Nordic Imbalance Settlement

Guide to Parallel settlement

6.2.2017

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Version History

Version	Date	Author	Description
1.00	12.1.2017	eSett	General published version
1.10	17.1.2017	eSett	Document updated based on received feedback, version history added
1.20	1.2.2017	eSett	Structural gate closures for parallel settlement updated based on received feedback. In the version 1.10 was incorrectly described that structural data packages • Retailer Balance Responsibility - Delta • Retailer Balance Responsibility - All are possible to subscribe from Online Service. Those are not finalized yet and removed from this guide. Added clarification about the process of opening settlement and release accounts and signing the "Pledged cash account agreement" and "Standard settlement instructions" in chapter 6.2.1.
1.30	6.2.2017	eSett	Instructions for Service Providers included in the document (appendix, 8.7)

1 Introduction

The purpose of this document is to act as a guideline for the Parallel Settlement phase. Parallel Settlement is the final phase in commissioning of Basse before Go-Live. Parallel reporting will continue in Norway and Sweden after Go-Live. Commissioning as a whole is described in the Commissioning plan found at http://www.esett.com/commissioning/.

This guide is a complementing document to the Commissioning plan and aimed for market participants to guide through the Parallel settlement phase. General information about NBS and Basse has been published previously and can be found from multiple sources. These documents should be used if more specific information is needed. A list of the most important documents is also provided in the end of this document.

In addition to general information about the phase, support etc., this document consists of four main chapters, corresponding to the four main activities in Parallel Settlement: Connectivity, Structures, Messaging and Reporting & Settlement. More detailed information helping to finish each of the activities is found in the appendix, including also instructions that are specific for Service Providers.

2 Parallel settlement

Parallel settlement is the final commissioning phase before Go-Live. The goal is to achieve full production readiness already during the phase and to perform all NBS production-like processes in parallel with the imbalance settlement carried out by the local Transmission System Operators.

All market participants' needs to achieve full readiness to participate to the NBS before the start of the mandatory Production data reporting / settlement activity on week 12. For this to be achieved, all earlier activities must be finished successfully.
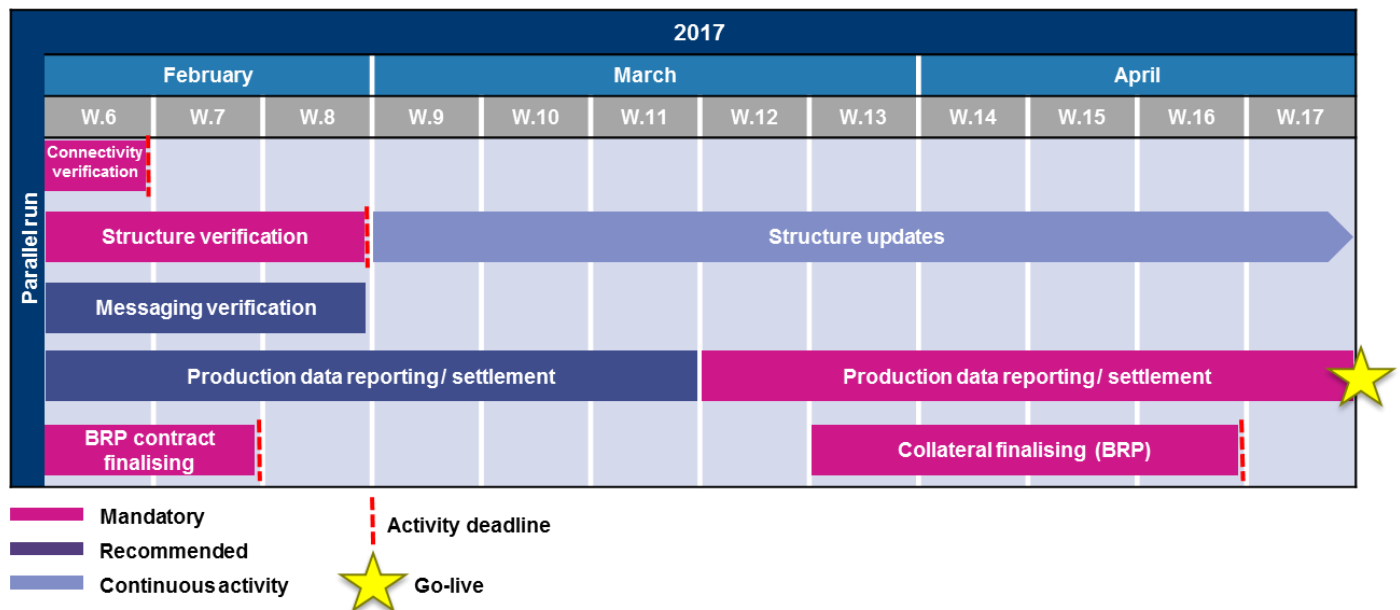

Figure 1

The Parallel settlement consists of five main activities. The activities and their timing, as shown in Figure 1 are:

- **Connectivity verification** - Deadline 10.2
  - Achieving and verifying technical connectivity to all needed Basse interfaces
  - Inform eSett when connectivity has been achieved
- **Structure Verification** - Deadline 24.2
  - Updating and verifying that all structures in Basse are corresponding to real market structures
  - Inform eSett when structures has been verified
- **Messaging Verification**
  - Achieving readiness (incl. configuring the counterparty's systems) to send positively acknowledged messages to Basse and understanding the messages sent by Basse
- **Production data reporting / settlement**
  - End-to-end activities including all processes needed in production
  - Mandatory for all market participants starting from week 12
  - Inform eSett when you have reached full production like reporting and verified the correctness of settlement results
- **Contract finalising** - Deadline 17.2
  - Only for BRPs
  - Returning the signed contracts to eSett

- o Updating invoicing information to Online Service
- o Instructions have been sent separately to all BRPs. If you have any questions please contact finance@esett.com
- **Collateral finalising** - Deadline 21.4
  - o Only for BRPs
  - o Instructions have been sent separately to all BRPs. If you have any questions please contact finance@esett.com

It is very important to inform eSett when the objectives of above described phases are achieved as the market readiness is closely followed by eSett, Transmission System Operators and Nordic Energy Regulators.

Maintenance breaks

To assure quality of the service, regular time windows are reserved for maintenance. eSett will notify market participants in advance in the Online Service News, whether or not the reserved time window will be used for maintenance or not. During maintenance breaks, Online Service is not available and messages might not be processed. The time windows reserved for maintenance are:

- Weeks 6-11: Each Thursday 16:00 – Friday 07:00CET
- Weeks 13, 15 & 17: Thursdays 16:00 – Friday 07:00CET

3 Connectivity

Establishing connectivity means securing the function of the technical interconnections between market participants' and eSett's IT systems. This will focus on securing that the role-specific market messages (i.e. "settlement data") can be transferred between participants via utilized communication channels (FTP, SMTP, Web services) and Online Service can be accessed.

Steps for each participant to verify:
- Sending one inbound data flow (sent by market participant) and receive one related acknowledgement
- Receiving one outbound dataflow (sent by eSett's settlement system) and sending successfully an acknowledgement to eSett
- Log in to the Online Service and check message monitor for the data flow

Connectivity has been "established" when the market participant is able to communicate with the Balance Settlement Solution in both ways (send and receive a market message via preferred communication channel) and user is able to log in to Online Service with provided credentials.

If you have not yet achieved connectivity, please see the necessary steps from appendix, chapter 8.1.

If you are acting as a Service Provider or are using a Service Provider, please see also the specific instructions from appendix, chapter 8.7

When you have established the connection, please notify us about the success by sending us a service request, if you have not reported this before.

After the deadline (10.2.2017) eSett and the TSOs will review the connectivity status of each market participant. eSett and the TSOs will be in close contact with the regulators about market participants which have not been active before the deadline.

Online Service address: https://online.esett.com/ONLS.Private

Addresses to other services, as well as the IP address from which eSett is connecting to market participants' service, have been distributed to market participants separately. These addresses are also found in News section in Online Service front page

More information on connectivity can be found form the following documents:
- NBS Handbook, chapter 10 / www.eSett.com/handbook
- Communication Guidelines / http://www.esett.com/materials/communication-guidelines/
- Connectivity troubleshooting guide / http://www.esett.com/wp-content/uploads/2016/10/Connectivity-troubleshooting_guide.pdf

4 Structures

Market participants are responsible for updating structures to Basse following **temporary** gate closures **separately defined for parallel settlement period** and according to market participant roles in settlement. New shortened gate closures for structure creation and modification allow faster structure completion time during parallel settlement period. This decision has been made based on the current condition of structures in Basse and the feedback received from the market participants. This means that gate closures during Parallel settlement differ from production gate closures defined in the Handbook. **Gate closure defined in Handbook will be applied for Go-Live.**

Shortened gate closures for structures **during parallel settlement** are presented below:

- Retailer Balance Responsibility (RBR), BRP responsible, gate 5 full days
- Production Unit (PU), DSO responsible, gate 3 full days
- Production Unit – Retailer (PU-RE), DSO responsible, gate 3 full days
- Production Unit – Regulation Object (PU-RO), BRP responsible, gate 3 full days
- Production Unit – Production type, DSO responsible, gate 3 full days
- Retailer consumption types to MGA, DSO responsible, gate 3 full days
- Retailer for MGA Imbalance, DSO responsible, gate 1 day
- Bilateral trades, BRP responsible, gate 3 full days

For example, if BRP will create RBR on the 1.3.2017, structure will come valid earliest at the 7.3.2017. All those structures that require eSett's approval, the gate is minimum 3 full days. If market participants update structure on Friday then eSett will approve it next Monday and the structure will be valid on Tuesday.

For all those structures, which are eSett's responsibility to update to Basse, gate closure is minimum one day. This mean that if structure will be updated during today then this structure will be valid earliest tomorrow.

