Designing Complex Integration Between SAP & Non-SAP Systems, Ensuring Seamless Data Flow and Operational Efficiency

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Abstract

The research paper has shed light on the important business concepts of SAP and non-SAP. The study has appropriately analysed the different methods by which both the SAP and non-SAP systems can be integrated by a particular business. The incorporation and amalgamation of these two technologies is absolutely crucial for a business to enhance the advice in which data is transmitted within its domain. The study has been crucial in deriving appropriate insights about this integration process that can help businesses in real-life scenarios.

Keywords: SAP, non-SAP, Seamless data flow, Integration

I. INTRODUCTION

The business environment is becoming increasingly competitive in the current world. This is mainly due to the rapid technological advancements and incessant globalisation that is happening across different business sectors. In this regard, these businesses are working on integrating their SAP and non-SAP systems to enhance the efficiency of their business operations. This particular research paper will shed light on the concepts of different SAP and non-SAP systems. It will further explore the different ways in which various SAP and non-SAP systems are thoroughly integrated by multiple businesses to significantly improve the way in which they operate. The final portion of the research paper will incorporate the various reasons why businesses need to work on the integration of their SAP and non-SAP systems.

II. UNDERSTANDING THE CONCEPT OF SAP SYSTEMS

Due to the increasing diversification of business activities, different businesses need ERP systems to properly plan their operations. In this regard, the SAP systems are widely acknowledged ERP software that form the core element of a business. It can be described as a centralised system that helps different departments access similar information and simultaneously share new information to get better business outcomes[1]. This software is absolutely critical in helping employees showcase their talent and achieve business targets. The different kinds of SAP systems enable a business to manage all the business functions from one singular place. These business functions include sales, procurement, marketing, human resources, finance, supply chain and others. There are multiple benefits of incorporating SAP systems by a business. First, businesses can leverage the power of automation within their workflows and make their different business operations more streamlined in nature. The data from different storage units are automatically gathered by the SAP systems. The flow of data is governed by a set of predetermined guidelines that are

inherent within the SAP systems[2]. In addition, the SAP systems help businesses to increase the accessibility of information. The accessibility is enhanced because the SAP systems can be easily integrated because of their compatibility with a wide range of operating systems. Moreover, the data that is transmitted through the SAP systems are protected with appropriate security measures. The total time taken for processing the data can be calculated by adding the data extraction time, the time taken to convert data and the total time taken to load the transformed data into SAP.

Figure 1: Presenting SAP

III. DISCUSSING THE IDEA OF NON-SAP SYSTEMS

There are a number of systems that fall outside the domain of the integration of SAP systems. Despite the various advantages of the SAP systems, the real world is rarely perfect. Most of the back-end applications and some portion of the back-end ones fall under the domain of the SAP systems. In order to exchange the data between the front-end and the back-end applications, there is a non-SAP layer that regulates the data flow[3]. Therefore, from the point of view of a business, a certain process can begin and end in an SAP system. However, the non-SAP integration layer is absolutely critical for the successful transmission of data across various systems. The individuals who are responsible for overseeing the data transmission process between the different systems need to keep a close eye on the non-SAP layer and monitor it carefully. Putting the data mapping function through ETL logic on non-SAP data can result in the derivation of SAP data.

IV. EXPLORING THE INTEGRATION BETWEEN SAP AND NON-SAP SYSTEMS FOR SEAMLESS DATA FLOW

In order to mitigate the drawbacks of the non-SAP systems, they are appropriately integrated with the SAP systems. Therefore, the SAP systems cannot function in isolation and need to connect with the non-SAP architecture to obtain better results[4]. This integration process is done with the help of a number of methods.

Remote Function Call (RFC)

RFC is an interface that facilitates the communication between SAP systems. It is a secure way of integration that minimises the scope of any mistakes.

Simple Object Access Protocol (SOAP)

SOAP is one of the newest technologies that is widely used across different business sectors to connect SAP systems to non-SAP ones. They also make the RFC functions available which is instrumental for the integration process[5]. By implementing these two methods, a business is able to seamlessly integrate their different SAP and non-SAP systems in order to attain a stabilised flow of data.

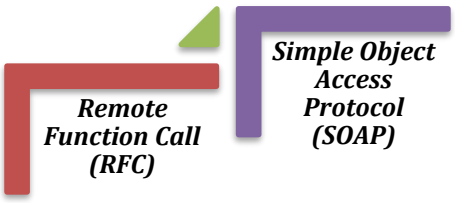

Figure 2: Ways in which SAP and non-SAP systems are integrated

V. WHY BUSINESSES NEED TO INTEGRATE SAP AND NON-SAP SYSTEMS

The amalgamation or integration of the various non-SAP and SAP systems can be highly beneficial for a business in multiple ways. First, they can achieve a proper synchronisation between their SAP systems and other third-party applications[6]. Therefore, all the employees within the organisation can gain equal access to important data and make better business choices. In addition, the automation that is present in the SAP systems can influence the non-SAP ones and increase the operational efficiency of the entire organisation[7]. Furthermore, it allows businesses to gain effective business insights from the combination of data from both the SAP and non-SAP systems. Therefore, it is evident that proper integration of SAP and non-SAP enables an organisation to achieve better business outcomes and utilise better business opportunities.

VI. CONCLUSION

From the above discussion, it can be stated that a company in the contemporary world has to integrate both its SAP and non-SAP systems. It can be beneficial for significantly improving the ways in which they carry out their business operations. If the two kinds of systems are appropriately integrated, data can flow seamlessly across different areas of business. Most importantly, the amalgamation of data from both the SAP and non-SAP systems enables the business to make informed and logical decisions. It can significantly improve their standing in the saturated market.

Abbreviations and acronyms

- SAP - Systems, Applications & Products in Data Processing
- ETL - Extract, Transform, and Load
- ERP - Enterprise Resource Planning
- RFC - Remote Function Call
- SOAP - Simple Object Access Protocol

Units

- Response time (milliseconds or seconds)
- API call latency (milliseconds)
- Error rate (%)
- System uptime or downtime (%)

Equations

- $TTotal=TExtraction+TTransformation+TLoading$
- $DSAP=f(DNon-SAP)$

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