INTERNATIONAL UNIVERSITY OF APPLIED SCIENCES

DLMDSEBA02 Project Business Intelligence

Finalization Phase

Abstract: Business Intelligence Architecture

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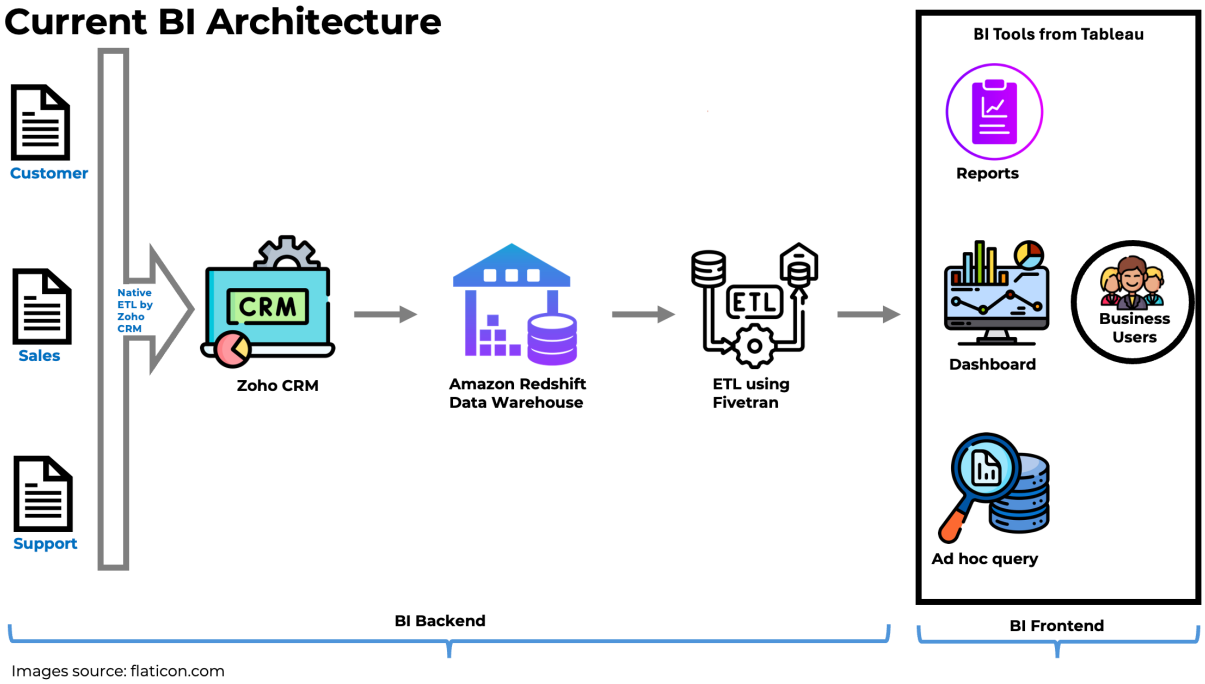
Introduction

Acmeflex Sleep Solutions currently operates with a diverse set of tools for CRM, Data Warehouse, ETL, and Visualization, each sourced from different vendors. The absence of a dedicated data mining tool in the BI architecture prompted a strategic decision to enhance CRM capabilities. The chosen solution involves integrating KNIME, a comprehensive tool that consolidates ETL, data mining, and visualization processes. This shift not only streamlines the architecture by reducing complexities and the number of software vendors but also positions Acmeflex for future BI advancements. The introduction of KNIME is anticipated to bring about improved data analysis, scalability, and cost-efficiency, fostering a more cohesive and efficient BI landscape.

Current BI Architecture Overview



Images source: flaticon.com

In the present BI architecture, integration commences by linking Customer, Sales, and Support data sources to Zoho CRM. Prior to data storage, the CRM tool inherently conducts basic cleaning and parsing of the data, aligning it with the storage formats before saving it into the system. Due to the limitations of the current CRM system in offering advanced reporting capabilities, the CRM data is transferred to Amazon Redshift Cloud Data Warehouse where another tool can retrieve the data to execute the required reporting and visualization processes. Following this, the data in the warehouse undergoes extraction, transformation, and loading (ETL) procedures, facilitated by the Fivetran ETL Tool. Tableau assumes

