robotron®
Success Story

RWE Deutschland AG

Photo: RWE

Successful Smart Meter scalability test for RWE Deutschland AG

12 million meters/2.3 billion meter readings within 24 hours

VORWEG GEHEN

The customer

Headquartered in Essen the RWE Deutschland AG is responsible for all German activities of the RWE group in the different areas such as grid, sales and energy efficiency and manages its domestic regional companies. The company incorporates legally independent subsidiaries for its sales activities, distributor network operations, metering operations and sales for technical services. Further subsidiaries are responsible for the activities in the field of energy efficiency incl. e-mobility and gas storages. RWE Deutschland AG holds shares in approximately 70 regional and municipal utilities and employs more than 21.000 people.

Starting situation

For many years now the Robotron Datenbank-Software GmbH, the RWE Metering GmbH and other RWE subsidiaries have been engaged in a successful partnership and rewarding collaboration. Robotron, for instance, has been software provider to the group-wide network data collector and EDM system MEDACO (Meter Data Collection) with its software ***robotron*e↗count***.

Currently system landscapes are faced with important challenges and questions in terms of forthcoming Smart Meter Rollouts. Increasing data quantities versus the compliance of deadlines, regulations and costs increase the requirements — which system meets the specific needs?

In this context a mass data test to examine the scalability of the existing MEDACO system for the purpose of applying it as a future AMI and MDM system based on ***robotron*e↗count/e↗collect*** was conducted. RWE initiated this project in cooperation with Robotron. The test was accompanied by DNV KEMA Energy & Sustainability to cover the recording and certification of the results.

- 2 million meters were imported within 24 hours
- different allocation intervals and meter reading profiles
- 10.5 million pushed messages could be processed
- 96 million consumption and operating values could be processed

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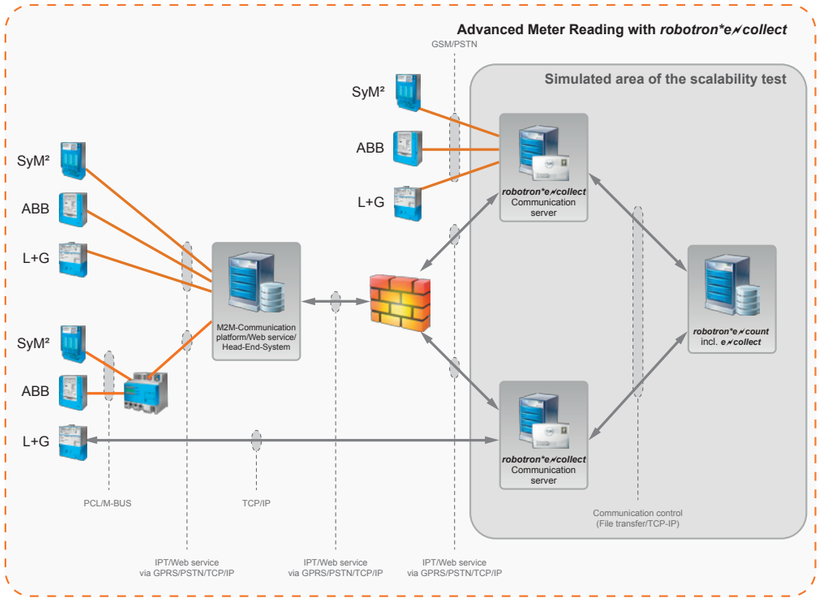
Robotron as Oracle Platinum Partner is specialist for topics around EDM, Big Data, Business Intelligence and Data Warehouse. The management of comprehensively large data quantities is Robotron's core competency and has been proven in numerous projects with large energy companies. Not only does Robotron provide a comprehensive knowledge base in terms of products, processes and branches but also a number of process and product certifications as well as company specializations by Oracle. Even the know-how on Engineered Oracle Systems such as Oracle Exadata and Oracle Database Appliance, which was successfully applied during the RWE test, stresses its importance.



Realization and results

The Smart Meter scalability test for RWE was realized based on an Oracle Exadata Database Machine X2-2 Quarter Rack. Different scenarios were simulated and a possible capacity limit of Robotron solutions on this hardware was tested.

In order to analyze the efficiency of Robotron systems during day-to-day operations the tests have been conducted taking into account the current RWE system base load. Based on this system base load the meter readings of altogether 2 million meters were imported within 24 hours. The imported messages varied within their allocation interval and differed in terms of the containing meter reading profile (daily values, quarter-hourly values etc.). As a result in total 10.5 million pushed messages as well as 96 million consumption and operating values could be processed.

Another test was conducted for the purpose of identifying a possible capacity limit of Robotron systems without applying the RWE system base load on the mentioned hardware. The data of 12 million meters were successfully imported within 22 hours. The meters (one channel) provided 96 meter readings each. Parallel the operating values (quarter-hourly difference between the meter readings) were calculated and imported into the system. In total 24 million time series with more than 2.3 billion meter readings and operating values could be processed.

Conclusion

The results of this test reflect the enormous performance of the Robotron systems for the RMR (***robotron*e⁄collect***), the EDM (***robotron*e⁄count***) as well as the MDM (***robotron*e⁄smart***) in order to manage comprehensively large data quantities.

The processing of more than 10.5 million pushed messages and more than 96 million consumption as well as operating values by far exceeded the originally estimated test goal of 1.3 million meters parallel to the RWE system base load. This way the RWE is optimally prepared for the Smart Meter requirements due to the application of already existing Robotron solutions. It is not required to setup an additional system (cost saving benefit) since the performance of the existing system landscape was successfully confirmed.

Robotron proved that the existing solution incorporates a highly efficient MDM system and provides a comprehensive Smart Meter landscape. By applying suitable hardware the RMR ***robotron*e⁄collect*** and MDM/EDM system ***robotron*e⁄smart*/*e⁄count*** are able to manage significantly larger data quantities.

„The successful scaling test showed us that the solutions of Robotron and Oracle form a sustainable platform for our metering business for the next years. Robotron has proven to be an innovative and powerful partner."

Uwe Mesewinkel, head of IT coordination, RWE Deutschland AG

„In the future RWE will have read even the meters of the biggest Smart Meter pilot project in Germany "Mühlheim zählt" with the software *robotron*e⁄collect*."

Winfried Engländer, head of operations, RWE Metering GmbH

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