FINGRID
Datahub

Market party testing guide

22.5.2020

Contents

Purpose

This document is created for Market parties as a guide to begin testing the Datahub. More detailed instructions can be Datahub support service Knowledgebase section.

1 Testing

In parallel to the test- and certification service Datahub offers the possibility to do individual testing against Datahub testing and certification environment.

The aim of the stakeholder testing (sidosryhmätestaus) phase is to verify that the market parties systems are Datahub compatible. The focus is on testing market processes that are within the market party´s own market role.

Testing can be conducted in two ways

- using the Datahub GUI and B2B interface for individual testing
- using the test and certification testing and using the pre-defined test cases

In both cases the technical connection is to the same Datahub environment. The use of the test- and certification service is instructed separately.

1.1 Deployments and hot-fixes

Testing will start with a partial delivery of the Datahub system. Every market party starting testing in June is to recognize that a re-deployment is needed at the latest when more functionality is delivered. The re-deployment is a “clean” deployment, which means all created data will be lost. The Datahub system is still under development, and as such, in addition to planned deployments of new major versions, also urgent hot-fixes may be needed that will interrupt the testing. Depending on the type of enhancements in the hot-fixes, also these may require a “clean” deployment of the environment.

Deployment of the environment is expected to last 1-2 working days, during which the environment is not accessible. Deployments will be announced in Datahub services portal (Datahub palvelut: palvelut.datahub.fi).

Hot-fixes may require as long as the deployments, depending on the fix.

As stated earlier a “clean” deployments means all created data will be lost. Market participants need to prepare to re-create data that is needed for testing purposes after a deployment of the environment.

1.2 Timetable

Datahub Market party test phase starts in June 2020.The Datahub testing and certification service will be available on 15.6.2020 for market parties use. The following milestones are set as part of Datahub go-live that are related to testing activities.

- Agreement for using test environments signed by 1.8.2020

- First messages to Test and certification service by 1.10.2020

In order for market participant to achieve these milestones, a good rule of thumb should be to allow a month for preparation work for establishing connections and signing agreements.

1.3 Report issues

Known issues are listed in Datahub Support service Knowledgebase section. You can find a list of already reported issues/defects here and follow-up on resolved/fixed issues.

As the system is still under construction, the release notes are published so you can find information on what feature is already in place and what small issues there is related to them.

Should you find something we have not already listed you can report a defect through Datahub support service. More detailed instruction on how to report a defect in Datahub support service knowledgebase article “Datahub testing guidance”.

1.4 Support services for testing

To support testing and finding information, below a list of Datahub support services.

Service	Purpose
Titta	• Milestone follow-up • Inform and follow up on connectivity related information
Datahub support service / Datahub tukipalvelu	• Support requests • Reporting issues • Knowledgebase for testing related information
Datahub services / Datahub palvelut	• Market process documentation • General instructions
Test- and certification service	• Use cases • Service instructions

2 Data principles

All testing must be conducted using synthetic data to avoid personal data breaches (GDPR). Every party testing must understand, that the Datahub system is still undergoing development, and therefore the precaution of requiring the usage of synthetic data is mandatory.

Synthetic data means data that it does not represent any natural persons, nor can natural persons be identified from the data. SSN values should preferably be generated so that the last part starts with 9 (example 010190-991N)

If real personal data is found to be used in testing, the environment needs to be cleaned up which causes interruption to testing for all involved parties.

Is real data of natural persons is used by accident in testing, this would mean a data breach and should be reported to Datahub using the Datahub service portal and service request type “Privacy violation notice”.

2.1 Test cases

The test and certification service generates the synthetic data for the pre-defined test cases. When testing using the test and certification service, the user must use the data the service provides in the test cases.

If testing separately against the Datahub test environment, the market party is responsible of creating the synthetic data required for the use case.

2.2 Organization data

As market parties are using their own systems with already built in logic and possibly even hardcoded or configured company information, Datahub has identified an inconvenience for market parties to make an initial baseload of test data to their system that does not correspond to any real information they have. Therefore it has been decided that, the Market parties are testing as themselves using real organization data and GLN codes as party identification. Organization name and GLN, will be real, but other organization data in Datahub is anonymized.