Before positively acknowledged messages can be sent the structures reflecting the current market and market messages must be added and verified. If data is reported to structures which are not visible in Online Service, the messages are rejected. If one market participant has failed to update their structures correctly on time, this might prevent other market participants of reporting data. Please notice also the validities of structures – data can be reported only to market entities that are valid and open for reporting.

Please see the instructions of which market role is responsible of updating which structures and instructions about how to proceed from appendix, chapter 8.2.

When you have confirmed that your structures shown in Online Service are up to date, report to eSett that your structures are verified. Instruction of how to do this are found here: http://www.esett.com/structures/structure-lists/

Deadline for market participants to finalize their structures is 24.2.2017. After the deadline eSett and TSOs will review the structure status of each market participant. eSett and the TSOs will be in close contact with the regulators about market participants which have not been active before the deadline.

Important notes:
- Please be thorough when creating or ending structure; making modification to structures might affect other market participants, and their structures
- Please be in contact with responsible participants about the structures; in handbook is described the responsibility matrix of different types of structures
- The current state of the structures can be checked from Online Service. Data can be reported only for current structures updated in the system.

- Reporting data relevant to structures that are not visible in Online Service or are lacking mandatory attributes, results in rejecting the reported data and a negative acknowledgement.

There are at least few important aspects and exceptions to be aware of when reviewing and modifying structures. These are explained separately below:

4.1   Retailer Balance Responsibilities and their termination

In Nordic Imbalance Settlement model a RE can use one BRP for consumption and another BRP for production in the same MGA and use different BRPs in all MGAs. This relation combining BRP, RE and MGA is called Retailer Balance Responsibility (RBR) and it is one of the key structures in the model and in the Basse system as it is a prerequisite for many of the structures of which both BRP and DSO are responsible for.
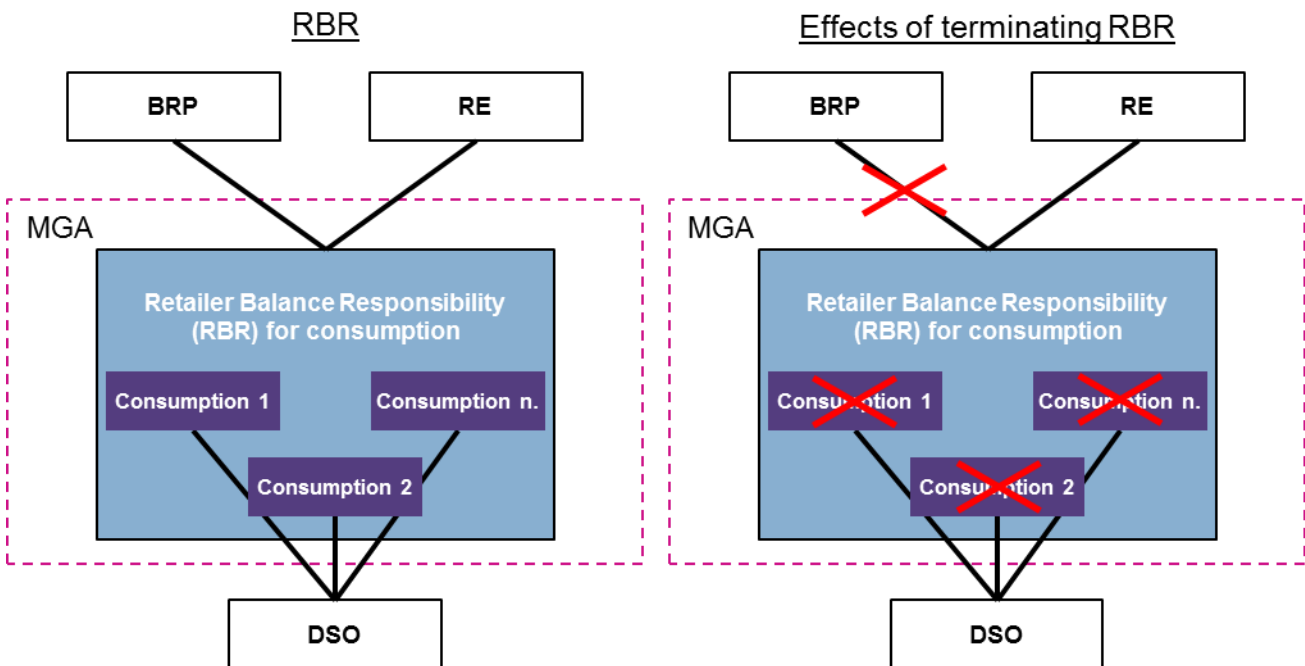

Figure 2

As an example, RBR for consumption in a MGA needs to be in place if a new consumption market entity connection needs to be created for that particular MGA. Important thing to remember is that if a consumption RBR in MGA is terminated, this will also terminate all consumption market entity connections in the given MGA for the RE in question (Figure 2). The procedure is similar with production RBR and production market entity connection.

Due to these major impacts, changing validity or termination of a RBR is not available for BRPs during the Parallel Settlement. If there is a need for RBR change, the best way to handle this is that the new BRP will take an action and create a new RBR relationship(s) via Online Service including the correct RE and MGA(s), as this way the DSO would not have to create all of the structures and MECs again as they are retained via new RBR. If BRPs notice that they have incorrect or obsolete retailers under their responsibility, they can always contact the retailer and eSett, in order to determine for which BRP the retailers actually belong to.

Summary:
- Retailer Balance Responsibility for consumption and production need to be in place for a MGA before a consumption and production market entity connections can be created by DSO in the respective MGA
- Terminating a RBR for a RE in MGA(s) will end many respective market entity connections related to the RE in the MGA(s) in question

o Termination of RBR will be conducted only by eSett during parallel settlement upon request

4.2 Profiled consumption in Sweden

Swedish market participants shall be aware that profiled consumption structures are the responsibility of Svenska kraftnät, which will maintain these structures and take care of the reporting of the values. It is not allowed for Swedish DSOs to do changes of any kind to these structures and these must always be processed via Svenska kraftnät.

4.3 Bilateral Trades in Sweden

The bilateral trades in Sweden are on Balance Responsible Party level meaning that there will not be Retailers involved. The creation and modification of the trades is not allowed for Swedish market participants in Online Service, and similar to profiled consumption, they will be maintained by Svenska kraftnät.

Bilateral trades in Norway and Finland are always reported on Retailer level.

4.4 Production units and Regulation objects

It is important to understand that the production units that do not have retailer assigned, Production MEC cannot be generated, and therefore these particular units are out of the settlement calculations until retailer is assigned.

Production units with type normal should always belong to a regulation object with same type. For production units with type minor it is not mandatory to assign regulation object or the type does not have to be the same. One regulation object can contain only production units with one mutual production type, for example hydro.

In practice the division into production unit types normal and minor is derived from production unit capacities and different treatment has been used in different countries. Normal production is settled within production imbalance and minor production within consumption imbalance.

Definition of Production units and types from the Handbook chapter 3.3:
*Generator or a set of generators within the same power plant. PU are divided into two types, **normal** and **minor**. **Normal** refers in Finland to PU ≥ 1 MW. The limit in Norway is 3 MW. All PU in Sweden are **normal**.*

More information on structures can be found form the following documents:
- NBS Handbook, chapter 3 / www.eSett.com/handbook
- eSett website / http://www.esett.com/structures/structure-lists/

5 Messaging

After the preparations (connectivity & structures verified) have been done, data reporting can start. Data is reported between market participants and Basse Messaging Service with XML messages via the chosen channel (SMTP/FTP/WS please check the country specific requirements from NBS Handbook). **All data flows the market participant needs in production should be tested and verified during the first three weeks of parallel settlement.**

The goal of messaging testing is:
- To assure market participants' and their IT systems' readiness to send all the necessary valid messages to Basse. Valid messages are positively acknowledged
  - Please note! In valid message all the attributes in messages must always correspond to attributes in structures and the message must be formed according to BRS documentation
- To assure market participants' IT systems' readiness to parse and process outbound messages from Basse and send positive acknowledgements back to Basse

A list of test cases covering all data flows are found in the appendix, chapter 8.4. The list is divided into data flows that are considered important for each market role. Test cases must be executed for each data flow the Market Participant needs to report and receive data in production.

Please find a list of reason texts for negative acknowledgments to help you with identifying the issue with the submitted messages from appendix, chapter 8.3.

If you are acting as a Service Provider or are using a Service Provider, please see also the specific instructions from appendix, chapter 8.7

More information on messaging can be found form the following documents:
- NBS Handbook, chapter 5 / www.eSett.com/handbook
- Communication guideline / http://www.esett.com/materials/communication-guidelines/
- BRS / www.ediel.org

6 Reporting and Settlement

Market participants shall report settlement data to eSett according to the role they represent. Settlement data shall be reported to the valid structures established in settlement and Basse. Production like gate closures shall be followed for reported settlement data in Basse. Market participants shall verify reported settlement data and settlement results via Online Service (e.g. Input Data views).

Examples of settlement data reported to eSett:

Distribution System Operator (DSO)
- Consumption data
- Production data
- MGA exchanges

Balance Responsible party (BRP)
- Bilateral trades

Transmission System Operator (TSO)
- Production plans
- Activated reserves
- Prices
- Bilateral trades (Svenska Kraftnät shall report in Sweden)
- Profiled consumption (Svenska Kraftnät shall report in Sweden)

Nominated Electricity Market Operator (NEMO, BRP role in NBS model)
- PX market trades (day ahead and intraday)
- PX market flows between MBAs

Settlement calculations in Basse:

eSett shall calculate imbalance settlement calculations (e.g. consumption, production and MGA imbalances), business and time aggregations according to the valid structures and based on settlement data market participants have reported to eSett before gate closures.

Calculations shall be proceeded automatically on an hourly basis and for open settlement period (D-1 to D-14). Calculation and aggregation results are published in Online Service (e.g. Settlement views). Imbalance settlement calculation results shall be reported to market participants according their role via messaging service.

