M7 Multi BG Setup
Impacts on M7 API and ComTrader - Focus on GB market

part of eex group

Document Objectives

This document:

- **aims at enabling customers to understand the multi Balancing Groups setup done for the GB market**
- **with a focus on the consequences of having an API user assigned to several BGs**

Summary

1. **Member, balancing group and users (BG Concept / Default migration setup)**
2. **Impacts on ComTrader**
3. **Impacts on your API applications**
4. **Tests to be done by customers**
5. **Impact on Conformance Tests**

Member, balancing group and users
BG concept

- A Balancing Group (« BG ») can be seen as a **portofio** that users from an M7 member are assigned to.

- It conditions data these users can request (« Own » orders and trades) and manage (order entry, modification, deactivation, activation, deletion).

- 1 BG can be assigned to:
  - 1 or several delivery areas and compatible products
  - 1 or several users of the BG member

- 1 user can be assigned to different BGs of a given member
  - When entering an order one of the BGs the connected user is assigned to must be indicated: the order is linked to this BG. This linked BG cannot be changed afterwards.
  - Any user assigned to that BG can manage this order (not limited to the user who entered the order).
  - *Note: Users have a default BG, which is automatically selected by ComTrader in order entry panels to populate the BG field. Default BG is mandatory and is set up in M7 back end per user.*

- Only Market operators can configure BGs and user assignments.
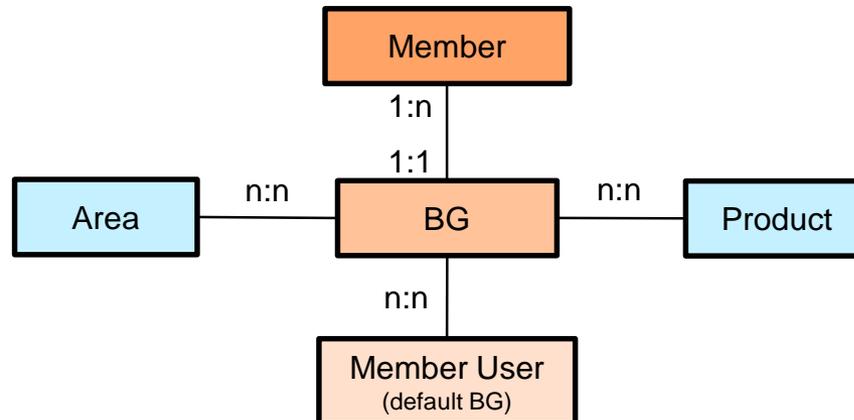
Member, balancing group and users
Default BG setup for GB migration

Eurolight -> M7 GB <u>default</u> migration rules: (unless requested differently by customers)

- All position accounts from EL have been converted into M7 UK BGs
- For members who already had a continental BG: NGET area and BG products were assigned to it
- All users are assigned to all BGs (Note: a few customers requested that only GB traders are assigned to UK BGs)

This results in the following default setup:


```
                              Member                    NGET + GB products

                                                              NGET assigned to all BGs

Continental    BG 1 Continental   BG 1 UK         BG 2 UK         More BGs to reflect
Areas + Products   (optional)    (e.g. production) (e.g. consumption)  the Eurolight setup

                                                          All users assigned to ALL BGs
                                                          (unless explicitly requested)

Trader 1    API User 1    Trader 1 GB    Trader 2 GB    Api User GB
```
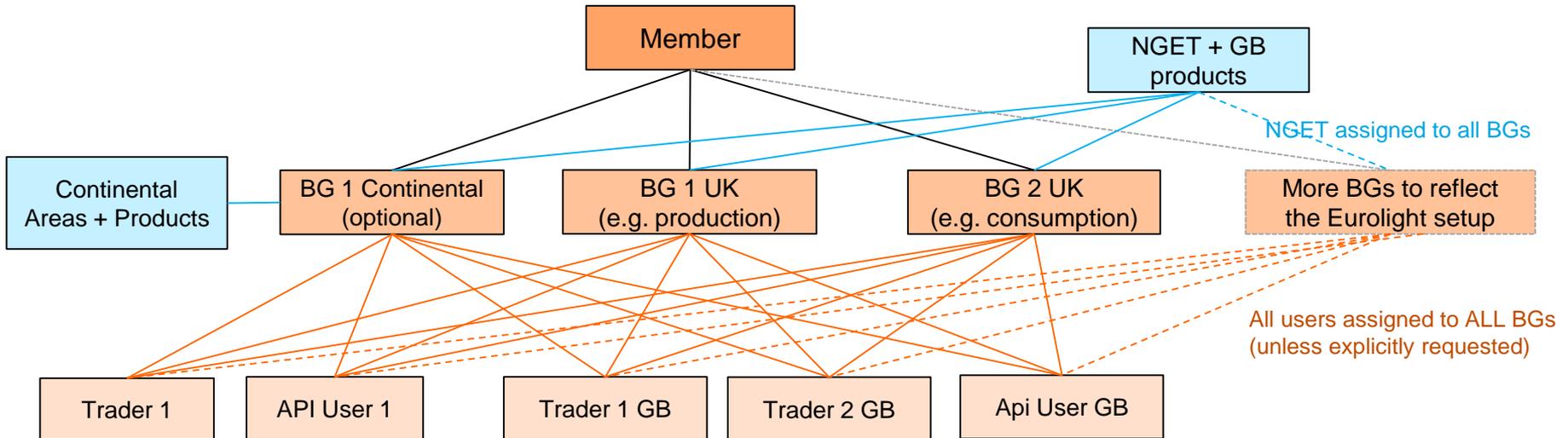
IMPORTANT: This multi-BG setup is <u>NOT mandatory</u>.
It was appropriate for most customers since aligned on Eurolight, but **you can keep on using 1 single BG (**assigned to NGET and other areas) if more convenient.

