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Piloting a modern data warehouse in the **Microsoft Azure** cloud

Client story

MPWiK Wrocław

Due to growth plans, Our client would like to build an advanced analytical environment. He is interested in a cloud solution. He fears that his existing on-premise system will not be flexible and On-premise system will not be flexible and efficient enough when it comes to combining and processing large amounts of data from IoT devices. He decided to test the possibility of building a modern, integrated analytical environment in the cloud model.

PILOTING A MODERN DATA WAREHOUSE IN THE MICROSOFT AZURE CLOUD

A company has many different sets of data, including but not limited to automatically generated data from flow meters. It wants to be able to combine them efficiently for advanced analytics. Among other things, it needs monthly water consumption forecasts. It is interested in building a coherent, efficient analytics platform that can also handle the increasing amount of data coming in from Internet of Things devices. Before making a final decision, the client wanted to test the functionality of the cloud system and assess its suitability for managing multiple, diverse data sets for its own needs.

A team of APN Promise specialists conducted a pilot implementation of a data warehouse in the Microsoft Azure cloud environment. A reporting platform based on the Microsoft Power BI system was also launched.

As part of the pilot study, the entire architecture of a modern data warehouse was prepared and made available for testing. The client was able to check its operation in conditions similar to real ones. The as-built document included a set of good practices and a vision of the target analytical environment. The benefits of the cloud model were shown, which do not come down only to cost optimisation. Equally important is the functional aspect consisting in the assumption of responsibility for the maintenance and development of the system by the service provider.

The client could also use the reporting platform in the cloud computing model. As part of the pilot, an Azure Machine Learning solution was implemented for the prediction of missing readings from flow meters. Based on appropriate algorithms, data science methods allow for a reliable addition to the database for analytical purposes. The possibilities of including other data from different sources for the purposes of forecasting were also demonstrated.

During the workshop, the functions of the applied tools and technologies were presented. The perspectives and possibilities of development of the analytical platform were also presented, including expansion with new forecasting models. The client became familiar with new solutions and acquired knowledge about how to apply them in a modern data warehouse. An important result of the pilot was the development of a set of roles and competency profiles needed to ensure the efficient functioning of the developed analytical environment. These competencies were then mapped onto existing roles and positions in the company, so that the Customer knew which specialists it might need in the future.

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