Examples of settlement results reported to market participants by eSett:

DSO
- MGA imbalance volumes

BRP
- Consumption imbalance volumes and amounts
- Production imbalance volumes and amounts
- MGA imbalance volumes

Market participants shall verify their imbalance calculation results via Online Service (e.g. Settlement views). They shall verify their results against reported settlement data using drill down functionalities in respective view (e.g. Consumption Imbalance, select View Columns (e.g. Consumption) and drill down from the header (e.g. Consumption) to the lower level and at the lowest level are presented reported settlement data used in calculation)

eSett shall report settlement data to market participants via data packages and based on valid structures and roles market participants represent. Market participants are able to subscribe data packages from Online Service (Reports>Data Package Management) and they shall receive those data packages based on predefined time period and frequency configured by eSett.

Examples of data packages reported to market participants by eSett:

BRP
- Production per production unit (PU)
- MGA imbalances
- REs' consumption data per type and MGA
- Production plan per BRP and RO
- Production per production unit (PU)
- Bilateral trades
- Imbalance prices per Market Balance Area (MBA)
- Consumption imbalance per BRP per MBA (volume and amount)
- Production imbalance per BRP per MBA (volume and amount)
- Activated Reserves per subtype
- PX Trades - Elspot
- PX Trades – Elbas

DSO:
- Metering Grid Area (MGA) losses per MGA
- REs' consumption data per type and MGA
- MGA Imbalances
- MGA Exchanges

6.1   Settlement schedule

Market participants are responsible for reporting settlement data to eSett as defined in the Handbook and according to their market participant roles. There will be deviations in country level what comes to reporting gate closures and those are defined below:

In Finland:

- DSOs reporting consumption, production and MGA exchanges data in Finland -> latest D+11 24:00 in EE(S)T and so that Finnish DSOs are able to report delivery day values respecting EE(S)T. BRPs reporting bilateral trades latest H-20 minutes before delivery hour

In Sweden:

- DSOs reporting metered consumption, production and MGA exchanges data in Sweden -> latest D+12 24:00 CET
- Svk reporting profiled consumption on behalf of Swedish DSOs -> latest D+13 12:00 CET. DSOs reporting to Svk according Svk's rules (latest D+12 24:00 CET)
- Svk reporting bilateral trades on behalf of Swedish BRPs -> as soon as possible (at the latest D+13 12:00 CET). BRPs reporting to Svk according to Svk's rules.

In Norway:

- DSOs reporting consumption, production and MGA exchanges data within 3 working days after the settlement week
- BRPs reporting bilateral trades in Norway latest H-45 minutes before delivery hour

6.2   Invoicing & Collaterals - instructions to BRPs

Each BRP is responsible for the steps in this chapter. This chapter does not affect other market participants.

6.2.1   Invoicing

eSett will generate test invoices for BRPs during the Parallel settlement phase based on reported and calculated imbalance settlement data, but money transfers are not part of the phase. The invoices are visible in Online Service but they are **test invoices and not to be paid**.

Invoicing of the imbalance settlement is carried out (simulated) on a weekly basis. Invoices are issued each Monday.

Each invoice comprises the transactions and fees from the delivery days for which the result of the imbalance settlement has been finalized but not invoiced yet. This means that the invoice on Monday will include the settlement that was finalized during the previous week. This settlement covers the delivery days of the week that started three weeks before the invoicing date. Therefore, first invoices will be generated after three weeks testing and BRP can find own invoices via Online Service (Finances/Invoices). BRPs shall verify invoice information and data against reported/calculated settlement data.

To ensure **the invoicing readiness** each BRP must add following invoicing details **to Online Service by 17.2.2017 at the latest**
Path: Online Service - Administration - Company Detail - Branches - Edit:
- VAT ID - (value-added tax identification number) indicates in which country the company branch is VAT liable
- Fiscal status - identifies the company branch's VAT status in relation to eSett. The fiscal statuses are Finland, Sweden, Norway, EU except Finland & Sweden and Non-EU except Norway
    - Finland - the company branch is vat registered in Finland (it's VAT number starts with FI) and it operates in Finland's imbalance settlement
    - Sweden - the company branch is vat registered in Sweden and it operates in Sweden's imbalance settlement
    - Norway - the company branch is vat registered in Norway and it operates in Norway's imbalance settlement.
    - EU except Finland & Sweden - the company branch is VAT registered in some other EU country than Finland or Sweden but it operates either in Finland's or Sweden's imbalance settlement
    - Non-EU except Norway - the company branch has no VAT number in an EU country but operates in Finland's or Sweden's imbalance settlement, for example the company branch which is VAT registered in Norway and operates in Finland's or Sweden's imbalance settlement
- Invoice Delivery Method - choose e-invoice or email
- Company EDI Identifier - e-invoicing address
- Invoice Operator EDI - selected e-invoice operator identification code
- Invoicing Email - the email address to which the invoices will be sent as PDF files in case the BRP does not want to receive e-invoices or if there are problems with e-invoicing
Path: Online Service - Administration - Market Party Detail - Branches - Edit:
- Invoicing Currency - choose EUR, NOK or SEK

To ensure **the payment process readiness** each BRP must add following bank details **to Online Service by 17.2.2017 at the latest .**
- The settlement bank account has to be opened in an approved settlement bank and the "Agreement on Pledge and Right of Disposal of Cash Account" has to be signed and returned to eSett **by 17.2.2017 at the latest**.
- The release account must be added to Online Service but it can be added later, at the latest when there is excess collateral to be released. eSett needs to be informed of release account by

sending the "Standard Settlement Instructions" signed by a person authorized to act on behalf of the BRP.

Path: Online Service - Administration - Market Party Detail - BRP Detail - Accounts - Request New Account Registration:

- Country
- Validity
- Bank - the settlement bank you have chosen from the list of approved settlement banks
- IBAN - the IBAN number of the bank account you have opened
- Company ID - in case your bank account is in Nordea Finland you will update here the payment service ID (Yrityksen maksut -palvelun palvelutunnus)
- Type
  - o Settlement account - used for debiting and crediting of all payable amounts between the BRP and eSett. Any collateral in the form of cash shall also be held on the settlement account
  - o Release account - the excess collateral will be released to this account only. The release account will be necessary when the excess collateral from the settlement account needs to be released.
  - o the settlement account and the release account must be in the same bank
- Bank account Currency - the BRP must select the same currency for its settlement account as it has selected for its invoices.
- Pledged - when Type of account is Settlement account check this box. The settlement account is pledged to eSett.
- RFT bank account - when Type of account is Settlement account check this box (Request for Transfer).

Only after eSett has verified the settlement account number from the above mentioned signed "Agreement on Pledge and Right of Disposal of Cash Account", eSett approves it in the Settlement system and it can be used.
And only after eSett has verified the release account number from the above mentioned "Standard Settlement Instructions", eSett approves it in the Settlement system and it can be used.

6.2.2 Collaterals

Collateral calculation testing during the parallel settlement
Collateral demands will be calculated during the parallel settlement as defined in the NBS Handbook. It's not needed for BRPs to provide actual collateral to eSett earlier than one week before the go-live. In collateral calculation, the Nordic Imbalance Settlement Model uses a dynamic collateral model. This means that the collateral requirements are recalculated every week based on the latest available settlement and price data.

The collateral requirement of a BRP is calculated according to the standard formula (presented in Handbook). In order the calculation would be possible, eSett needs settlement data from six weeks period. Therefore, first collateral demand will be published on Monday after six weeks of the start of the parallel settlement phase. BRP can find own collateral demand calculation via Online Service (Finances/Collaterals). It should be noted that the collateral demand might not reflect real collateral level, if the reported input data is not complete. <u>BRPs shall verify collateral demand against reported settlement data</u>. Useful tool/example for the verification can be found from eSett websites: http://www.esett.com/wp-content/uploads/2015/04/Collateral-calculation-example.xlsx

Collateral demand when going live
To ensure that the Collaterals are in place according to the required time schedule the following steps have to be taken by the BRPs. Collateral can be placed as an on-demand guarantee, as cash collateral or a combination of these two.

- The BRP should note that the dynamic collateral is not used until sufficient data is available and therefore the collateral is fixed during the transition period

- TSOs and eSett have agreed to use common collaterals during the transition period when BRPs have financial commitments towards both TSOs and eSett. This has been agreed to limit the need for double collaterals to a minimum.
- eSett informs BRPs about the fixed collateral amount 20 days before go-live at the latest. It is valid until further notice. After that time the dynamic collateral will be used.
- The collateral must be in place **one week before go-live** at the latest

- **On-demand guarantee** template can be found on **www.esett.com/Materials/Settlement Banks.** No changes are accepted to the text. Following information should be filled in:
  - Company name, address, business ID
  - TSO
  - Settlement bank, address, business ID, email, contact person
  - Amount
  - Currency
  - Signature of guarantor
- On-demand guarantee has to be delivered to eSett by courier mail

- **Cash collateral** shall be deposited to the above mentioned settlement account
  - In case of a present cash collateral a BRP can give written instructions to the bank that the TSO releases the present cash collateral to the settlement account
  - The BRP needs to give a copy of these written instructions to eSett
  - Only after eSett has verified the correctness of them the TSO releases the present cash collateral to the new settlement account

TSOs are committed to release the current collaterals as soon as eSett has received the new collaterals and verified the existence of sufficient collaterals placed according to the agreed procedures
In case the BRP has excess collateral, eSett needs to be informed of **the account number for releasing the cash collateral** by sending "standard settlement instructions" signed by a person authorized to act on behalf of the BRP (see also chapter 6.2.1. about the release account).

6.3   Verification of Settlement and Invoicing results

Chapters 6.2.1 - 6.2.2 explains the prerequisites for invoicing calculations and Go-live. In addition the market participants shall verify their settlement results and invoicing. The market participants are requested to **inform eSett when they have reached full production like reporting and verified the correctness of settlement results and invoicing data.**

If the correctness cannot be verified, please consult eSett to identify the possible problems leading to wrong results.