Resulting from this, as the GSRN codes are generated from the GLN, these can be real or synthetic depending on the market party’s´ ability to generate them.

Organization data will be pre-installed in the testing environment. It is highly recommended for each market party to validate, that the data is consistent with what has been delivered to Titta as part of the migration preparations.

2.3 User accounts

Datahub will provide the organization by default one **admin user** account. The user is created based on the admin user information provided by the market party in testing agreement (“Sopimus testiympäristöjen käytöstä”). The user is created using real name and e-mail address. This user can access the Datahub GUI, and create the

other needed users with corresponding user roles that the organization requires for testing purposes. Instructions for this in “Instructions for organizations in creating users in GUI”..

The market party will also be provided with a **b2b user** account if the market party will be a b2b user. To get a b2b user the party needs to provide Datahub with information described in chapter 3 Connection and access to Datahub test environment.

For the parties that indicate to make a more comprehensive testing of the Datahub (not only the test and certification tool), test accounts can be provided for them, to simulate the counterparties in a Datahub environment. The counterparty data includes user accounts for test organization in different market roles (Suppliers, Grid operators and third parties). With these user accounts, the testing organization has to initiate market processes from the counterparty and then validate the result within their own organization. For more information on this contact Datahub through Datahub support service.

3 Connections and access to Datahub test environment

Titta will be used as a tool to follow up on the connectivity process. All information related to creating the connection will be delivered to Titta.

A pre-requisite for testing is to sign the **agreement** for the use of Datahub test environments. The agreement can be found in Ediel.fi (and later in Datahub services portal) and it should be signed and delivered to Datahub (electronic signing of agreement).

To start testing the Market party needs to have an **admin user**. The admin user is created based on information the Market party has delivered in the agreement. The admin user will also be the first point of contact, and will be responsible of creating other relevant users that the market party sees necessary for testing Datahub. The admin user can log in to Datahub user interface, following the guide “*Instructions for organizations in creating users in GUI*”.

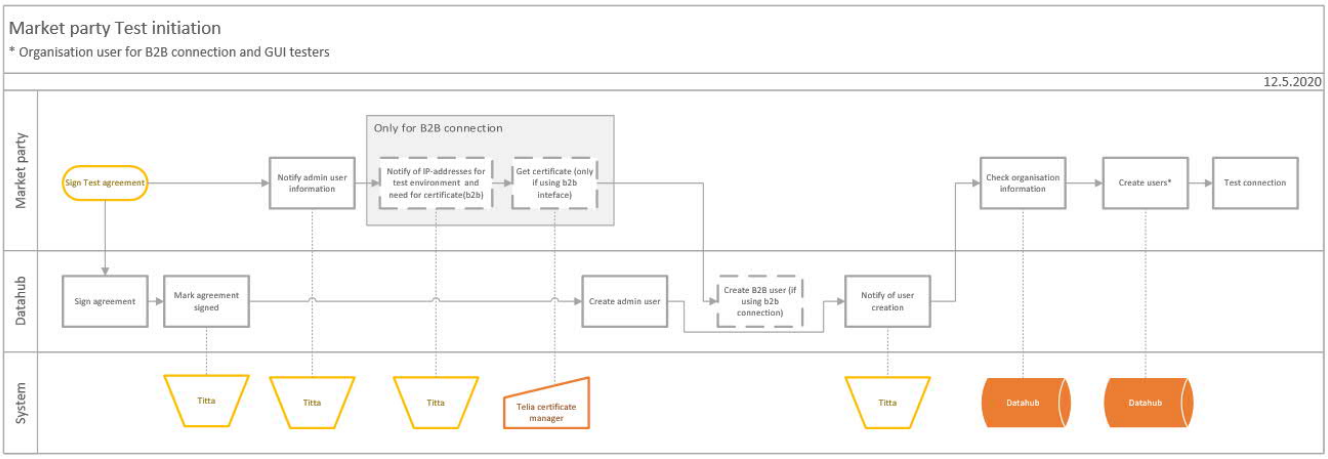
Market parties using the b2b-interface in testing also needs to establish the b2b connection. The process is roughly threefold:

- IP-whitelisting
- SSL certificate installation
- b2b user creation

In order to be able to support the majority of the market parties to be able to start testing, Fingrid will require the that required steps and the required information is done by 1.6.2020 so that the information can be processed in batches to enable the start of testing on 15.6.2020.

