

Migration Guide CAP/ OPS to CCG

Target Audience of this document

All customers that use order entry gateways to access NYSE Euronext European Cash Markets.

Two deadlines

1) The deactivation of CAP and OPS sessions should be finalized by the end of September.

→ As a consequence, customers will have to migrate their order flow from CAP/ OPS to CCG (which supports 4 protocols: MMTP, FIX EN, UTP-Direct and FIX 4.2).

NB: the four protocols are already available on CCG in the production environment:

- UTP-Direct since January 2009
- MMTP and FIX since April 2009
- FIX 4.2 since June 2009.

2) The two legacy protocols (MMTP and FIX EN) will be decommissioned at the end of 2009.

→ As a consequence, customers will have to migrate to the target protocols: UTP-Direct and/ or FIX 4.2 by the end of 2009.

To do so, customers have two options:

Option 1: Migrate in 1 step from CAP/OPS to CCG in the target protocol UTP-Direct or FIX 4.2.

Option 2: Migrate in 2 steps – first migrate from CAP/OPS to CCG using the legacy protocol MMTP or FIX EN. Then at a later stage and before the end of the year, migrate from CCG legacy to one of the new protocols UTP-Direct or FIX 4.2 on CCG.

Migration Overview

1. Request new SLE sessions
2. Test the connectivity
3. Migrate the order book and the order flow to the new sessions. Decommission the legacy sessions.

What you will find in this document

- The different paths available to migrate from CAP/ OPS to CCG.
- The step-by-step process to easily perform this migration.

Two possibilities are offered to customers for the order migration

Caution1: Customers that only use day orders are not affected by this migration process. They will only have to enter their new orders on the CCG.

Caution2: Customers who trade on Warrants, SmartPool or TCS will have to keep MMTP or FIX EN sessions (and the associated drop copy sessions as well) while these markets are still on NSC.

Refer to the info-flash of 30 June 2009 for the dates of the warrants and SmartPool migrations. A separate info-flash will be issued to provide information about VL and TCS.

Possibility N°1: Migrate orders on your own without losing priority in the order book. This migration scenario can *only* be used for a migration from MMTP to MMTP or from FIX EN to FIX EN (please refer to Appendix 1 for more details).

Nº1 bis: NYSE Euronext can help you migrate your orders if you are unable to migrate them. Customers will need to send to CCC, one week before the migration, an email request including:

- The source SLE
- The target SLE
- Customer contact details.

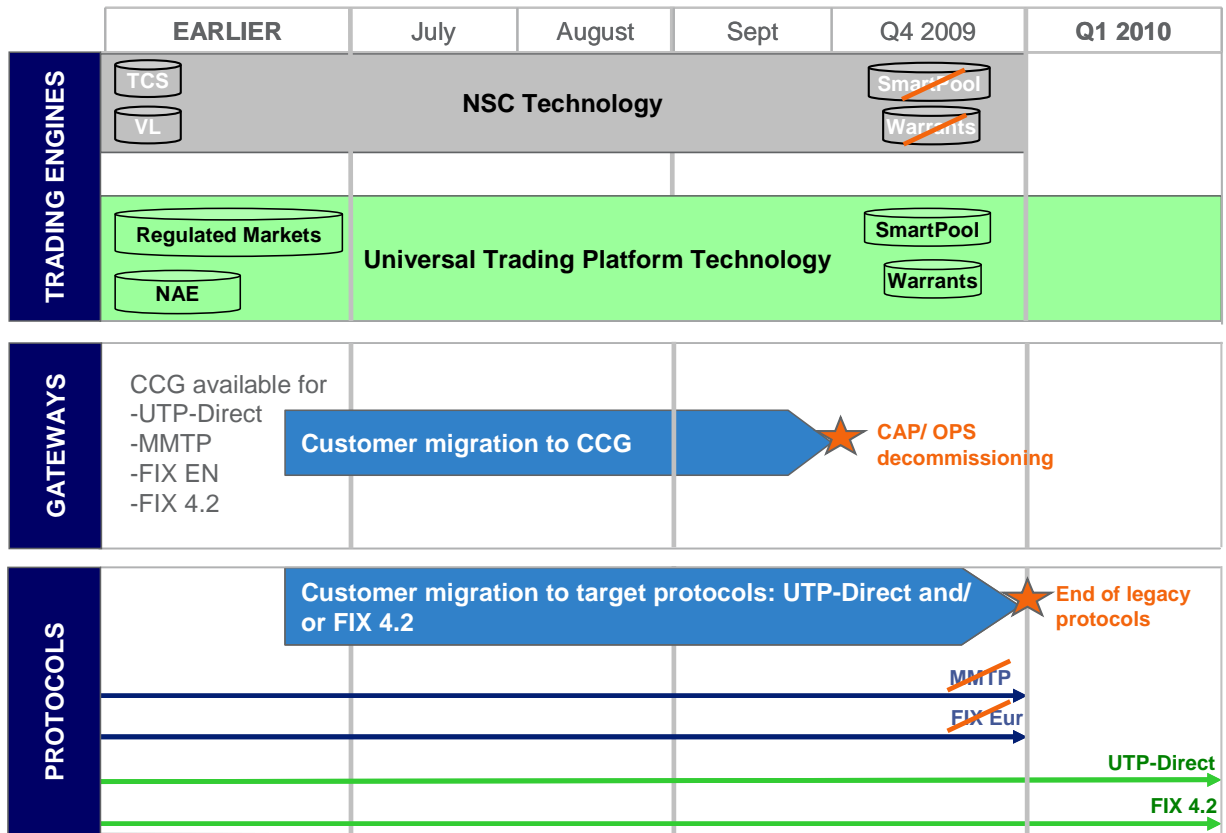
CCC will call you back on the day of the transfer before executing the migration. This operation would be executed by NYSE Euronext before 5pm; the migration would then be performed during the night without the possibility to roll back. For customers who can connect their application to a single environment (ie. CAP/OPS or CCG), the go-live test for the CCG SLE will be done one day before the order book migration.