7 Practices & support

eSett informs market participants about the latest news phase progress regularly via a newsletter distributed to Online Service users and via the news on the front page of Online Service.

7.1 Additional information

- Commissioning plan: http://www.esett.com/commissioning/
- NBS Handbook: http://www.esett.com/handbook/
- Communication guidelines and data flow examples: http://www.esett.com/materials/communication-guidelines/
- NBS Business Requirement Specification: https://www.ediel.org/Sider/NBS.aspx

- For more information and news about NBS project and eSett visit http://www.esett.com/

7.2 Contact eSett

If you encounter any issues or have questions after revising the supporting documents, you may contact eSett customer service.

If you encounter any possible bugs, please report them to eSett.

Please contact eSett primarily by filling in a service request at https://esett.service-now.com/public/. After a ticket has been created, eSett will contact you once your ticket is picked up from the queue by eSett.

You may also contact eSett by calling customer service +358 10 5018500 (09-15 CET). For efficient resolution, please always create a ticket before calling. Ticket can be created in English, Finnish, Swedish or Norwegian according to your preferences.

For eSett to be able to investigate the issue, a detailed description of the incident and conditions under which the incident happened needs to be included.

Note: When submitting support request, it is important to include information for example about:
- What test case and/or service issue is related to
- Detailed description what happened before issue
- What is the issue
- Client information (e.g. web browser, FTP server)
- Related sample XML file (XML messages)
- Screenshot
- What information was tried be modified
- Possible error message

8 Appendix

8.1 Connectivity check-list

If you are not able to verify connectivity, check that all of the following steps have been done:

1. Deliver your connection details to eSett for Firewall openings
   a. Connection details must be sent to eSett during the commissioning to allow market participants access to Basse thru eSett firewall
   b. Send your connection details for your chosen channel on a template found at http://www.esett.com/wp-content/uploads/2015/12/Connection_details.xlsx. Please note that often Online Service may be accessed from different IP address than the Messaging Service you are using. Then two different IP addresses need to be provided to eSett.
      i. If the external IP addresses from where you are connecting to Online Service or Messaging Service are changed, you need to report the new addresses
      ii. You can check your workstations' external IP address for example from https://www.whatismyip.com/. This IP address is used for accessing Online Service from your workstation
      iii. If you don't know from which address/addresses your system is connecting to Messaging Service (via M2M interface), or have any other questions regarding your company network setup, please contact your local IT department.
      iv. If you are using a service provider or other operator who finally deliver the messages to Basse, then their IP address need to be provided to eSett.
2. Access Online Service
      i. Login to Online Service with your credentials
         1. One set of administrator credentials has been delivered to each company. Administrators can create additional credentials in Online Service
         2. If you don't have credentials or cannot log in, contact your company administrator to check your username, phone number for 2-factor authentication and password
         3. If you are the only administrator and are not able to login, contact eSett
3. Check your connection details in Online Service
   a. Check and/or update the connection details for your preferred communication channel (FTP/SMTP/WebService) in Online Service according to the steps in Online Service User Guide, chapter 13.3.2. (found under the "help" button on the front page of Online Service)
      i. If you don't know these details or which channel you should use, contact the administrator of your system or your IT department that sends the M2M messages to eSett
4. Perform firewall openings in your own environment
   a. For Basse to be able to send outbound data flows to your system, you must allow incoming traffic from eSett IP address (announced in Online Service front page -> News -> Addresses)
      i. Contact your firewall administrator to check that this address is allowed
      ii. Verify that your service provider has the address allowed, if applicable
5. Send a message
   a. Send any inbound message (e.g. BITI, RECI, MGXI) via your preferred communication channel. Check the following things:
      i. You are sending from the environment specified in connection details in Online Service
      ii. You are sending from the external IP you have reported to eSett

        iii. The message is sent according to Communication guidelines:
http://www.esett.com/wp-content/uploads/2016/05/Basse-Communication-Guidelines.pdf

        iv. The message structure corresponds to the data flow examples at:
http://www.esett.com/materials/communication-guidelines/ and BRS at https://www.ediel.org

        v. Check that the message you are sending is reporting data only for structures that are visible in Online Service (structures, codes etc. are in line)

    b. Wait for an acknowledgement

        i. The acknowledgement is sent (in most cases) to the address specified in outbound connection details in Online Service

    c. Check that the message is visible in Online Service Messaging register

        i. Verify that you are logged in as the same market role as which you sent the message

6. Receive a message

    a. Basse sends messages (e.g. SERO, MGIO) automatically to market participants systems via the address specified in outbound connection detail in Online Service. Check that you receive these messages

    b. Send an acknowledgement to the received message

        i. Please notice that acknowledgements are not used with data packages

    c. Check that the acknowledgement is visible in Online Service Messaging register

Support document is the Communication Guidelines, which is available at www.esett.com/materials

8.2   Structure check list

How to update your structures:

Balance Responsible Party

Market participant acting in **Balance Responsible Party** role verifies from Online Service that the following pieces of information are correct and if not, fixes them. <u>Numbers refer to chapters in Online Service user guide.</u>

- Users – add -> *13.1.2* New User, Correct -> *13.1.3*
- Company and market party details – details can be updated in Online Service -> *13.4-13.5,* for other inquiries -> create a service request to eSett
- Regulation Object(s) -> create a service request to eSett
- Production Unit - Regulation Object relation(s) – correct in Online Service -> *8.3.8*
- Bilateral Trade market entity connection(s) – correct in Online Service -> *3.1.4 – 3.1.6* and in Sweden -> create a service request to eSett
- Consumption market entity connection(s) -> *check RBR and contact the respective DSO to create it*
- Production market entity connection(s) -> *check RBR, PU and contact the respective DSO to create it*
- PX Trading market entity connection(s) -> create a service request to eSett
- Retailer Balance Responsibility(ies) – correct in Online Service -> *8.1.2 – 8.1.3* or create a service request to eSett
    - Please note that the *Terminate Responsibilities* functionality has been removed for now – if you have incorrect/obsolete retailers under your responsibility, contact the retailer or eSett to determine for which BRP they belong to
- Service Providers & their access rights – correct in Online Service -> *13.2 & 13.3.2*

Distribution System Operator

Market participant acting in **Distribution System Operator** role verifies from Online Service that following pieces of information are correct and if not, fixes them:

- Production Unit(s) – correct in Online Service -> *8.3.2 - 8.3.8*
- Retailers for Production Unit(s) – correct through Online Service -> *8.3.4*

- Consumption market entity connection(s) – correct in Online Service -> *2.2.4 – 2.2.5*
- Metering Grid Area(s) -> *contact TSO or* create a service request to eSett
- Metering Grid Areas imbalance responsible retailer(s) – correct in Online Service -> *8.2.1 – 8.2.3*
- MGA Exchange market entity connection(s) -> create a service request to eSett
- Service Providers & their access rights – correct in Online Service -> *13.2 & 13.3.2*
- Users – *add* -> *13.1.2 New User, Correct* -> *13.1.3*
- Company and market party details – details can be updated in Online Service -> *13.4-13.5,* for other inquiries -> create a service request to eSett

8.3 Reason texts

A list of all reason text in acknowledgments can be found in the table below. '%x' equals attributes reported in the message and are generated to the reason text in the acknowledgement.

Business Area	ReasonText	Description	Message Level
Activated Reserves	Activated Reserve: RO: '%1', MBA: '%2', BRP: '3', Balancing Subservice: '%4' and Energy Direction: '%5' in the system is not valid in the entire validity of reported data. Please verify the structure.		TimeSeries level
Activated Reserves	Activated Reserves Tendering Party with code: '%1' and coding scheme: '%2' is not valid BRP in the system. Verify correct combination of Business Code, Reason Code and Tendering Party.	Activated Reserves Tendering Party with code: '{Code}' and coding scheme: '{coding scheme}' is not valid BRP in the system. Verify correct combination of Business Code, Reason Code and Tendering Party.	TimeSeries level
General	AGR_ID_ERR: BRP is not allowed to report Bilateral Trades without empty Capacity Agreement ID or with ID = 1.	Not compliant to local market rules: Agreement ID (ID=1) indicates Bilateral Trade the sender party is not allowed to report.	TimeSeries level
Area	All 'Validity Period' elements must fit into one calendar week (from Monday to Sunday).		Document level
General	Coding scheme: '%1' of element: '%2' is incorrect.	Coding scheme: 'P1' of element: 'InParty' is incorrect.	Document/TimeSeries level
Area	Combination of MGA (code: '%1', coding scheme: '%2') and MBA (code: '%3', coding scheme: '%4') is not unique within the message.		Document level
Area	Combination of MGA (code: '%1', coding scheme: '%2') and MGA (code: '%3', coding scheme: '%4') is not unique within the message.		Document level
General	Data inconsistent. There was more than one MEC found for the input parameters.		TimeSeries level
Gate Closure	Deadline limit exceeded/Gate not open.		TimeSeries level
General	DOC_TYPE_ERR: Document type expected in { E31} but was E66.		Document level
General	Document rules violated: Direction element is not used properly for business type: '%1'.	Document rules violated: Direction element is not used properly for business type: '{Business Type code}'.	TimeSeries level
General	Document rules violated: Price element in position %1 is not used properly for business type: '%2'.	Document rules violated: Price element is not used properly for business type: '{Business Type code}'.	TimeSeries level
General	ID_LENGTH_ERR: 36 exceeds the maximal length.		TimeSeries level
General	ID_LENGTH_ERR: ID: 36__a3b20845b3dc45aa97e68433a8915dd7 exceeds the limit of 35 characters.		Document level
Regulation Prices	In Area and Out Area are equal. Valid MBA Border required for MBA Border Prices.		TimeSeries level
Area	In Area and Out Area are not equal.		TimeSeries level
General	In Party with code: %1 and coding scheme %2 is not valid RE in the period %3.		TimeSeries level

