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FACT SHEET
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Powel Express Messaging
Faster, more secure, more robust dataexchange

The way and rate at which power is produced is changing rapidly. Today, renewable energy technology exists in many forms including generating electricity from wind-, solar- or hydropower energy. Production planning involves communication with the TSO, market place and other shared owners and stakeholders. Incoming and outgoing messages are increasingly time-sensitive and closely connected to shorter deadlines. The introduction of volatile and unpredictable renewable energy sources means that changes will happen even more frequently, creating a need to be even faster in planning, re-planning and responding to changes in the market. This means that the system you use to optimise production planning also needs to handle messaging and data exchange even more rapidly.

Powel Express Messaging provides a fast, secure and highly stable platform to exchange data with key stakeholders to ensure you can respond to these changes and maximise your profitability.

What is Express Messaging?

There are two types of communication methods for export and import between the Powel system and other systems ie. the EDI-server:

- Basic
- Express Messaging

The Basic method uses file based communication, e.g. when sending export items like bids and time series to other market participants. The new method, Express Messaging, uses services for sending messages instead of file based communication. The dataflow in the Basic method is script driven, while in Express Messaging it is event driven.

Express Messaging transports messages to and from Powel's system faster than the basic method.

Benefits of Express Messaging:

- The user can get a more detailed status about the whereabouts of the message in internal and external systems.
- The user can prioritise the messages.
- The Powel system can receive a pulse from the EDI-server, enabling the user to configure alarms in Powel Event Log, for example when the connection between the users system and the EDI-server is down.

System overview

The Data Exchange Manager is the core of Express Messaging. Data Exchange Manager handles all imports and exports of bids and time series between your system and those of other participants.

The Data Exchange Manager uses MSMQ (Microsoft Message Queuing) as its underlying queue system. MSMQ runs as a service in Windows. You need to install this before using the Data Exchange Manager.

MSMQ works as an internal Windows service, which handles a queue of messages. The messages and MSMQ configurations are stored on the hard drive. Data Exchange Manager uses this queue to transfer export files. The main steps in an export with Express Messaging are as follows:

1. An export is run (e.g. ediexp.exe).
2. The output of the export is stored in the MSMQ queue.
3. Data Exchange Manager transfers the file from the MSMQ queue to the designated system. This increases the speed for data exchange considerably.

More detailed status

When Express Messaging is not defined, Nimbus displays five basic status icons in the Send- bid and time series steps.

When Express Messaging is defined, Nimbus displays additional icons, which indicate further details about the sent status.

This gives more detailed information about where the message is in the process. It also makes error searching easier, in the event of a message stopping in the process.

Prioritising messages

The user can select a priority for different protocols, e.g. in peak traffic periods to ensure that a message with higher priority is sent before others with lower priority. Default value is Normal if no priority is set. This applies for export and import.

Easier error handling

In addition to easier error handling because of the detailed status of the messages, we also have an internal error queue where imported messages end up if the system does not know what kind of a message this is. The user has an easy overview of these messages in a user-friendly application. There, the user can fix the error and re-import the message.

All imported and exported messages are logged in the Message Log. This application gives the user an easy overview of the message flow, and gives the user access to details, message content and errors handling.

Another new feature is that the EDI-server sends the Powel system a pulse. When the EDI-server is down, the Powel system can alert users (via e-mail or text message), informing them that the connection to the EDI-server is lost.

Summary

The system is faster, because the solution is based on technology that gives a better flow in data exchange.

The system is more secure, because the user can get more detailed information about the status of the message. In other words, it is easier for the user to locate a message that has stopped in the system. All messages are logged and can be monitored from one application. Error handling is both simpler and less time consuming.

The system is more robust, because the user can prioritise the messages, ensuring that the more important messages always precede the others in the queue. Introducing separate queues for different priorities also contributes to a more robust system, because an error in one queue will not stop the whole export/import process.

The regular pulse from the EDI-server gives a more robust system because the user can detect and take action quicker, if the connection to the EDI-server is down.

Powel Express Messaging is a faster, more secure and more robust data exchange.