

Business Continuity Framework

Abstract for external use

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EURONEXT CLEARING

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Abstract

The following is an abstract, intended for public distribution, of Euronext Clearing's Business Continuity Framework, which outlines organizational and technological aspects put in place to ensure the continuity of Euronext Clearing's core processes during an unexpected disruptive event.

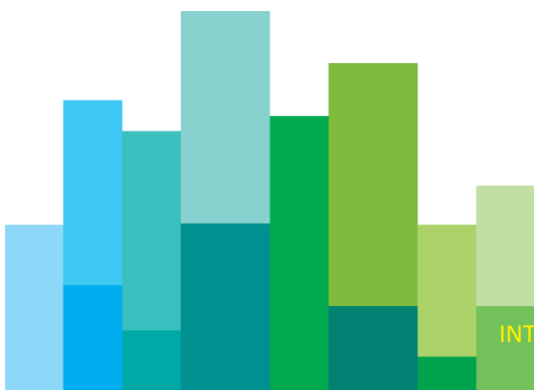
As a CCP, Euronext Clearing is subject to a number of national and international laws and regulations, that mandate certain Business Continuity requirements, particularly with respect to Recovery Time Objectives, location of alternative sites and resources needed to manage critical situations. Euronext Clearing's activities are under the oversight of Bank of Italy and Consob.

Euronext Clearing aims at providing secure and efficient services to its clients and the markets in which it operates. In order to reach this goal, it is committed to giving the highest priority to the continuity of clearing services, that are supported by the availability of its technical infrastructure, critical business applications, office facilities and staff.

To this end, Euronext Clearing has adopted the ISO 22301 standard as a Business Continuity Governance model, due to the international recognition of the ISO certification scheme. Moreover, Euronext Clearing has its Business Continuity Management System (BCMS) certified by an independent third-party auditor on a regular basis, in order to improve the reliability and quality of its services, as well as its compliance with law and regulatory requirements.

Any further details on individual aspects of services provided that are relevant to the contingency plans of members of the Euronext Clearing guarantee system may be provided to members through one-to-one contacts at the initiative of the member itself.

1. BUSSINES CONTINUITY STRATEGIES



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1.1 Business Continuity Strategies

1.1.1 IT System Architecture

Euronext Clearing's IT systems are based on a redundant architecture across two Data Centres in two different cities, more than 500 km away. The 'real time' data alignment, in addition to enabling prompt re-starts in the event of disaster recovery (within 2 hours), ensures maximum back-up of all production data at both operating locations.

New releases are always promoted in a test environment, prior to production, in order to assess the adequacy of processing capacity and of guarantee system.

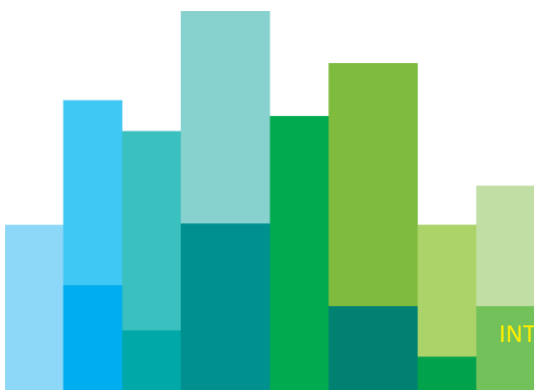
1.1.2 Staff distribution

The central processing systems at both locations are continuously active, and monitored by Euronext Clearing staff.

As suggested by applicable guidelines, in the event of unavailability of Euronext Clearing's main offices, Euronext Clearing staff can operate from a secondary site, located outside of the Metropolitan Area and far from the primary site. Euronext Clearing staff can also work from home.

Both application development and systems management staff can work on a mobile basis with suitable security and encryption procedures for technical, application, and "production support" interventions. For this purpose, the staff receives automatic reports when central systems detects a level of severity exceeding a set threshold.

2. RISK CONTROL MEASURES



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2.1 Risk control measures

Euronext Clearing has adopted a number of risk control measures to ensure Business Continuity objectives are met:

- **preventive measures**, capable of reducing both likelihood and impact of possible incidents;;
- **reactive measures**, capable of restoring the processes provided quickly enough to avoid negative consequences for the financial system.

2.1.1 Preventive measures

These measures include:

- **Business Impact Analysis (BIA)**, that identifies, quantifies and qualifies the critical processes relevant for business continuity and determines the impacts which may be caused in case of lack of availability of the resources related to those processes. The BIA is carried out following a detailed mapping of Euronext Clearing business processes.
- **Business Continuity Risk Analysis**, to identify so-called Single Points of Failure, i.e. risk elements that can jeopardize recovery of operations. Counter-measures are identified in order to ensure recovery within the desired timeframe.
- **Monitoring and measurement** of the Business Continuity Management System.

2.1.2 Reactive measures

These measures include:

- **Incident Management Procedure**
- **Crisis Management Procedure**
- **Business Continuity Plan (BCP)**, which documents procedures for responding to a disruptive incident and how it will continue or recover its critical activities within a predetermined timeframe. It covers the following risk scenarios:
 - Unavailability/denial of access to work place;
 - Unavailability of critical IT services;
 - Unavailability of critical staff;
 - Unavailability of critical third-party service providers.

2.1.3 Roles and responsibilities

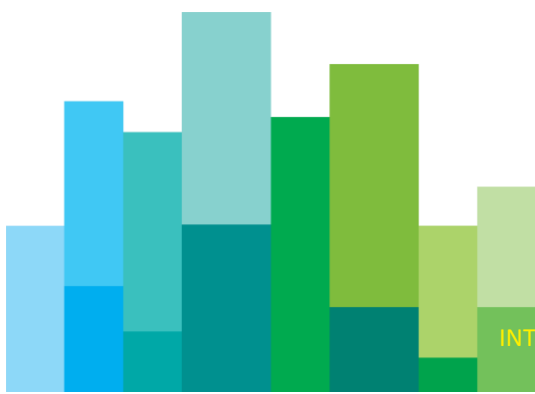
Euronext Clearing has defined clear roles and responsibilities to ensure an effective functioning of Business Continuity activities and oversight.

Main roles include:

- Crisis Manager;
- Business Continuity Manager;
- Business Continuity Management Team;
- Process Owners;
- Critical Staff;
- Critical 3rd Party Providers.

The Business Continuity Management System is subject to internal revision and internal and external yearly audits to assess its suitability for company requirements, the changes in architecture and the revised continuity management techniques.

3. TESTING AND EXERCISING



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3.1 3. Testing and exercising

Regular testing takes place throughout the year as per policy; this includes a large number of tests that simulate the unavailability of IT infrastructures as well as the unavailability of staff, buildings and critical providers. One of the most relevant tests is the so-called "Work Area Recovery" test, where Euronext Clearing's headquarters are supposed to be unavailable and critical staff is moved to the secondary site. Where possible, Euronext Clearing also participates in external market-wide exercises.

Please also note that the continuity and disaster recovery plan has also been activated with success under real production conditions during periods considered critical in terms of the presence and availability of specialist personnel. In the circumstance, which is the most complex of all those planned, the restart after the declaration of a state of disaster occurred within the planned Recovery Time Objective.

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