Area	MBA (code: %1, coding scheme: %2) occurs more than once in the snapshot. There cannot be more than one occurrence of the same MBA causing gap or overlaps.		Document level
General	MEC data instance for MEC ID: '%1' does not exist for the period: '%2'. Please verify that timeseries data are reported into valid reporting period of this MEC.	Data entity for MEC ID: {MEC ID} does not exist for the period: {ValidFrom-ValidTo}. Please verify that timeseries data are reported into active reporting period of this MEC.	TimeSeries level
General	Message contains Bilateral Trades across different countries. All Bilateral Trades in the message must be within one country.		TimeSeries level
Area	MGA (code: %1, coding scheme: %2) has overlapping relations with MBA.		Document level
Area	MGA (code: %1, coding scheme: %2) occurs more than once in the snapshot. There cannot be more than one occurrence of the same MGA causing gap or overlaps.		Document level
General	MGA: '%1' of element: '%2' must be equal to 'In Area Used Domain Location' or 'Out Area Used Domain Location'		TimeSeries level
Area	Opposite direction for MGA (code: '%1', coding scheme: '%2') and MGA (code: '%3', coding scheme: '%4') is missing or has different validity.		Document level
General	Price in position %1 has to be positive number.		TimeSeries level
General	Production Unit with code: '%1' and coding scheme: '%2' does not exist in BASSE.		TimeSeries level
Activated Reserves	Reason Code: '%1' is not permitted value. Please verify the value is allowed in combination with Business Type.		TimeSeries level
General	RECEIVER_ERR: Receiving party incorrect.	The value: '%1' of element: '%2' is not valid Receiver - eSett. Verify the eSett identification is correct. Potentially Receiver Role is incorrect.	Document level
Access rights	Sender in the document is not allowed to access the data instance in BASSE. Please check that the sender has a relation to the entity instance in BASSE.	E.g. BRP is not the party of Bilateral Trade which is reporting to, TSO is not responsible for MBA where Production Plan is reporting.	Document level
General	Settlement Amount in position: '%1' has to be positive number with a maximum of 2 decimal places.		TimeSeries level
General	Subject Party with code: '%1' and coding scheme '%2' is not valid BRP in the period '%3'.		TimeSeries level
Activated Reserves	System is not able to create activated reserve due to conflict with: RO: '%1', MBA: '%2', BRP: '3', Balancing Subservice: '%4' and Energy Direction: '%5' in period '%6'.	System is not able to create activated reserve due to conflict with: RO: {RO Name}, MBA: {MBA Name}, BRP: {BRP Name}, Balancing Subservice: 'Service Name - Sub Service Name' and Energy Direction: {Name} in period 'Valid From - Valid To'.	TimeSeries level
General	System was not able to find MEC according to parameters in the message for the required time interval.		TimeSeries level
General	System was not able to find Time Series according to parameters in the message for the required time interval.		TimeSeries level
PX Market Flow	The opposite direction is missing for In Area: '%1' and Out Area: '%2'.		TimeSeries level
General	The position (sequence) must begin with 1 and increment by 1 for each subsequent position forming a series of contiguous numbers covering the complete range of the period (Time Interval).		TimeSeries level
General	The value '%1' of attribute '%2' on element '%3' is not valid.	E.g.: The value 'A0X' of attribute 'v' on element 'Subject Role' is not valid.	TimeSeries level
Area	The value of 'Type of Area' element or its combination is invalid.		Document level

General	The value: '%1' of element: '%2' has incorrect resolution.	The value: 'PT1D' of element: 'Resolution' has incorrect resolution.	TimeSeries level
General	The value: '%1' of element: '%2' has incorrect unit of measurement. Permitted: 'MWH' or 'KWH'.		TimeSeries level
General	The value: '%1' of element: '%2' in position: '3%' has incorrect number of decimal places.	In case of Measurement Unit = KWH then Quantity is defined up to 3 decimal places. In case of If Measurement Unit = MWH value of Quantity is defined up to 6 decimal places.	TimeSeries level
General	The value: '%1' of element: '%2' in position: '3%' is incorrect quality type. Please verify the quality attributes is set according to specified rules.		TimeSeries level
General	The value: '%1' of element: '%2' in position: '3%' must be non-negative number.	The value: '-15,233' of element: 'EnergyQuantity' in position: '6' must be non-negative number.	TimeSeries level
General	The value: '%1' of element: '%2' is incorrect version number.		TimeSeries level
General	The value: '%1' of element: '%2' is incorrect.		TimeSeries level
General	The value: '%1' of element: '%2' is incorrect.		Document level
General	The value: '%1' of element: '%2' is not valid Classification Type.		Document level
General	The value: '%1' of element: '%2' is not valid according to format: '%3'.	Example: The value: '2015/10/24' of element: 'CreationDateTime' is not valid according to format: 'YYYY-MM-DDTHH:MM:SSZ'.	Document/TimeSeries level
General	The value: '%1' of element: '%2' is not valid according to format: '%3'.	Example: The value: '2015/11/25/2015/11/26' of element: 'ScheduleTimeInterval' is not valid according to format: 'YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ'.	TimeSeries level
General	The value: '%1' of element: '%2' is not valid Balance Responsible Party in BASSE. Verify the reporting interval with the validity of BRP in BASSE.		TimeSeries level
General	The value: '%1' of element: '%2' is not valid Consumption Business Type.		TimeSeries level
General	The value: '%1' of element: '%2' is not valid Currency Type.		TimeSeries level
General	The value: '%1' of element: '%2' is not valid Market Balance Area in BASSE. Verify the reporting interval with the validity of MBA in BASSE.		TimeSeries level
Area	The value: '%1' of element: '%2' is not valid Metering Grid Area in BASSE. Verify the reporting interval with the validity of MGA in BASSE.		TimeSeries level
General	The value: '%1' of element: '%2' is not valid Regulation Object in BASSE. Verify the reporting interval with the validity of Regulation Object in BASSE.		TimeSeries level
General	The value: '%1' of element: '%2' is not valid Retailer in BASSE. Verify the reporting interval with the validity of Retailer in BASSE.		TimeSeries level
General	The value: '%1' of element: '%2' is not valid Sender. Verify the sender is registered and valid party in BASSE. Potentially Sender Role is incorrect.		Document level
Area	The value: '%1' of element: '%2' must be DSO valid for the period specified in 'Validity Period' element.		Document level
Area	The value: '%1' of element: '%2' must be TSO identification stated in 'Sender Identification' element.		Document level
General	The value: '%1' of element: '%2' must be valid Nordic Market Area ID = '10Y1001A1001A91G'		Document level
Area	There exists request group already containing {Dataflow Code} request.		Document level
General	Time Series identification must be unique within the submitted document.		Document level

PX Market Flow	Time Series with ID %1 and Time Series ID %2 have incorrect netted value in some of related hours.		TimeSeries level
PX Market Flow	Time Series with ID: '%1' do not have identical sequence of hours with Time Series ID: '%2'.		TimeSeries level
PX Market Flow	Time Series with ID: '%1' is not unique by attributes In Area, Out Area and Time Interval.		TimeSeries level
General	Unexpected occurrence of element: 'Balance Supplier Involved Party' in the message. Reporting on RE level is not permitted for the given consumption type and Country.		TimeSeries level
Area	Value of 'Country' element must be 'FI', 'NO', or 'SE' for MBAs. Element 'Country' is not used for MGAs.		Document level

8.4   Data flows

The data flow test cases are divided according to which market role they are most relevant. However, some data flows are relevant also to market participants acting in other roles. It is highly encouraged for test participants to go thru the whole list of data flow test cases and test all the data flows that might be needed after go-live.

Supported data flows are described in the Communication Guidelines chapter 4.4. The Communication Guidelines document and dataflow examples are found at http://www.esett.com/materials/communication-guidelines/

8.4.1   Balance Responsible Party – Point-of-view

This section highlights the test cases considered essential for participants acting in a role of a Balance Responsible Party (BRP).

8.4.1.1   Messaging Service
Messaging related test cases are available and applicable to all supported communication protocols (FTP, SMTP and Web services).

Test Case Code	Test Case	Expected result	Data flow Name
Inbound data flows (from market participant to eSett)			
BRP-MSGS-001	Submit and review Bilateral Trade	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	Bilateral Trade
Outbound data flows (from eSett to market participant)			
BRP-MSGS-003	Receive Bilateral Trade Confirmation Report Final	1. Valid message is received 2. Check that data corresponds the initially submitted data (or matched quantities) 3. Check the data is correct from Online Service	Bilateral Trade Confirmation Report Final
BRP-MSGS-004	Receive Bilateral Trade Confirmation Report Intermediate	1. Valid message is received 2. Check that data corresponds the initially submitted data (or matched quantities) 3. Check the data is correct from Online Service	Bilateral Trade Confirmation Report Intermediate
BRP-MSGS-005	Receive MGA Imbalance	1. Valid message is received 2. Check that data corresponds the initially submitted data 3. Check the data is correct from Online Service	MGA Imbalance
BRP-MSGS-006	Receive Settlement Result	1. Valid message is received 2. User verifies that content of message corresponds the ones in Online Service	Settlement Result

8.4.1.2   Information Service

Test Case Code	Test Case	Expected result	Dataflow Name
BRP-INFS-001	Successfully request information of Bilateral Trades	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	Bilateral Trades
BRP-INFS-007	Successfully request information of Consumption	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	Consumption
BRP-INFS-009	Successfully request information of Production	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	Production
BRP-INFS-011	Successfully request information of Production Plan	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	Production Plan
BRP-INFS-013	Successfully request information of Activated Reserves	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	Activated Reserves
BRP-INFS-015	Successfully request information of Imbalance Adjustment	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	Imbalance Adjustment
BRP-INFS-017	Successfully request information of Prices	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	Prices
BRP-INFS-019	Successfully request information of Consumption Imbalance	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	Consumption Imbalance
BRP-INFS-021	Successfully request information of Production Imbalance	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	Production Imbalance
BRP-INFS-023	Successfully request information of MGA Imbalance	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	MGA Imbalance

8.4.1.3   Subscribe to specific data packages

Summary
Tester acting in a BRP role shall subscribe data packages available in Online Service. Data packages view in Online Service describes the time frame and delivery time of each package. Available data packages for BRP are listed below:
- MGA imbalances (BRP)
- Production per production unit (BRP)
- REs' consumption data per type and MGA
- Production plan per BRP and RO
- Bilateral trades
- Imbalance prices per Market Balance Area
- Consumption imbalance per BRP per MBA (volume and amount)
- Production imbalance per BRP per MBA (volume and amount)
- Activated Reserves per subtype
- PX Trades - Elspot
- PX Trades - Elbas

Test steps
1. Navigate and log in to Online Service
2. Navigate to subscribe data packages view
3. Subscribe to available data package(s)

Expected results
Data package is delivered on time described in Online Service and includes data for described time frame.

