



REFERENCE

Wissenschaftliches Institut der Ortskrankenkassen (WIdO)

Big Data in the health care sector

Project Environment

Science creating knowledge for the use in practice – this is the self-image and main task at the Wissenschaftliches Institut der AOK (WIdO), the research and development unit of the AOK system. The WIdO offers substantiated expertise in every service aspect of healthcare with a focus on patient care, especially for the 24 million insured by the AOK, even in a cross-sectoral perspective. To achieve this, the experts at WIdO evaluate millions of important data every year for the health care system in Germany, considering aspects of quality and efficiency, making numbers talk. WIdO wanted to exchange the performant Data Warehouse Appliance they were using to meet growing demands and was looking for a new expandable solution in an integrated system of hardware and software, which would also offer guaranteed maintenance and service during the entire time the machine will be used. The additional goal was to achieve an increase in performance which would be at least 50% higher than with the solution used up to date. Axians IT Solutions rose to that challenge, introducing a new IBM server x with Linux and a DB2 10.5. Since the system's maintenance was completely outsourced to

Axians IT Solutions within the Managed Dienstware offer, WIdO could now fully concentrate on optimizing business logistic over the course of three years.

Project Requirements And Goals

Gabriela Brückner, in charge of the DWH at WIdO, explains the initial situation and the requirements: "Here at WIdO, anonymized data of 24 million people insured by the AOK come together. A massive volume of more than 10 Terabyte of data are reflected in tables with billions of rows, which lead to extremely complex analytical requirements to the DWH. The expert users from the AOKs (Allgemeine Ortskrankenkassen, German public health insurance companies) use their expert knowledge in medicine, pharmacology, epidemiology, controlling etc. to answer specific questions and therefore expect stable and efficient access to be able to make optimal use of WIdO's range of information. Most of all, a new system should help reduce the reply times." WIdO had made positive experiences with the appliance used to date, since even the complex demand of keeping reply times within minutes could be met effectively, despite the large volume of data.

TASK/GOAL

- Customized "myAppliance"
- Quick and efficient data analysis
- Increased processing speed
- Increased performance

CUSTOMER INFO

WIdO Wissenschaftliches Institut der AOK

Company: Wissenschaftliches Institut der AOK (WIdO)
(Scientific Institute of the AOK)

Industry: Health care

Location: Berlin

Founded: 1976

Dimensions: 80 employees

Homepage: www.wido.de

REFERENCE

Wissenschaftliches Institut der Ortskrankenkassen (WIdO)

Implementation

Therefore, Axians IT Solutions suggested modernizing the system used to date by upgrading it to the respective newer versions: along with a new and more efficient model of the System x servers, the DB2 would be used in the new 10.5 version using Linux. Sascha Bäcker (Solution Architect) at Axians IT Solutions explains these choices: "We wanted to provide WIdO with a robust complete system that is mainly geared towards performance. Therefore, we pooled the experiences of the different divisions within Axians IT Solutions: We teamed up with system specialists concerned with the servers and the data base, colleagues from the storage department and the business analytics team." With this collective know-how of the departments, the system's complexity, with a system x3850 X5 with DB2 10.5. under Linux, connected storage V3700 as well as the DWH features of the DB2, could be united and integrated into one application. The complete package provided by Axians IT Solutions also contained three years of maintenance within the Managed Dienstware offer. This covers all services including remote maintenance, supervision and access as well as an emergency hotline. WIdO receives a status report once a month containing information on the current situation and updates, but otherwise does not have to occupy itself with the system's technology.

Project outcome

To accelerate queries, the new system at WIdO uses the familiar database Partitioning Feature (DPF) of the DB2, which had already been used in the previous system. In this feature, for exam-

ple, the existing data material is distributed to 16 Partitionings. In a table with 1.6 million rows, each Partitioning is assigned 100,000 rows and it is possible to work on them simultaneously. Axians expert Sascha Bäcker adds: "As of this moment, this feature of the DB2 generates the fastest reply times for the complex demands at WIdO. The increase in the operating speed is mostly due to the chosen hardware design, as well as the new DB2 version 10.5. This new DB2 release alone offers a 15-20% better performance than the previous 9.7 version. Complex standard queries, which used to take up to 2mins 40sec using the old system, could be reduced by more than 50% to only one minute with the new system solution." The IBM In Memory feature BLU will only be used in the test system for now. According to Ms Brückner, "Using BLU, we were able to achieve performance increases of up to 80% in several more rare types of queries. This way, we are already well-equipped for the future, since we already have this in-memory-feature at our disposal, we can test it thoroughly, and generate more possibilities in the future." In case the demands change in this matter, based on the experience gained, BLU can also be implemented in the operative system at any time. In addition, the system's resources are used more efficiently since less storage is used and the CPUs can be utilized in a better way. As of September 2014, WIdO is prepared for other potential areas of application for BLU. Ms Brückner sums up the project: "In short: The new system Big Data was launched successfully. Axians tailored the solution to our needs and, beyond that, relieves us in the technology maintenance. This way, we can fully concentrate on optimizing business logistics."

ABOUT AXIANS

Axians in Germany is an agile corporate network of specialised ICT service providers and software manufacturers under the VINCI Energies global ICT brand Axians. Direct proximity to customers is achieved through a comprehensive presence in 27 cities.

The network guides its customers – private sector firms, local authorities, public institutions, network operators and service providers – throughout the entire ICT process chain. The core expertise of IT solutions, IT security, network infrastructure and network technology is supplemented by the company's own industry software, supporting customers for all requirements of core ICT and the digital transformation. By combining consultation, implementation, service and operation, customers can exploit technologies and applications appropriately, optimise processes and realise their digital business strategies sustainably. With 1,850 specialists, Axians in Germany can respond to every challenge with a customised solution and the best team from the network.

CONTACT INFORMATION

E-Mail: referenzen@axians.de · Phone: +49 731 1551-0

axians.de

Stand 11/19