UNICORN Systems

entsoe
Reliable Sustainable Connected

EMFIP

EMFIP ECP Integration Guide v1.12

www.unicornsystems.eu

Jankovcova 1037/49, CZ – 170 00 Prague 7

Project:	EMFIP
Document Title:	EMFIP ECP Integration Guide v1.12

Author:	Jakub Eliáš, Jiří Dudek
Date	22. August 2014
Contact:	E-mail: info@unicornsystems.eu
	Tel.: (+420) 221 400 111

1. Content

1. Content 3
2. ECP Integration guide 4
2.1 About this guide 4
2.2 Vocabulary 4
2.3 Getting started with ECP 4
2.3.1 Overview 4
2.3.2 Usage of ECP 4
2.3.3 How ECP Works 4
2.3.4 Which ECP version should I use? 5
2.3.5 How can I connect? 5
2.3.6 How to send message? 7
2.4 Frequently Asked Questions 7
2.4.1 What is MADES? 7
2.4.2 What is ECP? 8
2.4.3 Can I make my own ECP test environment? 8
2.4.4 Which Message type should I use? 8
3. Guideline for Data Provider's submissions 9
3.1 Main Goals of the Guideline 9
3.2 Handling of Versions 9
3.2.1 Repeating submission for all previous hours 9
3.2.2 Submission of XML files with lower/same version 9
3.2.3 Too frequent submissions 9
3.3 Data Granularity 9
3.3.1 Incorrect Submission Resolution 9
3.3.2 Too detailed data in curves 10
3.1 Master Data Management 10
3.1.1 Too frequent / regular updates 10

1

2. ECP Integration guide

2.1 About this guide

ECP Integration Guide is a manual for integration with ENTSO-E Transparency Platform vie ECP channel. It is intended for Developers and System Administrators who want to integrate with ENTSO-E Transparency Platform.

2.2 Vocabulary

Term	Description
ETP	ENTSO-E Transparency Platform. Accessible at http://www.entsoe.net/
MADES	Market Data Exchange Standard. Communication IEC standard designed by ENTSO-E.
ECP	Energy Communication Platform. Reference implementation of MADES standard.
Endpoint	ECP component, part of ECP network.
Endpoint code	Unique identification of Endpoint within single ECP network.

Table 1

2.3 Getting started with ECP

2.3.1 Overview

ECP is one of the integration channels, which can be used for communication with ENTSO-E Transparency Platform.

2.3.2 Usage of ECP

Data Providers may use ECP for following purposes:

1. Sending data to ENTSO-E Transparency Platform
2. Receiving Acknowledgement Documents from ENTSO-E Transparency Platform
3. Receiving Notification of missing data in form of Problem Statement Document (so-called “escalation messages”)

2.3.3 How ECP Works

ECP delivers messages from sender to a recipient within single ECP Network. Message transported through the ECP Network can be any text or binary data. Alongside with the message, ECP transfers also message metadata. These are (among others) information about sender and recipient. The former is used by ENTSO-E Transparency Platform to authenticate message sender. Please see below example of communication between Data Provider and Transparency Platform. Please note that example below represents preferred, but still just one of the possible ECP deployments.

1. Data Provider connects to its own Endpoint and send message with XML file, which is submitted to ENTSO-E Transparency Platform. Integration with Data Provider Endpoint may be done via ECP Graphical interface or via ECP Public interface (Web Services, Java API or File system Shared Folder). It is important to send message to Transparency Platform Endpoint.
2. Message is routed through ENTSO-E Node to ENTSO-E Transparency Platform Endpoint, which passes the message to ENTSO-E Transparency Platform application. At this time, message status is *received*. Data

Provider may visit its ECP Endpoint Graphical interface and check for the status. During message processing, ENTSO-E Transparency Platform authenticates Data Provider by the ECP Endpoint code of the message sender (ENTSO-E Transparency Platform looks for Machine User with the same ECP Endpoint Code as message sender Endpoint Code).