8.4.2 Distribution System Operator – Point-of-view

This section highlights the test cases considered essential for participants acting in a role of a Distribution System Operator (DSO).

8.4.2.1 Messaging Service
Messaging related test cases are available and applicable to all supported communication protocols (FTP, SMTP and Web services).

Test Case Code	Test Case	Expected result	Data flow Name
Inbound data flows (from market participant to eSett)			
DSO-MSGS-001	Submit and review Consumption (Appendix 6.2)	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	Consumption
DSO-MSGS-003	Submit and review MGA Exchange	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	MGA Exchange
DSO-MSGS-005	Submit and review Production	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	Production
Outbound data flows (from eSett to market participant)			
DSO-MSGS-008	Receive MGA Imbalance	1. Valid message is received 2. Check that data corresponds the initially submitted data 3. Check the data is correct from Online Service	MGA Imbalance
DSO-MSGS-009	Receive MGA Exchange Confirmation Report Intermediate	1. Valid message is received 2. Check that data corresponds the initially submitted data (or matched quantities) 3. Check the data is correct from Online Service	MGA Exchange Confirmation Report Intermediate
DSO-MSGS-010	Receive MGA Exchange Confirmation Report Final	1. Valid message is received 2. Check that data corresponds the initially submitted data (or matched quantities) 3. Check the data is correct from Online Service	MGA Exchange Confirmation Report Final

8.4.2.2 Information Service

Test Case Code	Test Case	Expected result	Data flow Name
DSO-INFS-001	Successfully request information of MGA Exchanges	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	MGA Exchanges
DSO-INFS-003	Successfully request information of Consumption	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	Consumption
DSO-INFS-005	Successfully request information of Production	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	Production
DSO-INFS-007	Successfully request information of Prices	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	Prices

DSO-INFS-009	Successfully request information of MGA Imbalance	1. Valid answer corresponding the request 2. User verifies that content of answers correspond the data available in Online Service	MGA Imbalance

8.4.2.3   Subscribe to specific data packages

Summary

Tester acting in DSO role shall subscribe data packages available in Online Service. Data packages view in Online Service describes the time frame and delivery time of each package. Available data packages for DSO are listed below:

- Metering Grid Area (MGA) losses per MGA
- MGA imbalances (DSO)
- MGA exchange sums
- Production per production unit (DSO)
- REs' consumption data per type and MGA
- REs' consumption data per type and MGA

Test steps

1. Navigate and log in to Online Service
2. Navigate to subscribe data packages view
3. Subscribe to available data package(s)

Expected results

Data package is delivered on time described in Online Service and includes data for described time frame.

8.4.3 Nominated Electricity Market Operator (NEMO)

Test Case Code	Test Case	Expected result	Data flow Name
Inbound data flows (from market participant to eSett)			
NEMO-MSGS-001	Submit and review PX Market Trade (Appendix 6.2)	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	PXTI
NEMO-MSGS-002	Submit and review PX Market flow	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	PXFI
NEMO-MSGS-003	Submit and review Spot Price	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	SPTI

8.4.4 Transmission System Operator – Point-of-view

This section highlights the test cases considered essential for participants acting in a role of a Transmission System Operator (TSO).

8.4.4.1 Messaging Service

Market Party Role	Test Case Code	Test Case	Expected result	Data flow Name
			Inbound data flows (from market participant to eSett)	
TSO	**TSO-MSGS-001**	Submit and review Bilateral trade	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	Bilateral trade (BITI)
TSO	**TSO-MSGS-002**	Submit and review Regulation Prices	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	Regulation Prices (REPI)
TSO	**TSO-MSGS-004**	Submit and review Production plans	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	Production plans (PRPI)
TSO	**TSO-MSGS-005**	Submit and review activated reserves (Appendix 6.1)	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	Activated reserves (ACRI)
TSO	**TSO-MSGS-006**	Submit and review MBA-MGA Relations	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	MBA-MGA Relations (AREI)
TSO	**TSO-MSGS-007**	Submit and review MGA-MGA Oriented Border	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	MGA-MGA Oriented Border (MGBI)
TSO	**TSO-MSGS-008**	Submit and review Area Master Data (MGA)	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	Area Master Data (MGAI)
TSO	**TSO-MSGS-009**	Submit and review Area Master Data (MBA)	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	Area Master Data (MBAI)
DSO	**DSO-MSGS-001**	Submit and review Consumption (Appendix 6.2)	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	Consumption (RECI)
DSO	**DSO-MSGS-003**	Submit and review MGA Exchange	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	MGA Exchange

DSO	DSO-MSGS-005	Submit and review Production	1. Acknowledgement content states fully accepted message (Reason Code: A01 - OK) 2. Data is visible in Online Service and matches with the data submitted via Messaging Service	Production
		Outbound data flows (from eSett to market participant)		
DSO	**DSO-MSGS-008**	Receive MGA Imbalance	1. Valid message is received 2. Check that data corresponds the initially submitted data 3. Check the data is correct from Online Service	MGA Imbalance
DSO	DSO-MSGS-009	Receive MGA Exchange Confirmation Report Intermediate	1. Valid message is received 2. Check that data corresponds the initially submitted data (or matched quantities) 3. Check the data is correct from Online Service	MGA Exchange Confirmation Report Intermediate
DSO	DSO-MSGS-010	Receive MGA Exchange Confirmation Report Final	1. Valid message is received 2. Check that data corresponds the initially submitted data (or matched quantities) 3. Check the data is correct from Online Service	MGA Exchange Confirmation Report Final
BRP	**BRP-MSGS-004**	Receive MGA Imbalance	1. Valid message is received 2. Check that data corresponds the initially submitted data 3. Check the data is correct from Online Service	MGA Imbalance
BRP	**BRP-MSGS-006**	Receive Settlement Result	1. Valid message is received 2. User verifies that content of message corresponds the ones in Online Service	Settlement Result

8.5   Activated reserves - ACRI

The different attributes applicable for data flow ACRI are listed in Table 1.
Test Case Code: **TSO-MSGS-00X**
Data flow: ACRI

Process type	Business type	Reason Code	Notes	Tendering Party	Reserve Object	Used in		
						FI	NO	SE
A30 Tertiary reserve process	**A10** Tertiary control	Z22 Supportive power	Excluded from 17.3scope	TSO	N/A	X		
A30 Tertiary reserve process	**A10** Tertiary control	Z26 Transit triangle	Excluded from 17.3 scope	TSO	N/A		X	
A30 Tertiary reserve process	**A10** Tertiary control	Z27 Transit redispatch	Excluded from 17.3scope	TSO	N/A		X	
A30 Tertiary reserve process	**A10** Tertiary control	Z31 FRR-M, Balancing Power (NO: Ordinary regulation		BRP	Yes	X	X	X
A30 Tertiary reserve process	**A10** Tertiary control	Z34 FRR-M, Quarter regulation		BRP	Yes		X	
A30 Tertiary reserve process	**A10** Tertiary control	Z35 FRR-M, Special Regulation (NO: Specially regulation)		BRP	Yes	X	X	
A30 Tertiary reserve process	**A10** Tertiary control	Z36 Hour Change Regulation (for Norway the code		BRP	Yes	X	X	

		means Move of production)						
A30 Tertiary reserve process	**A10** Tertiary control	Z37 Power Transaction		BRP	Yes	X		
A30 Tertiary reserve process	**A10** Tertiary control	Z38 TSO Internal Countertrades		BRP	Yes	X		
A30 Tertiary reserve process	**A10** Tertiary control	Z39 Day Ahead Production Adjustment (NO: Production smoothing)		BRP	Yes		X	X
A28 Primary reserve process	**A11** Primary control	**Z29** FCR		BRP	Yes	X	X	X
A29 Secondary reserve process	**A12** Secondary control	**Z30** FRR-A		BRP	Yes	X	X	X

Table 1 ACRI attributes

8.6   Retailer Consumption - RECI

Dependency matrix for the consumption can be found in Table 2.

Test case code: **DSO-MSGS-001**

Data flow: RECI

		Settlement method	**Business type**
Hourly metered consumption in a MGA	Total hourly metered consumption	**E02** Non Profiled	**A04** Consumption (general consumption)
	Large installation consumption	**E02** Non Profiled	**B28** Large installation consumption
	Pumped (only in Norway)	**E02** Non Profiled	**B27** Pumped
	Pumped storage (from combined generator/pump) (only in Norway)	**E02** Non Profiled	**A07** Net production/ consumption
	Interruptible (only in Sweden)	**E02** Non Profiled	**A72** Interruptible Consumption
	Production Units own consumption (Only used in Finland)	**E02** Non Profiled	**B36** Production Units own consumption
	Total profiled consumption	**E01** Profiled	**A04** Consumption (general consumption)
Hourly profiled consumption in a MGA	Pumped (only in Norway)	**E01** Profiled	**B27** Pumped
Hourly losses in a MGA	Metered grid losses	**E02** Non Profiled	**A15** Losses
	Profiled grid losses	**E01** Profiled	**A15** Losses

Table 2 RECI attributes

8.7   Service Provider Instructions

8.7.1   What is a Service Provider?

The Service Provider functionality allows a company to outsource its processes to other companies registered in Basse. Outsourcing is enabled by assigning one or more Outsourcing Roles to one or more companies that have registered in Basse as Service Providers. The market participant always retains the right also itself to act in the role(s) it outsources.