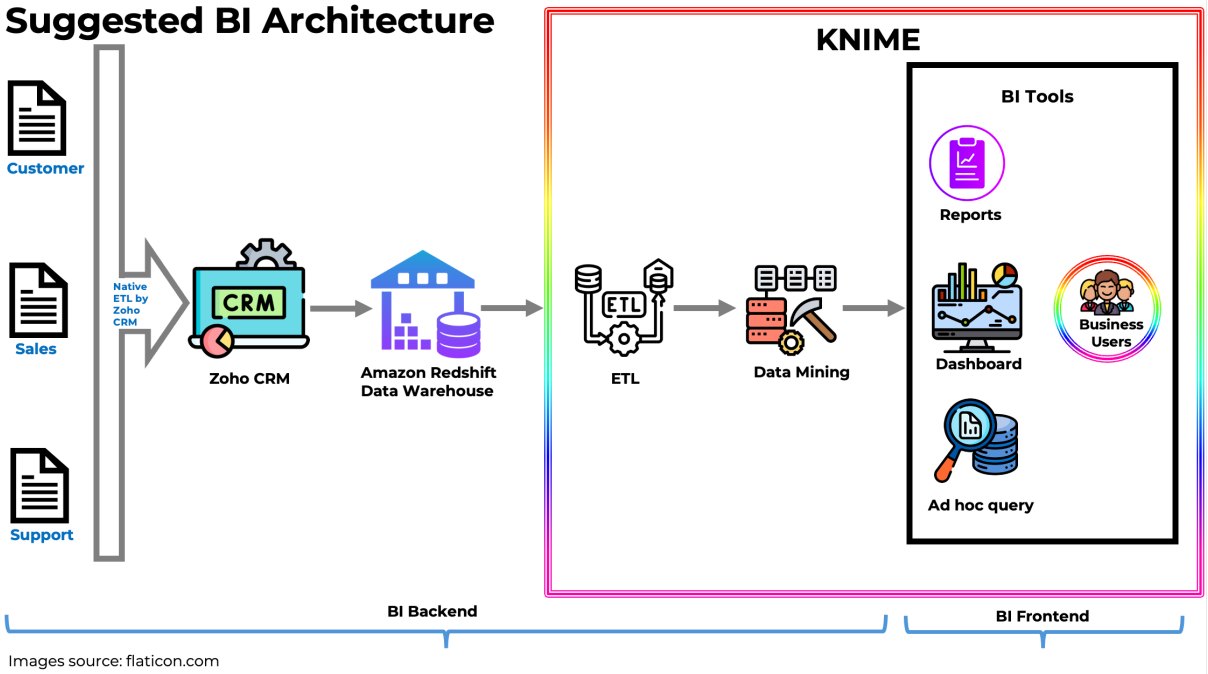
responsibility for executing ad hoc queries and visualizing the CRM dashboard and reports by fetching the processed data from Fivetran.

Within the BI architecture of Acmeflex, various types of data are managed to support business intelligence. These include:

- Customer Data: Information related to customers, such as CustomerID, age, sleep preferences, and customer demographics.
- Sales Data: Data related to sales transactions, order details, and product information to track sales performance.
- Support Data: Information related to customer support interactions, issues raised, and resolution times to track customer satisfaction.

End-users at Acmeflex currently access BI insights provided by Tableau. The interface includes ad hoc queries, dashboards and reporting mechanisms of different departments. Users navigate through dashboards, enabling them to interact with information from various datasets, including customer, sales, and support data. This access to BI tool supports decision-making processes across the organization.

Suggested BI Architecture Overview



The suggested plan is to enhance Acmeflex's CRM capabilities by introducing a data mining tool. The chosen tool is called KNIME, which will connect directly to the existing Amazon Redshift data warehouse. This initiative also involves replacing the current ETL tool Fivetran and Visualization tool Tableau with KNIME, consolidating ETL, data mining, and visualization

processes into a unified solution. This strategic shift aims to streamline the BI architecture, reducing complexities and enhancing integration. By consolidating tools and vendors, the transition reduces the number of software vendors required, marking a significant optimization in the BI architecture.

The introduction of KNIME as the new data mining tool is anticipated to have a transformative impact on BI content and insights. With KNIME handling ETL, mining, and visualization processes, there is potential for more seamless and integrated insights. This consolidation aims to boost efficiency, enhance data analysis, and offer a comprehensive business intelligence view, aligning with the suggested strategy to optimize the BI architecture and leverage advanced data mining for informed decision-making.

To ensure a smooth transition, Acmeflex should conduct comprehensive training sessions for existing users on the newly introduced tool. The training should cover essential features, functionalities, and best practices. To promote user adoption, the company should implement a phased approach, starting with a pilot group before full-scale deployment. Regular communication channels should be utilized to highlight the benefits of KNIME and address user concerns. This strategy aims to facilitate a positive user experience and enhance the overall adoption of the new tool.

The introduction of KNIME into Acmeflex's BI architecture is designed with scalability in mind. Its modular and extensible nature allows for seamless scalability, accommodating future growth and evolving business needs. As data volumes and analytical requirements increase, KNIME's flexibility ensures adaptability to meet expanding BI demands.

Conclusion

Acmeflex's current BI architecture involves disparate tools for CRM, Data Warehouse, ETL, and Visualization from various vendors, lacking a dedicated data mining solution. The integration plan introduces KNIME, consolidating ETL, data mining, and visualization tasks, streamlining the architecture. This change reduces complexity by minimizing software vendors and promoting seamless integration. Anticipated benefits include enhanced data analysis capabilities, reduced licensing costs, and improved scalability, positioning Acmeflex for future BI advancements and ensuring a cohesive, efficient BI landscape.