3. At the end of XML file processing, the ENTSO-E Transparency Platform generates acknowledgement document. Acknowledgement is sent back to Data Provider. Acknowledgement message contains acknowledgement document with information regarding the XML file processing result. Please note, that Acknowledgement is sent asynchronously and interval between sending data to platform and receiving acknowledgement depends on many aspects, for example amount of data currently processed. In opposite to Web Service Integration channel, ECP Integration channel does not need to send Problem Statement Document to handle situation, when synchronous reply should be sent before timeout and data has not been processed yet. There is just single response from ECP – either positive or negative.
4. Data Provider receives acknowledgement message to its Endpoint. Such a message may be received by a custom business application with usage of ECP Receive handlers.

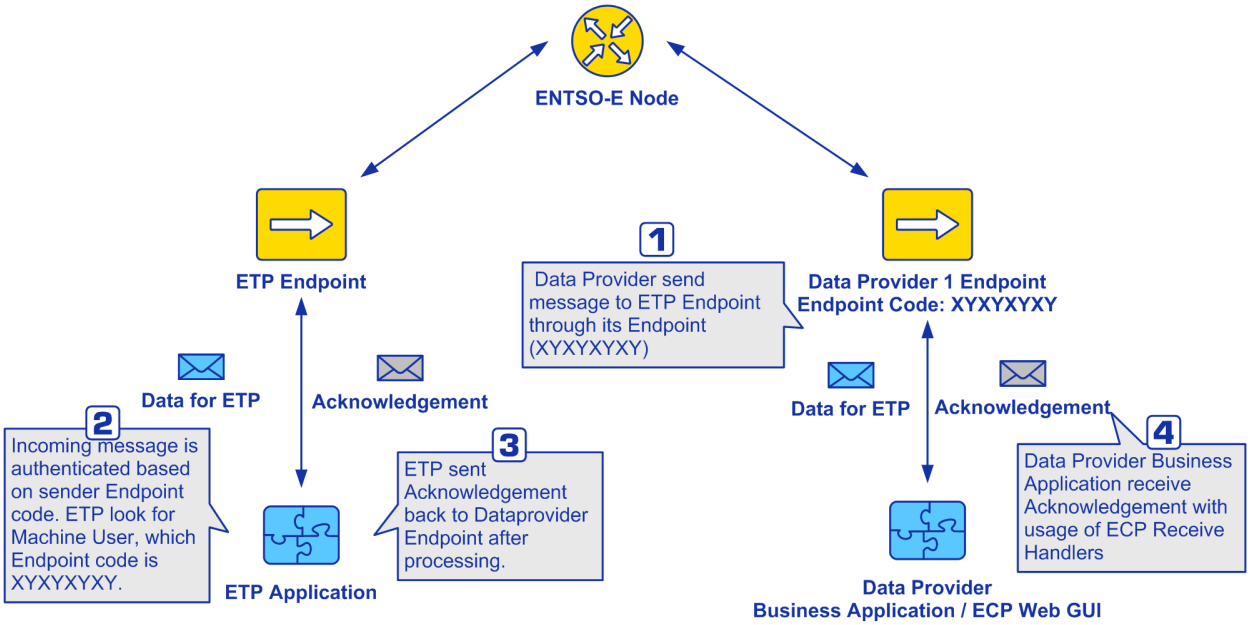

Figure 1

2.3.4 Which ECP version should I use?

ECP 3.0 is currently supported version and shall be used for ENTSO-E Transparency Platform purposes.

2.3.5 How can I connect?

The easiest way to connect to ENTSO-E Transparency Platform via ECP is to install own ECP Endpoint.

1. Download ECP Endpoint package and ECP Installation Guide - Endpoint (Current version is 02-ECP Installation Guide - Endpoint – v 3.0.8) via ENTSO-E service desk. Please see http://ecp.unicornsystems.eu/ for further details.
2. Follow ECP Endpoint installation Guide. Installation procedure start at chapter 4, ECP Endpoint Installation (see Figure 2 bellow). Use ENTSO-E Production Network for connecting to ETP Production environ-

ment or ENTSO-E Test network for connecting to ETP Test environment. Following table describes addresses of Production and Test ECP environments.