The agreement of a Service Provider relationship is done between the market participant and Service Provider without eSett participation, and is realized by the two in Online Service with the help of this guide and ONLS user guide.

The Service outsourcing is done on a market participant level. This means that a company that acts in multiple Market Roles (e.g. BRP, RE, TSO) can choose different Outsourcing Roles for different Service Providers per each Market Role.

The Service outsourcing is time dependent. This means that a service outsourcing relationship has a validity that can be set by the market participant. One Outsourcing Role of one Market Role can be outsourced to one Service Provider in one point in time. Validities can be set into the future so that the outsourcing is switched seamlessly from one Service Provider to another when the validity of the first Service Provider ends and the validity of the second starts at the same time.

Prerequisites to establish a Service Provider relationship in Basse:
- Both parties needs to be registered and have a company in Basse
- Both partied needs to have an administrator, who can login to Online Service
- The Service Provider has registered itself as a Service Provider by contacting eSett
- The market participant has one or more Market Roles

8.7.2   How to assign a Service Provider?

Market participant assigns the Service Provider(s) in Online Service. The market participant has to have all the basic structures updated to Basse and an Administrator user account.

The following steps are needed from the market participant to assign a Service Provider. The Service Provider setup is Market Role specific, so a company that has multiple Market Roles has to do the setup for each Market Role that includes outsourced roles. The numbers in square brackets [] refer to the chapter in Online Service User Guide, which should be used for detailed instruction of each step:

- Assign the Service Provider(s) for each Outsourcing Role you want to outsource [13.2.2]
  - If the company that should be your Service Provider is not marked as a Service Provider (Cannot be found from the drop-down list of Service Providers), please contact the Service Provider
  - See chapter 4 for descriptions of different Outsourcing Roles that can be assigned.
- If your Service Provider operates the External interface (messaging) but you want to receive the outbound messages sent from Basse yourself, choose "No" for Outgoing via Service Provider ("Yes" by default" [13.3.2]

8.7.3   How to become a Service Provider?

Any company registered in Basse can become a Service Provider – regardless does it act in other market roles or not. If you do not have an established company in Basse, check the instructions at http://www.esett.com/structures/new-market-participant/ of how to join.

When a company is established, you need to inform eSett that you will act as a Service Provider. This can be done by creating a Service Request at: www.esett.com/contact. eSett will create the necessary structures and register you as a Service Provider in Basse.

After you have been registered as a Service Provider, in addition to your own connection details (if you act as a market participant and need to report data on your own behalf) you need to fill in the details of the channel you want to use when sending and receiving messages for the market participants you provide services to. This is only needed if you have been assigned the 'External Interface' outsourcing role by any other market participants.

8.7.4 Which rights to assign for the Service Provider?

Market

Market Role allows Service Provider to use functionalities related settlement structures and market entity connections (MECs) of one market participant (balance responsible party, retailer and distribution system operator). Service Provider is able to read or read and write (modify) structure and settlement data of the market participant, who has assigned Service Provider for this service.

Collateral

Collateral Role allows Service Provider to use functionalities related to bank accounts and collateral deposits of one balance responsible party. Service Provider is able to read or read and write (modify) collateral account and deposit data of the balance responsible party, who has assigned Service Provider for this service.

Invoices

Invoices Role allows Service Provider to use functionalities related to invoices of a balance responsible party. Service Provider is able e.g. to read balance responsible party invoice information via Online Service

External Interface

External Interface Role allows Service Provider to communicate with the Messaging Service via external interface on behalf of one market participant (balance responsible party and distribution system operator). Service Providers' communication channel will be used for accessing the Messaging Service on behalf of market participant. On the other hand Service Provider is able to use market participant's account for monitoring of the communication via the Online Service.

8.7.5 Service Provider in messaging

If the market participant wants to allow its Service Provider (SP) to report and receive data via the External interface (Messaging Service), the External Interface has to be assigned in Read/Write mode for one Service Provider. Depending of which options have been selected, which channel is used and who is the sender of the message, messaging behaves in different ways as illustrated in the figures below.

The boxes inside Market Participant and Service Provider in the figures below corresponds to specific options or channel details that are chosen/filled in in Online Service. The arrows illustrates according to which details the inbound messages are allowed and outbound messages and acknowledgements are sent in each case. Market Participant and Service Provider each have to make their selections in their own Online Services.

- Outbound via Service Provider
  - Administration -> Market Party Detail -> Channel of Electronic Communication
  - Only visible, if the Market Participant has a Service Provider assigned for the 'External Interface'
  - Default value is 'Yes'
- Incoming Channel Details

- o   Administration -> Market Party Detail -> Channel of Electronic Communication
    - ▪   Fields starting with 'Incoming'
- Outgoing Channel Details
    - o   Administration -> Market Party Detail -> Channel of Electronic Communication
        - ▪   Fields starting with 'Outgoing'
- Channel Details for Provided Services
    - o   Administration -> Service Provider Settings
   - o   Visible only for registered Service Providers

