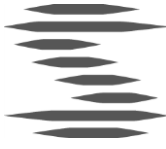


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UTFÄRDARE/HANDLÄGGARE  
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# EDX Service Code Implementation Guide





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# 1 Revision History

Changed by	Date	Comments
<a href="mailto:per.henriksson@svk.se">per.henriksson@svk.se</a>	2022-10-18	First version

## 2 Introduction

This document describes how EDX Service Codes should be implemented within the Svenska kraftnät NEM ECP/EDX networks (Test and Production networks). Current focus for this description is messaging within the Automated mFRR Electronic Activation Market, but it could be extended for more general purpose in the future.

### 2.1 Background

Within the scope of the EDX components of the ECCo SP communication platform the concept of “EDX Service Code” exists. An easy way of describing “EDX Service Codes” is a method of grouping related ECP Message Types together.

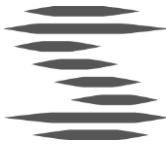
Another more important feature of the Service Code concept is to make message receiver addressing more implicit, i.e. use Service Code as an “alias” or a logical address for the physical address of the message receiver. This means that a change of the physical address of the receiver does not require all message senders to update their receiver address, but only an update in the logical-to-physical lookup function is needed.

### 2.2 Scope and not-in-scope

This document is only applicable for BSP:s that will send messages *to* a service defined in the Svenska kraftnät EDX Service Catalogue. For services defined in the EDX Service Catalogue of *another TSO* most of the principal concepts in this guide can be used, BUT the Service Catalogue Codes defined in this document **MUST NOT** be used.

Also this description does not cover messages sent *from* Svenska kraftnät to a BSP. (For such messages a slightly different addressing scheme, which is not in scope for this document, should be used.)

The current version of this document is also covering only messaging within the mFRR service. In future versions the document might be extended to cover also other services.



## 2.3 Terms and definitions

Acronym	Term	Definition
BSP	Balancing Services Provider	A market participant with reserve-providing units or reserve-providing groups able to provide balancing services to TSOs
CIM	IEC Common Information Model	A standard for describing information about an electrical network. The European style market profile is a profile derivation from the CIM to harmonize the energy market data exchanges in Europe.
ECP	Energy Communication Platform	Reference implementation of the MADES standard
EDX	ENTSO-E Data eXchange	An extension of ECP, which provides additional integration channels and more flexible addressing schemes.
MADES	Market Data Exchange Standard	A standard, developed by ENTSO-E, for exchange of electronic messages between parties in the electricity energy market.
mFRR	Manual Frequency Restoration Reserve	A service for manual restoration of the electricity frequency to 50 Hz after a disturbance
mFRR EAM	mFRR Energy Activation Market	A market for trading of mFRR services
NEM	Nordic Energy Market	Used as a prefix to name the ECP/EDX network owned by and connecting the Nordic TSO:s

## 3 Use of EDX Service Codes

### 3.1 Use of EDX Service Codes for mFRR EAM

For all messages within the scope of mFRR that are sent from a BSP, via the NEM ECP/EDX network, to Svenska kraftnät the following EDX Service Codes must be used:

EDX Service Code	Usage
MFRRDA	For messages belonging to the current mFRR Direct Activation flow
MFRREAM	For messages belonging to the mFRR EAM flow
MFRREAM-BSPTTEST	For messages sent to the BSPTTest function for automatic verification of the CIM



## 4 EDX Receiver Addressing Scheme

The EDX Service Codes described in previous chapter should be used in the second Receiver Addressing Convention described in chapter 4.11 “Addressing conventions” of the “EDX User Guide”:

<b>SERVICE-</b> <b>serviceCode@DOMAIN-</b> <b>domainCode@SC-</b> <b>serviceCatalogueCode</b>	Send message to the service provider with specified service code, domain code and service catalogue code. If a publication is defined for used message type, the message is also published.
---	---

In this scheme the @DOMAIN-*domainCode* part is not explicitly used. (Since the only defined EDX Domain is DEFAULT\_DOMAIN the implicit value @DOMAIN-DEFAULT\_DOMAIN will be used for this part internally in EDX.)

For the @SC-*serviceCatalogueCode* part different *serviceCatalogueCodes* must be used for the different ECP/EDX networks:

ECP/EDX network	serviceCatalogueCode
Svenska kraftnät NEM Test	46V00000000016Q
Svenska kraftnät NEM Production	46V00000000021X

Example 1: To send a message to the BSPTTest function in the Svenska kraftnät NEM Test ECP/EDX network the following receiver address should be used:

```
SERVICE-MFRREAM-BSPTTEST@SC-46V00000000016Q
```

Example 2: To send a message, related to the mFRR EAM flow, to Svenska kraftnät, in the NEM Production ECP/EDX network, the following receiver address should be used:

```
SERVICE-MFRREAM@SC-46V00000000021X
```

## 5 EDX Receiver Address location for different EDX Toolbox Integration Channels

The EDX Toolbox supports multiple integration channels. See chapter 5 “Integration Channels” in the “EDX User Guide” for deepened information about the different integration channels.

Depending the integration channel used the receiver address, described in previous chapter, should be inserted using different methods. These methods are described per integration channel below.



## 5.1 Receiver Address location for AMQP

When using AMQP as integration channel the receiver address should be specified in the receiverCode property of the AMQP send message:

Property	Value	Mandatory	AMQP property / AMQP application-property
receiverCode	receiver's EDX identification as described, see addressing conventions	true	application-property

See chapter 5.3.2 of “EDX User Guide” for further information.

## 5.2 Receiver Address location for FSSF

When using FSSF as integration channel the receiver address should be specified in the <Receiver> part of the FSSF filename:

Filename Part	Value	Mandatory
<Receiver>	EDX identification following addressing conventions (instead of MADES endpoint code)	true

See chapter 5.4.2 of “EDX User Guide” for further information.

## 5.3 Receiver Address location for FTP(S)/SFTP

When using FTP, FTPS or SFTP as integration channel the receiver address should be specified in the <Receiver> part of the filename, as in the FSSF channels (see previous section).

See chapter 5.5 of “EDX User Guide” for further information.

## 5.4 Receiver Address location for MADES web service

When using MADES web service as integration channel the receiver address should be specified in the Receiver Code parameter of the *SendMessage* method.

See chapter 5.6 of “EDX User Guide” and chapter 5.1 “Send Message” of “ECP Public Interface” for further information.

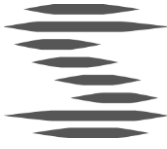
## 5.5 Receiver Address location for Kafka

When using Kafka as integration channel the receiver address should be specified in the receiverCode Kafka Message Header:

Kafka Message Header	Value	Mandatory
receiverCode	receiver's EDX identification as described, see addressing conventions	true

See chapter 5.7.2 of “EDX User Guide” for further information.





## 6 References

Title	Description
EDX User Guide	Document provided in the EDX software package provided by ENTSO-E / Unicorn ( <a href="https://www.entsoe.eu/ecco-sp/edx/">https://www.entsoe.eu/ecco-sp/edx/</a> )
ECP Public Interface	Document provided in the ECP software package provided by ENTSO-E/Unicorn ( <a href="https://www.entsoe.eu/ecco-sp/ecp/">https://www.entsoe.eu/ecco-sp/ecp/</a> )