Impacts on ComTrader 1/2

1. **« Own order » and « Own Trade » panel:**
   - Own orders are orders entered with a BG your ComTrader user is assigned to.
   - The ComTrader / M7 order management approach is that any user assigned to a set of BGs can see and manage all orders linked to one of these BGs.
   - As a result Own order and Own Trade panels display all related orders and trades .
   - With the default configuration explained below

2. **Color code in order books:**

ComTrader enables traders to identify via a **color code:**
   - their **personal** orders (below in light **Blue**)
   - their colleagues orders (users belonging to the same BG): orders submitted by the API robot will belong to that category **=> Traders can identify robot (API app) orders in order books**
   - market orders & orders from same member but BG not assigned to the CT user (in white)

3. BG selection during order entry
   - Balancing group field of the Order Entry panel is prefilled with the default BG
   - ComTrader user needs to select the correct BG in the drop down menu.

Impacts on ComTrader 2/2

4. Cross trade protection

- **In ComTrader**
  - Orders from other users of same BG (in blue or yellow) trigger cross trade protection alarm
 - Orders from other BG of same member (in white) do not trigger any alarm
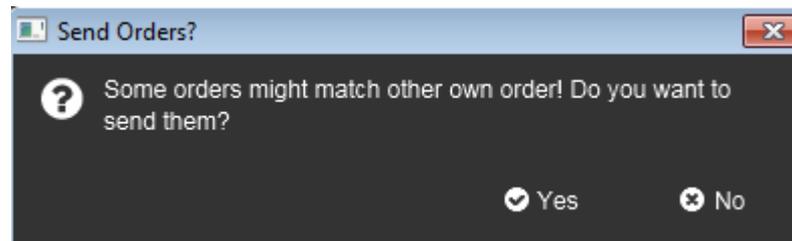
- **Between ComTrader and other API apps**
  - API apps (ISV, robot) are informed of all the ComTrader Order actions (entry, modification, etc.) and vice versa via *Order Execution Report* messages sent to all users assigned to the order BG

ComTrader EPEX Java FX client

1. Sends an order action on BG1

Customer API application

API (AMQP) ⟷ M7

2. An Order Execution Report is sent to users assigned to BG1: the API app knows that this order is an own order and can implement a cross trade mechanism
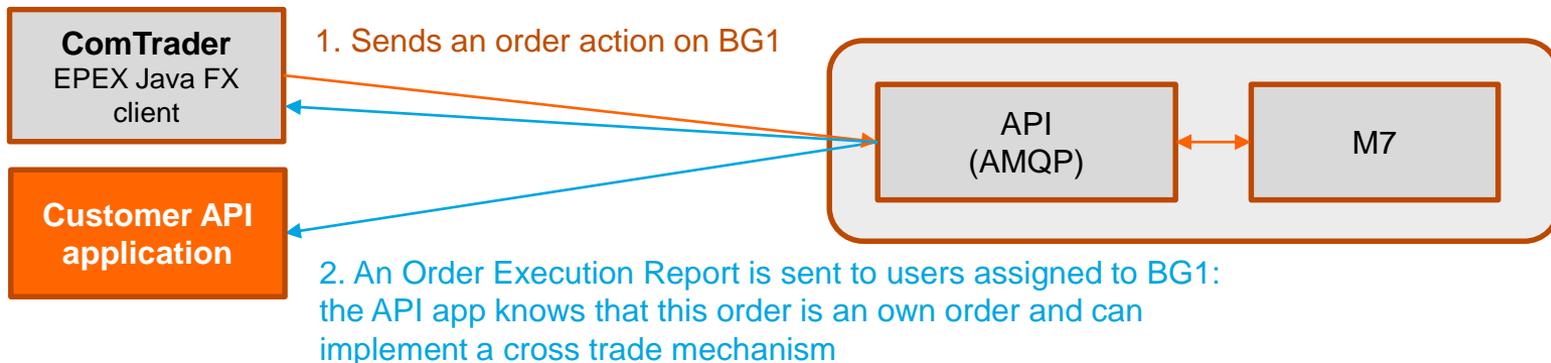
Impacts on your API applications 1/3

1. **User Report response** when logging in:

- It lists all the BGs assigned to the connected API user:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<UserRprt xmlns="http://www.deutsche-boerse.com/m7/v6">
 <StandardHeader marketId="EPEX"/>
 <Usr sessionId="1541768736829" mbrName="Member Test For EPEX" usrId="1003864" revisionNo="14" name="Test User Epex" usrCode="TRD001" mbrId="TEST1"
defaultAcctId=" BG 2 UK" state="ACTI">
   <AssgAcctId>BG1 Continental-</AssgAcctId>
   <AssgAcctId>BG 1 UK---------</AssgAcctId>
   <AssgAcctId>BG 2 UK---------</AssgAcctId>
   <UsrRole>ROLE_CAPACITY_INFO</UsrRole>
   <UsrRole>ROLE_ON_BEHALF</UsrRole>
   <UsrRole>ROLE_PUBLIC_API</UsrRole>
   <UsrRole>ROLE_SYSTEM_ACCESS</UsrRole>
   <UsrRole>ROLE_USER</UsrRole>
 </Usr>
</UserRprt>
```
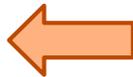
⬅ BG is called « Account Id » in API messages

2. Configuration retrieval: (optional step)

- **Areas and product assignments of these BGs:** given by AcctInfoRprt, as a response to an AcctInfoReq request.
- **Users assignment to BGs** (not for Data Vendors)**:** given by AllUsersResp as a response to a AllUsersReq request

3. Own data retrieval: (traders only, not DV)

- All relevant inquiry requests (e.g. Trade Capture Request) can be sent for all BG at once (when BG is required)
- Those requests can be sent 14 times per minutes and 70 times per hour.
- See sample requests on next page

Impacts on your API applications 2/3

3. Own data retrieval: sample requests:

Trade Capture Report can be sent for several BG at once, like this:

- ```
<?xml version="1.0" encoding="UTF-8"?>
<TradeCaptureReq xmlns="http://www.deutsche-boerse.com/m7/v6" startDate="2018-11-08T23:00:00.000Z" endDate="2018-11-09T23:00:00.000Z">
  <StandardHeader marketId="EPEX"/>
  <acctId> BG1 Continental-----</acctId>
  <acctId>BG 1 UK---------</acctId>
  <acctId>BG 2 UK---------</acctId>
</TradeCaptureReq>
```

Order request is done for all BGs when the Account Id is not provided:

- ```
<?xml version="1.0" encoding="UTF-8"?>
<OrdrReq xmlns="http://www.deutsche-boerse.com/m7/v6" inclPreArranged="true">
  <StandardHeader marketId="EPEX"/>
</OrdrReq>
```

Impacts on your API applications 3/3

4. Order entry:

• the desired BG needs to be indicated when entering an order (default BG does not apply to API messages)

5. Mass Order actions:

• The **Modify All Orders** message is used to **delete or deactivate all orders** belonging to a member, an account (BG) or a trader (User Id). Only one of those attributes should be filled with a proper value.

  • In this multi BG setup please pay attention to the scope of deletion/deactivation:

    • if the usrId is filled in: all orders owned by this user will be deleted irrespective of the order BG

    • if the acctId (BG) is filled in: all orders linked to this BG will be deleted irrespective of the user.

    => Please make sure that your target scope is correct, for instance that ModifyAllOrdrs is sent to all BGs assigned to your API user

6. Order execution broadcasts & cross trade protection:

• all users assigned to a BG receive an Order Execution Report each time an order linked to this BG gets sent, executed or managed (modified, deactivated, activated, deleted)

• For cross trade protection this enables API applications to identify which order Ids in Order book messages are own orders.

• Note: Order book messages are sent to users assigned to the related area/product combination. As a result, an API user needs to be assigned to all BGs that can be used to enter an order on that order book, other wise it will not receive any Order Execution report and thus be unable to recognize an order as an "own order".

Please check DFS180 document for further details on API messages.

Tests to be done by customers

Which API applications?

- On top of your GB application, an existing application dedicated to the continental market can be affected by this multi BG setup: both need to be retested.

- If one application enters an order on NGET for a GB contract on a UK BG then all users (of all applications) assigned to this BG will receive an Order Execution Report.

- **So integration testing between all apps is important with that multi BG setup.**

Functionalities to be retested: (with all your API apps)

1. **Login**
2. **Initialization** (initial data retrieval: own trades, own orders, etc.)
3. **Order management: entry and deletion**
4. **Processing of own trades and public trades**
5. **Any cross trade protection:**
   - between 2 orders linked to 2 different BGs assigned to your API user, the 2 orders potentially being submitted by 2 different applications (each app being: your own app, an ISV software or ComTrader)
6. **Any recovery scenario** (e.g. gap detection) that would trigger a new initialization cycle
7. **Logout / relogin** (to make sure the previous BG context is cleared if changing of API user with different BG assignments)

Impact on Conformance Tests

Only applications that need to be adapted to this multi-BG setup will be candidates for a new conformance test:

• Conformance tests will NOT be systematic

• They will depend on the scope of your modifications

• If required the conformance test will be shorter than the initial one

Please contact Market operations at powerspot@epexspot.com if you had to modify your applications to adjust to this multi-BG setup.