Information that is not delivered by 1.6.2020 (IP´s, certificates) will be processed in batches once a week from the 22.6.2020 throughout the summer. As the market parties will need to have delivered first messages to Test and certification service by 1.10.2020, the connectivity information needs to be delivered by 1.9.2020 to ensure enough time for connectivity testing and leave time for market parties to deliver the messages.

Connectivity process



The following chapters will cover steps that relate to establishing the b2b connection.

3.1 IP-whitelisting

Market parties using the b2b-interface need to deliver the IP-addresses from where their system will send messages to Datahub. IP-addresses are to be delivered to Titta.

If addresses are changed during the testing, the market party is requested to notify Datahub about that using the ticketing portal (Datahub support service).

1. Service request type - I need help
2. Service category - Network connections and interfaces

The market party should also make sure to whitelist the Datahub IP to prevent any problems in message transfer between systems. More detailed instructions on connection addresses in Datahub support service knowledgebase article “How to start testing Datahub”.

3.2 SSL-Certificate

Datahub b2b-interface uses SSL-certificate to authenticate the organization that trying to connect to Datahub. Each market participant that uses B2B-connection, needs to retrieve a SSL-certificate). See separate instructions for retrieving SSL-certificate.

The naming of the organizations will follow the naming convention GLN.MarketRole. A part from the organization information, the organization admins contact details are needed in the service. Fingrid will generate an e-mail message to organization admin´s with details how to download the SSL-certificate.

The SSL-certificate is twofold. The organization admin when retrieving the certificate gets a private key, which needs to be installed in the organizations environment that will contact Datahub. The public key of the certificate is needed on Datahub side, to authenticate the B2B connection.

It is important to note, that connection setup on Datahub side cannot progress, until market party has downloaded the certificate.

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3.3 Message signing

Message signing is not required for certification or go-live and is therefore not used in market party testing. It is to be noted that, message signing can be taken into use through a separate development project later on.

4 General Testing principles and B2B interface guidelines

As all market participants are using the same Datahub testing environment, it is vital that each party will follow the principles and guidelines in this guide to prevent causing unnecessary harm to other participants.

The B2B interface of Datahub is a *shared* resource among the actors in the electricity retail market. Therefore, you should always follow the good practices listed in this chapter. This will guarantee equal conditions to all actors and reduce the costs that will eventually be shared. Please, note that performance testing is not allowed under any circumstances.

In addition to the guidelines below, please review the recommendations in Datahub External Interface Specification chapter 5.3 (the document is available via “ediel.fi” and “Datahub palvelut” portals).

4.1 Always use synthetic data in test cases

If real data is used, the environment needs to be cleaned up, which means all data will be lost. Clean-up always means a re-deployment of the environment, and all the base data needs to be re-created. This means that environment will not be accessible for the time, and no tests can be run.

4.2 Peek interval

It is OK to empty the Datahub message queue with peek and deque as fast as your system can, but try to reduce excess peeking, when the queue is empty. When you receive an empty peek response, set your interface to sleep at least 30 seconds before peeking again. This will reduce the load on the environment which is especially important with the test environments that have not been scaled for heavy loads.

4.3 Shutdown your dev/test environment when they are not used

If possible, do not leave your dev or test environment running 24/7 especially if they peek Datahub on a regular and frequent interval. For sound economic reasons, Datahub test environments are scaled with certain limits in memory, disk space etc. that will run out eventually, if many actors use the environments heavily.

4.4 Prevent pretty print

Machines do not need pretty print and it causes some unnecessary overhead.

4.5 Use HTTP Compression

Use HTTP Compression when requesting data from Datahub. Compression conserves bandwidth and reduces perceived latency.

5 Summary

Preparations for testing is recommended to start as early as possible but at the latest in August 2020. It is highly recommended to reserve a month of time for the connectivity process in order to avoid situation where milestone cannot be reached.

Datahub will support in connectivity related topics through Datahub support service. In general, Datahub support service will contain more detailed instructions related to testing activities.