Important notices:
- The Inbound/Incoming and Outbound/Outgoing terms are defined from Basse point-of-view: Inbound messages are sent to Basse and Outbound messages are sent from Basse
- When the 'External Interface' is assigned for a Service Provider, both the market participant and the Service Provider can send messages (report data).
    - o   If same data is reported, the latest data overwrites the existing data
- When using SMTP, the acknowledgement is always sent to the sender, regardless of any configurations in Online Service
- The channels a company acting as a Service Provider uses to report data on behalf of its own market participant and on behalf of other market participants are separated (Channel of Electronic communication for own messaging and Channel Details for Provided Services)
- The Service Provider cannot edit the market participants' channel details or service outsourcing.
- Additional information is found in Online Service User Guide, chapters 13.2 – 13.3
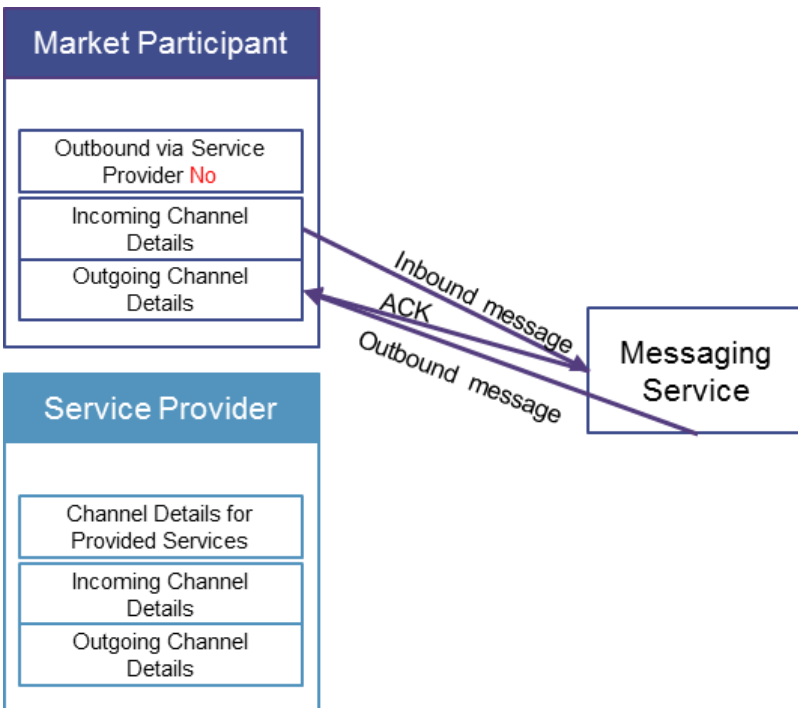
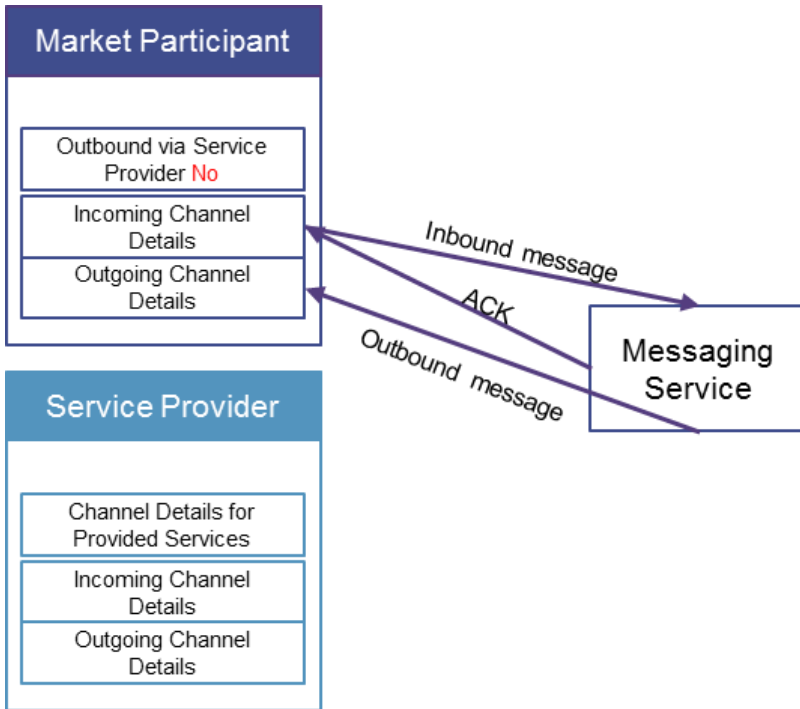Market participant sends a message – Outbound to SP – FTP/SMTP
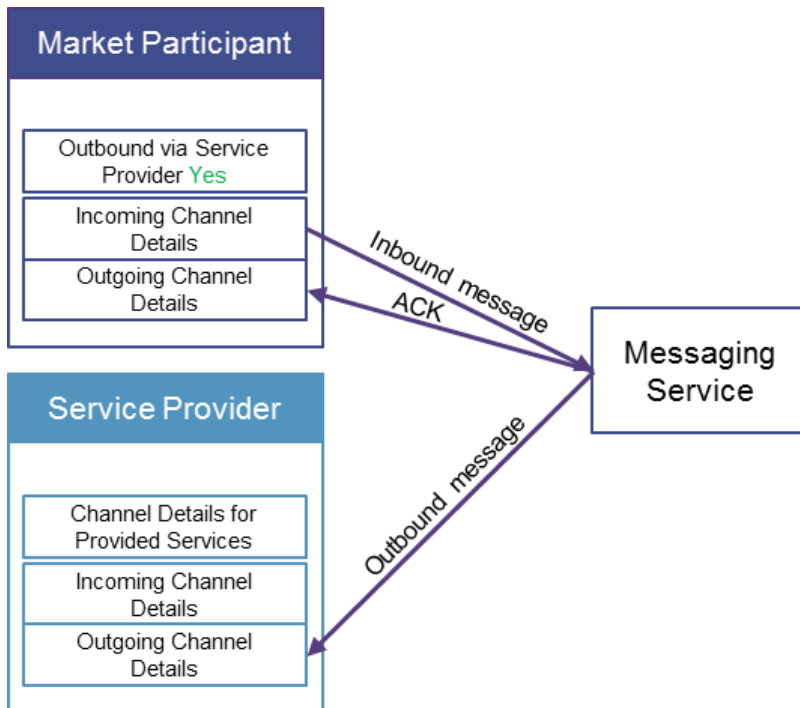
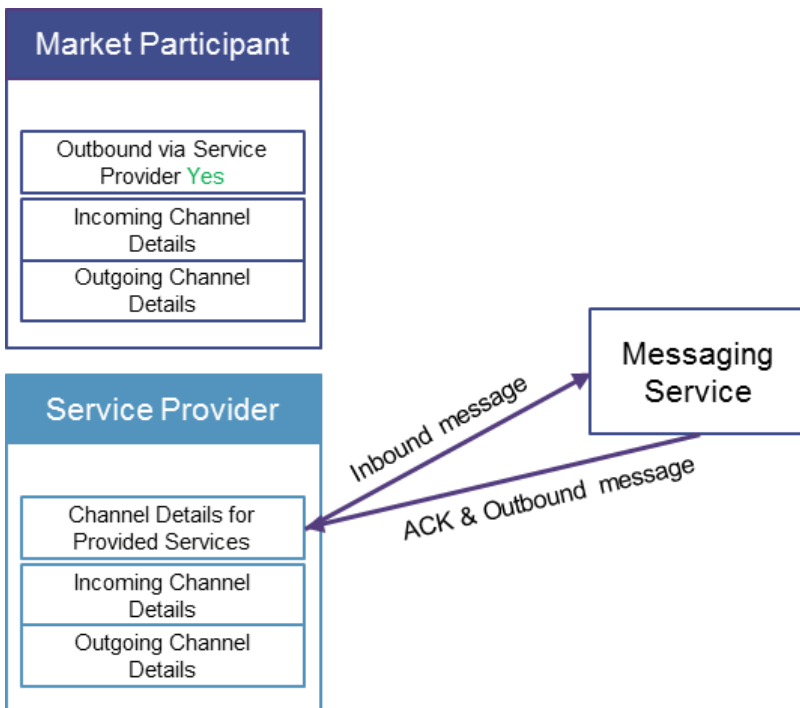Market participant sends a message – Outbound to SP – SMTP
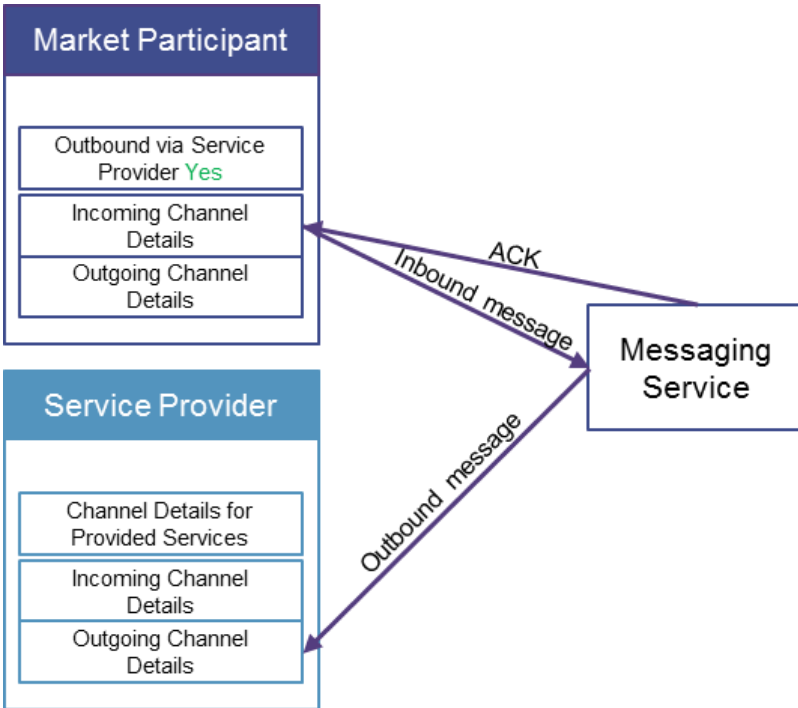
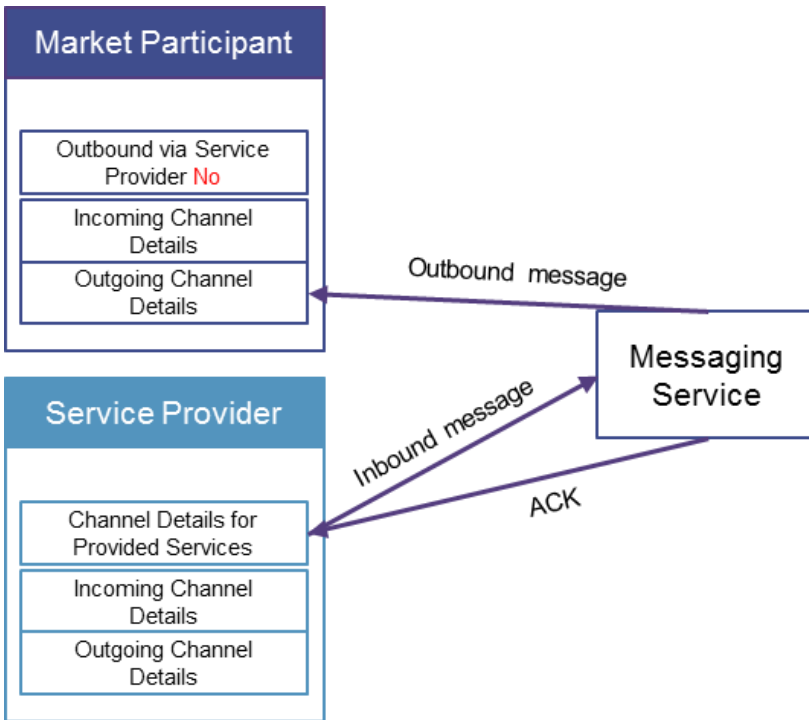Market participant sends a message – Outbound to MP – FTP/WebService

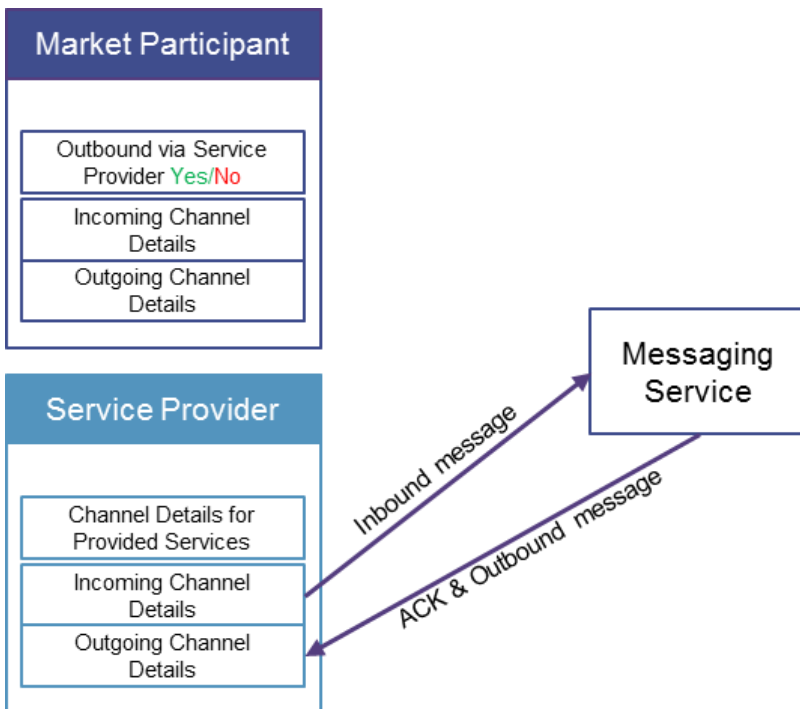Market participant sends a message – Outbound to MP – SMTP

SP sends a message on behalf of MP – Outbound to SP – FTP/WebService/SMTP

SP sends a message on behalf of MP – Outbound to MP – FTP/WebService/SMTP

SP sends a message on behalf of itself – FTP/WebService

SP sends a message on behalf of itself – SMTP