3. After successful registration please update ECP information in your Machine User settings in ENTSO-E Transparency Platform. In administration area of the ENTSO-E Transparency Platform, edit the Machine User to add the ECP Endpoint Code of your ECP Endpoint. Please see informative wireframe bellow (Figure 3).
4. Submit data. Please see chapter How to send message for further information about integration of your business application with your ECP Endpoint.

Table below contains list of Transparency platform ECP environments.

Environment	Node URL	ENTSO-E Transparency Platform Endpoint
ETP Production	https://ecp.entsoe.eu/ECP_MODULE/	10V000000000002R
ETP Test	https://ecptest.entsoe.eu/ECP_MODULE/	10V000000000001T

Table 2: List of ECP environments

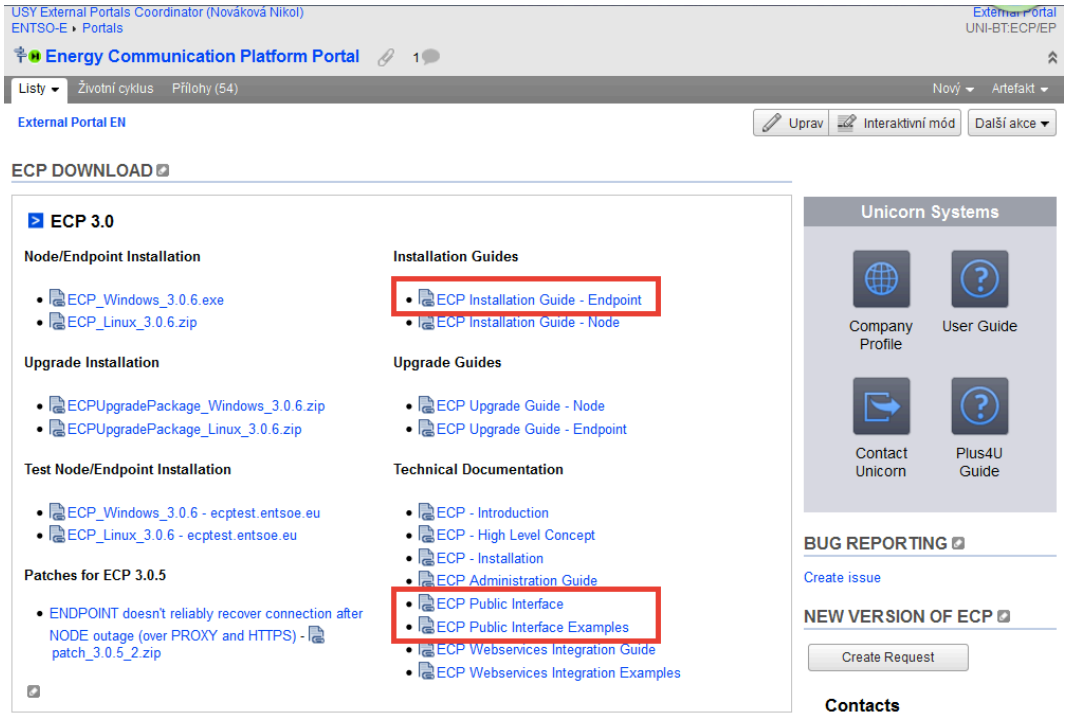

Figure 2: ECP Download Portal

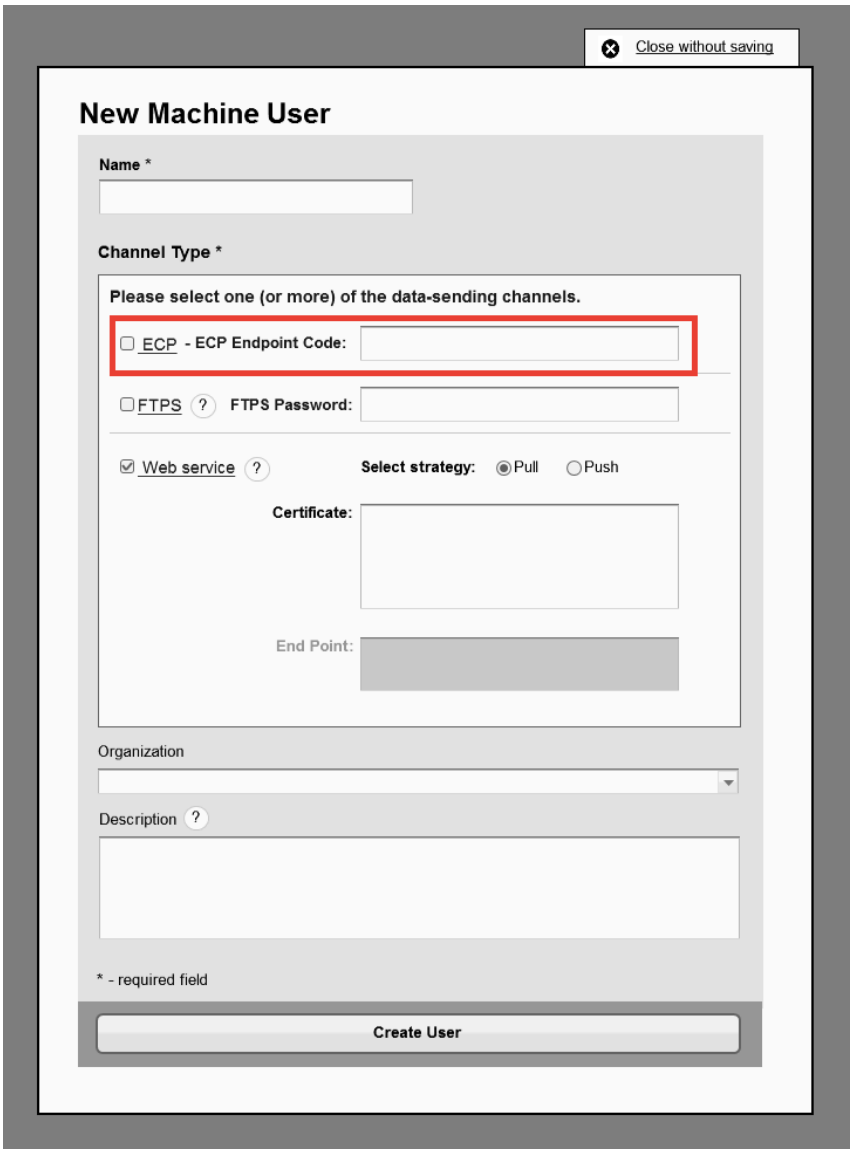

Figure 3: Edit Machine User UC. Please add ECP Endpoint code to this UC.

2.3.6 How to send message?

1. Please follow ECP Public Interface Guide to integrate your business application with ECP. This integration guide is available at http://ecp.unicornsystems.eu/ right next to the Installation Guide (Please see Figure 2)
2. The ENTSO-E Transparency Platform does not need a value for Message Type or Business application ID, but for consistency and traceability, we recommend to use Message Type ENTSOE-ETP.
3. ETP response on each data submission via ECP with message holding Acknowledgement document. Message type of this message is ENTSOE-ETP.

2.4 Frequently Asked Questions

2.4.1 What is MADES?

MADES is communication standard designed by ENTSO-E. Transmission System operators (TSO) in Europe can use it to reliably and securely exchange documents. Please see further description at ENTSO-E site.

2.4.2 What is ECP?

ECP is reference implementation of MADES standard. It is property of ENTSO-E and is free of charge for TSOs.

2.4.3 Can I make my own ECP test environment?

Yes. It is necessary to deploy your own ECP Node and ECP Endpoint. Please see *ECP 3.0 Node Installation Guide* to install the node and ECP Endpoint installation Guide to install Endpoint and connect it to Node.