This operation migrates order books from one or several CAP/OPS SLE to a CCG SLE. The member codes declared for each SLE (CAP/OPS and CCG) have to be the same. Upon request, this operation can be performed for only one of the engines (ie. UTP-RM or NSC Warrants).

Possibility N°2: Global cancellation of orders on the CAP/ OPS and re-entry of orders on the new gateway (please refer to Appendix 2 for more details). This cancellation can be done for one or several engines (ie. UTP-RM and/or NSC Warrants)

Note that this option is the only one available for a migration of legacy protocols (MMTP, FIX EN) to one of the new protocols (UTP-Direct or FIX 4.2).

Deadline summary



Migration step by step

1. Request creation of all test and live CCG sessions (SLE)

NB: this session will be created in addition to your current sessions (More details in Appendix 3)

Documentation:

- CCG Configuration form to be filled in (available at the following address on the Euronext website: www.euronext.com/cashmembers > Market/IT documentation > IT Order forms)
- Pricing structure (please refer to the "New pricing model for SLE sessions" info-flash published on 30 June 2009 for more details)

NB: to ensure a smooth migration, the CCG configuration forms should be sent approximately 2 months in advance of the decommissioning session.

For those customers already declaring or using CCG SLE via MMBA, these same SLEs can be used through their SFTI access. After sending an e-mail request to CCC, the SFTI access will be modified (action on the customer's SFTI router needed) to make all CCG SLEs accessible through both MMBA and the SFTI network without changing the SLE's properties.

2. Set up your applications based on the CCG session details you will receive (CCG target port(s) and IP address, CCG session login).

3. Test your order migration in the EUA test environment, then take the conformance tests (one test per application) and validate the order migration.

4. Migrate your test order flow to the test CCG sessions (for dated orders)

5. Signature of legal documents (for customers via SFTI)

- a. Member to sign the TPA
- b. Member going through an ASP:
 - TPA (to be signed by member)
 - SPA (to be signed by ASP)
 - Notification for use of an ASP (to be signed by both ASP and member).

6. Customer to test connectivity in production on his own and pass the go-live test (ie session activation in production upon customer's request: please refer to Appendix 4 for more details)

7. Start trading in production and migrate orders (for dated orders).

8. Deactivation of the CAP/ OPS sessions following reception of the “ceasing form”. Then the infrastructure will be decommissioned.

Documentation:

- SLE ceasing form for CAP and OPS sessions:
 - o CAP MAP SLE Subscriber cancellation request form
 - o OPS MMBA SLE Subscriber cancellation request form

- Infrastructure decommissioning for CAP and OPS:
 - o CAP MAP infrastructure ceasing form
NB: For more details, please refer to the info-flash published on 11 May 2009 detailing the CAP decommissioning process – please see www.euronext/cashmembers > Market news > Info-flashes
 - o OPS MMBA infrastructure ceasing form.

All the forms listed above are available at the following address:
www.euronext.com/cashmembers > Market/IT documentation > IT Order forms

Invoicing

New SLE sessions will be charged only after the Go-Live Test has been successfully completed. If, for any reason, you need to disable a live session, please contact CCC. For the pricing structure, please refer to the new pricing model info-flash of 30 June 2009.

The legacy SLE sessions will remain active until the request to deactivate them has been received or until the decommissioning of the CAP or MMBA infrastructure takes place. To avoid dual charges, please send the decommissioning form for the SLE sessions or the infrastructure in the 5 days following the migration.

Customers wishing to migrate to the new protocols but needing to keep the legacy protocols to access the Warrants, SmartPool, TCS and VL platforms will not be charged for their legacy sessions provided they are dedicated to the aforementioned platforms only and only up until the full migration of these platforms has taken place.

