Customer Case Study

Bundesministerium der Finanzen (BMF): tcVISION Data Replication from Adabas on z/OS to PostgreSQL

The Bundesministerium der Finanzen (BMF) is Germany's Ministry of Finance and establishes sustainable fiscal policy that ensures financial empowerment of the federal budget. From tax policy via development of federal budget, to regulation of national and international financial markets – for these and other fiscal and economic questions of principle, the BMF creates strategies and concepts, and implements them.

The Federal Tax Administration is part of BMF, and controls not only the cross-border goods traffic, but acts against illegal employment and other crimes. The tax administration also imposes consumer taxes (e.g., energy and tobacco tax, car tax, etc.). Financial relations between federation, countries, and communities are also coordinated by BMF.

Department II (federal budget) is part of the German government in charge of establishing the budget and financial planning of the federation. Throughout the year, it monitors execution of the budget for eventual intervention (e.g., with a budget freeze, or supplementary budget). After closing the fiscal year, the budget and balance sheet will be presented. The budget is a supplement of the budget act, legally binding.

The central service organization of BMF is the Informationstechnikzentrum Bund - ITZBund (Information technic center).

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BUSINESS BACKGROUND

Drawing up the budget is a yearly, highly time consuming, and formalized business process. All departments are involved in nearly every sub-process, and budgeting and financial planning is supported by the application, "Haushaltsaufstellung/Budgetgeneration". Using the generated reports, various addressees/receivers are supported (e.g., German Federal Government, German Federal Parliament, Federal Council of Germany, finance department in BMF, the employees in the departments, and the public).

Technically, the budget plan of the federation is based on technologies, including the IBM Mainframe with z/OS running Adabas and Natural.

The challenge was to provide an environment to employees in all departments that enables them to do their work quickly, easily, and efficiently. In the BMF, users must have an editorless, end-user driven, and real-time creation of ready-to-print products.

An informative description of the workflow is shown on the website of the BMF:

https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Oeffentliche_Finanzen/oeffentliche-finanzen.html

The federal budget is available as download at https://www.bundeshaushalt.de/, or one can directly navigate through the data using the online application.

BUSINESS ISSUE

Some time ago, BMF decided to re-engineer the application for budget planning and port it to Open Source. To guarantee a seamless transition, the first step is propagation of data out of Adabas on z/OS to PostgreSQL, concluding with permanent synchronization.

The difficulties of this task are the complexities of setting up data definitions for the data structures in Natural and the propagation of data from Adabas on z/OS to PostgreSQL.

TECHNOLOGY SOLUTION

After an analysis of the project, Treehouse Software proposed creating an extension to tcVISION's change data capture (CDC) functionality for integration, so that tcVISION could enable BMF to continue using the implemented data definitions in a format suitable for the RDBMS.

The extension was developed within a few days, and a two-day on premise test demonstrated the solution fit the requirements of BMF.

BMF can now provide its data definitions from Natural LDA to the extension of tcVISION, and after the transformation, onto the PostgreSQL load process for processing.

Another advantage of the tcVISION solution is that when needed, other targets can be integrated for propagation of data from the mainframe (e.g., Kafka, which BMF indicated may be a future target environment).

Additionally, bi-directional propagation can be added in budget planning when BMF is ready.

Data structures are held in LDA, because this provides the advantages of higher flexibility in development and the adaption of new requirements to the data definitions. If definitions would have to be ported manually, in part, to PostGreSQL, it would have been a much bigger and error-prone effort.

Subsequent changes to Adabas structures can now use tcVISION's newly developed extension to easily regenerate and load the correct definitions to the RDBMS, and tcVISION completely covers the customer's requirements for special usage of *PEs and *MUs.

After thorough preparation and extensive testing, the solution was released to selected users first, then made available to all users.

* PEs and MUs are special Adabas formats for definition of tables. PE = Periodic Group, MU = Multiple Value Field.

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