2.4.4 Which Message type should I use?

The ENTSO-E Transparency Platform does not need a value for Message Type or Business application ID, but for consistency and traceability, we recommend to use Message Type ENTSOE-ETP.

3. Guideline for Data Provider's submissions

3.1 Main Goals of the Guideline

The main goal of this guideline is to raise awareness about unnecessary submissions of data performed by Data Providers. Descriptions are based on actual experience from the legacy Transparency platform and Release 1 of new Transparency platform. Expectations for Release 2 (extensions to support transparency regulation) are also taken into account.

Data Providers can help to fulfil their performance expectations of the platform by following these guidelines.

The document also provides Data Providers with information that should be used during implementation and maintenance of their systems used for data submissions into the ENTSO-E Transparency Platform.

3.2 Handling of Versions

Current issues related to versions of XML files are described in the following sub-chapters.

3.2.1 Repeating submission for all previous hours

There are cases when data for all previous hours of the day were resent every hour although nothing has changed in those previous hours. This led to a situation when the system had to receive, process, store and publish not only data for one hour (e.g. 13:00-14:00), but also for hours 00:00-01:00, 01:00-02:00, 02:00-03:00 … 12:00-13:00, etc.

Recommendation:

To send XML file with higher version only in cases that values were changed.

3.2.2 Submission of XML files with lower/same version

It appears quite often that Transparency platform receives XML file with a lower or the same version than the one which is already stored in the platform.

Recommendation:

Increase version of XML file with each change within XML file. Do not submit historical versions of XML file. These are not published anyway.

3.2.3 Too frequent submissions

There are situations when despite data are supposed to be received for each hour (for example the deadline for time interval 13:00-14:00 is at 15:00) the platform had to receive, process, store and publish many XML files (tens of files where one file is sufficient) submitted during that time interval (13:00-14:00).

Recommendation:

Meet the deadline requirement, but to submit only the latest data. It is not necessary and even not required by Regulation to submit the complete evolution of data.

Moreover evolution of such a data is not shown on the EMFIP portal – only latest version is displayed and users would need to log in and drill down to see historical values.

3.3 Data Granularity

Issues with amount of data in XML files were identified and described in following sub-chapters.

3.3.1 Incorrect Submission Resolution

Data are submitted in different resolution than the system expects. This will lead to rejection of data.

Recommendation:

To submit data in resolution that is configured in the Transparency platform. The expected resolution is defined in the Configuration Matrix via rule Submission Resolution.

Data Provider can update the rule and it can be set differently for different time periods.

3.3.2 Too detailed data in curves

Release 2 of the transparency platform offers the possibility to display evolution of values during some time period. Data can be delivered as a curve. For example results of a Yearly allocation can be submitted in one hour resolution. This creates 8 760 values that need to be received, processed, stored and published. But the Implementation Guides enable submission in thirty minute (about 17 500 values) or even fifteen-minute (about 35 000 values) resolution.

This requires a lot of processing time and a lot of storage is needed. Moreover transparency platform release 2 has a limit of processing maximally 10 000 position within XML.

Recommendations:

Use the lowest possible resolution. For example, in case that Implementation Guide allows delivery in PT15M, PT30M, PT60M and P1D, please use P1D. Market Time Unit resolution should only be used when transparency regulation requires it.

Use the CurveType “A03” as much as possible. When this curve type is used, only positions with changes are delivered. This leads to a smaller size of XML file and faster processing time. For example submit CurveType “A03” and then only value for first position in case that value does not change during the time interval.

3.1 Master Data Management

Potential issues related to Master data are described in following sub-chapters.

3.1.1 Too frequent / regular updates

Modification or Synchronization messages do not contain any changes.

Recommendation:

Modification or Synchronization of master data should be done in the very same way as suggested for Data Items. New documents should be submitted only when there is some real change in the data itself.

Recurring submissions without any actual changes would generate unnecessary burden for the system.