Contacts

Contacts to activate sessions in production:

CCC (Customer Connectivity and Configuration)

NYSE Euronext

39 rue Cambon

F 75039 Paris Cedex 01

Tel: +33 (0)1 49 27 5080

Fax: +33 (0)1 49 27 5085

ccc@euronext.com

For any other questions, please contact:

Universal Trading Platform Support Desk

Tel: +33 (0)1 4927 5090

Email: utp@nyx.com

Appendix 1: Migrate orders on your own (migration from MMTP to MMTP or from FIX EN to FIX EN)

Case 1: CAP/OPS SLE and new SLE can be activated at the same time

	SLE on CAP/OPS	SLE on CCG
Day 1		Activation (Go-live test after market hours)
Day 2		Takeover of orders**: send an order modification (of the order sent previously with legacy SLE) without changing the order characteristics

Case 2: CAP/OPS SLE and new SLE cannot be activated at the same time*

	SLE on CAP/OPS	SLE on CCG
Day 1		Connection testing
Day 2		Activation (Go-live test after market hours)
Day 3		Takeover of orders**: send an order modification (of the order sent previously with legacy SLE) without changing the order characteristics

* due to customer constraints

**** Takeover of an order:**

To migrate dated orders from CAP/OPS to CCG, you need to send via your new CCG session a cancel/ replace for each order previously sent via CAP or OPS, without changing the characteristics of the order.

Then the orders will be attributed to your CCG session and you will be able to decommission your CAP/ OPS sessions.

Appendix 2: Global cancellation of orders

Case 1: CAP/OPS SLE and new SLE can be activated at the same time

	SLE on CAP/OPS	SLE on CCG
Day 1		Activation (Go-live test after market hours)
Day 2	Global cancellation	
Day 3		Re-enter orders

Case 2: CAP/OPS SLE and new SLE cannot be activated at the same time*

	SLE on CAP/OPS	SLE on CCG
Day 1		Connection testing
Day 2	Global cancellation	Activation after global cancellation (Go-live test after market hours)
Day 3		Re-enter orders

* due to customer constraints

Appendix 3: Request creation of test and live sessions

To request new SLE sessions or modify existing ones, mail the CCG form to ccc@nyx.com. Send a separate form for EUA and Prod sessions. You can specify up to 20 SLE sessions on the form. Send the form as many times as necessary.

Please specify at the top of the form if the sessions concern a migration from CAP to CCG on SFTI or MMBA or OPS to CCG on MMBA.

When requesting the creation of a CCG session, you have the choice:

1. Of protocols *MMTP, FIX Euronext, UTP-Direct (Binary) and FIX 4.2*.

- A CCG session can only run one protocol at a time.
- Modifying the protocol of an existing CCG session implies changes of parameters (CCG target port(s) and IP address, CCG session login).

2. Of throughputs: *25, 50, 100, 200*.

- These are in messages per second.
- The total throughput of your CCG sessions should not exceed the service you subscribed to.
 - o 1000 if you subscribed to 1 « CASH service » on MMBA. (example)
 - o 2000 if you subscribed to 2 « CASH High Bandwidth Trading » services on SFTI. (example)

Reminder: sessions at 25 msgs/sec are limited to the customer having only 1 session (and a back-up) on their global infrastructure.

3. Of subscriptions *European cash, drop copy, SmartPool, NAE, BDL, etc.*

- These define the trading messages you will be able to send and you will receive.
- Reminder: drop copy sessions can only receive trade confirmations from sessions supporting a similar protocol. Drop copy sessions in MMTP or FIX EN can receive executions from sessions using one of these protocols. Drop copy sessions in UTP-Direct or FIX 4.2 can receive executions from sessions in UTP-Direct or FIX 4.2.

4. Of *multi-code*.

- Available for ASPs and for member entities under the same rules as the MAPI accesses.
- If set to « yes » the CCG session will accept several member codes.

5. Of *existing SLE for reference*.

- For any of the abovementioned properties that you do not specify, the properties of this existing SLE will be taken by default.

6. Of *UTP-D versioning*.

- Specify which version of the CCG you want to use, the one supporting the regular CIOrdID (version 1) or the one supporting the extended CIOrdID (version 2).

7. Of *Auto Mass Cancel*.

- Feature only available for the Warrants engine for the moment. This feature allows for a global cancellation of SLE orders on an abrupt disconnection of this SLE from the market.

8. Of the *Pool preference (optional)*.

- If the member has several groups of users inside the company and wishes to dispatch all the SLEs associated with one specific group on different CCG servers for resiliency purposes, then he can do so by selecting different clusters (from 1 to 5) for each SLE in the group.

Appendix 4: Activate your sessions in production via the Go-live tests

Step-by-step activation

- Contact CCC to schedule a Go-Live test.
- Call the Help Desk at the defined date/time (after hours).
- Connect to the new SLE sessions.
- Send an order. It will be automatically rejected.
- The Help Desk will confirm everything is okay and will validate the session.
- The SLE(s) is/are ready to be used at the next trading session.

These Go-Live tests allow customers to activate sessions in production. They are performed on Tuesday and Thursday evenings after market hours.

- FIX 4.2 and UTP-Direct activation tests from 6pm
- MMTP and FIX EN tests available as of 6.35pm

Contacts to activate sessions in production:

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