchange Protocols	Messaging	Notes
Internet	U2A	MT-X U2A X-TRM Online	VPNSSL	GUI	Requires a personal digital certificate to be added to the end user browser. Digital certificates are provided by ES-MIL. Users are created for the specific application only.
	U2A	PTCS GUI	HTTPS	GUI	User are embedded in Okta and required to install Okta Verify TOTP on Mobile phones or Windows.
	U2A	MyEuronext	HTTPS	GUI	
	A2A	MT-X (A2A) Solution	SFTP	Custom Files	Only used for outbound SFTP connection on the FIS service.
	U2A	Tax services (FTT) - Acupay	HTTPS	GUI	
	U2A	FRS IRI - Files	HTTPS	GUI	
	A2A	FRS IRI - Files	SFTP	Custom Files (IRI Protocol)	Inbound SFTP connections

8. Annexes

8.1. General information about MyEuronext connectivity

- **Access link and invitation:**
    - Access to the MyEuronext CSD Portal is done through the following URL: https://myeuronext.peua.csd.euronext.cloud (UAT env URL)
    - Users receive an invitation email from MyEuronext containing an **"Activate Okta Account"** button. This link initiates the secure authentication setup and is valid for **7 days**.
- **First connection:**
    - When accessing MyEuronext for the first time, users are required to configure their Okta account by completing the following steps:
        - Define a personal password
        - Install and configure the **Okta Verify** mobile application (available on iOS and Android)
        - Validate the registration through a verification email
        - Scan the QR code displayed on the screen using Okta Verify to link the device to the account
    - Once configuration is complete, the account is ready for regular use
- **Regular login:**
    - For subsequent connections, users should:
        - Go to the Okta login page: https://dap-digital-okta.peua.euronext.cloud (UAT env link)
        - Enter their username and password
        - Enter the **MFA code** generated by the Okta Verify application
        - Upon successful authentication, users are redirected to the MyEuronext homepage, where they can access the relevant applications.



8.2. General information about MQ Connection

MQ central systems are reachable by CSD Participants targeting the following specific addresses:

- UAT: 212.107.65.1
- PROD: 212.107.65.33
- DR: 212.107.65.65

Concerning IP routing, the following subnets are advertised on direct CMC/EMC lines and to CMC Service providers:

- 212.107.65.0/27 for UAT access
- 212.107.65.32/27 for PROD access
- 212.107.65.64/27 for Disaster Recovery access

The MQ sessions are bidirectional, including two different TCP sessions:

- Sessions initiated by Participants to central Euronext Securities Third Party Access MQ:
    - From the Source Customer CMC/EMC address to the MQ public IP (as shown in the above list) TCP port 1414
- Sessions initiated by the central Euronext Securities Third Party Access MQ to Customer MQ servers:
    - Source IP address from the MQ public address to the client-specific CMC/EMC Address to TCP port client side.
- Specific source addresses for the CSD Participants side are defined during the onboarding process following the CMC/EMC connectivity rules.
- Two different addresses/subnets are defined and must be used for UAT and PROD/DR access for security reasons.

9. Glossary

Below is a list of definitions of terms used in the document. If not otherwise specified:

Terms	Definitions
A2A	Application-to-application connectivity mode (e.g. SWIFT)
Acupay	Clear and easy-to-use full-service tax relief solutions, supporting issuers, custodian banks, brokers, investment advisers, asset managers and clearing systems throughout the entire process
CSD	Central Securities Depository
DCP	Directly Connected Party with the T2S platform.
DDOS	Distributed Denial-Of-Service
DR	Disaster Recovery
EOD	End of Day
ES	Euronext Securities
ES-CPH	Euronext Securities Copenhagen
ES-MIL	Euronext Securities Milan
ES-OSL	Euronext Securities Oslo
ES-PTO	Euronext Securities Porto
FTT	Financial Transactions Tax
GUI	Acronym for Graphical User Interface. The interface that allows a user to interact with a software application with graphical elements (e.g., windows, menus, buttons and icons) on a computer screen, using the keyboard and mouse, etc.
ICP	Indirectly Connected Party with the T2S platform.
IDP	Identity Provider

Terms	Definitions
IDPS	Intrusion Detection and Prevention System
IPSec	Internet Protocol Security
IRI	The Information on Registered Investors (IRI) is a set of information used to manage the accurate identification of shareholders by the Issuer, and to facilitate the exchange of shareholder information between Custodians and Issuers/Registrars in a set format. IRI messages (IRIs) play a central role in enabling seamless communication and ensuring that shareholder data is transmitted and recorded accurately.
ISIN	International Securities Identification Number.
ISO	International Organization for Standardization
MFA	Multi-Factor Authentication
MQ	Message Queue
MT	Message Type for ISO 15022 messages
MT-X	ES-MIL Internet Communication System
MX	Message XML
MyEuronext	Target GUI for End User Web Access
OKTA	Okta is an Identity and Access Management (IAM) service that offers businesses a secure Single Sign-On (SSO) solution.
PROD	Production
PTCS	Post-Trade Confirmation System (also the name of the Euronext Securities tool providing this service).
RBAC	Role-Based Access Control
RSA	Rivest–Shamir–Adleman. The RSA (Rivest–Shamir–Adleman) cryptosystem is a group of public-key cryptosystems and is among the earliest and most widely used methods for secure data transmission.

Terms	Definitions
SAA	SWIFT Alliance Access
SFTP	Secure File Transfer Protocol
SHID	Shareholders Identifications Disclosure
SQL	Structured Query Language
SSL	Secure Sockets Layer
SSO	Single sign-on
STP	Straight-Through Processing
T2S	TARGET2-Securities, a real-time exchange infrastructure.
TCO	Total Cost of Ownership
TLS	Transport Layer Security
U2A	User-to-application connectivity mode (GUIs).
UAT	User Acceptance Testing
URL	Uniform Resource Locator
Votaccess	Sourced proxy voting platform
VPN	Virtual Private Network
VPNSSL Web Access	Virtual Private Network Secure Sockets Layer Web Access
X-TRM	The daily trade-checking service in which transactions having financial instruments as their subject are sent to the settlement service operated by Euronext Securities Milan, or foreign settlement services.
XTO	X-TRM Online
WAF	Advanced Web Application Firewall

euronext.com/post-trade