SAP Integration with Non - SAP Systems
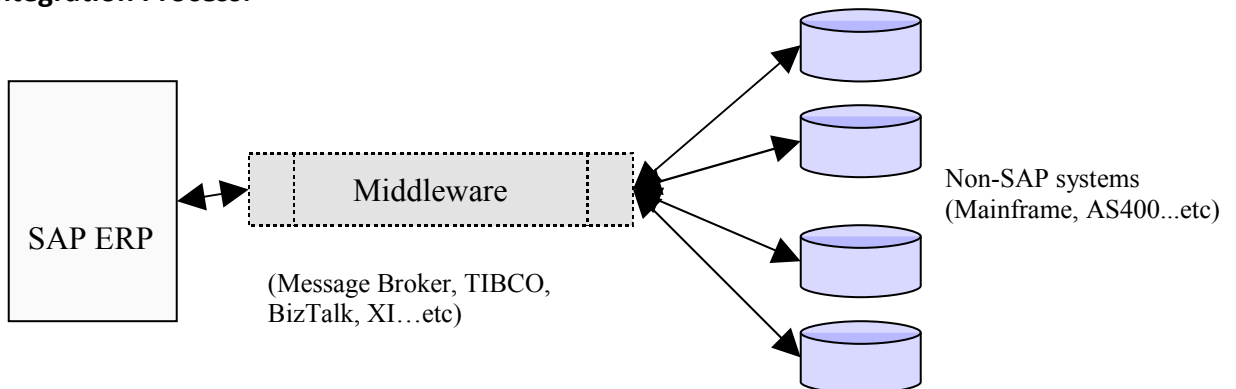
1.0 Introduction:

As we notice with many clients, SAP ERP is not the only application to handle their day to day businesses; they have several other applications supporting different activities. Usually during a SAP ERP Implementation, a few of the already running non-SAP applications are retired and their processes are run on SAP ERP and the other few are integrated with SAP ERP application and some are left alone to function independently.

There are several tools available within SAP that can be used to integrate SAP and non-SAP systems and similarly the non-SAP systems often comes with tools to integrate with other systems and usually with some or more level of customization from both SAP and non-SAP systems the integration between the two systems can be established successfully. This paper will provide some basic introductory details about the Integration process.

2.0 Importance of Integration:

The flow of data and information across SAP ERP and non-SAP systems plays a vital role in handling the day to day business critical transactions and to keep SAP ERP synchronized with other non-SAP systems with respect to data and information. For instance some manufacturing clients use non-SAP systems to handle their production and shop floor activities and use SAP ERP Logistics module for Sales, Purchasing and Warehouse management. The non-SAP system does not know what to produce and how many to produce but this information is available in SAP ERP as a result of forecasting or orders received into SAP ERP. It is important that these details are sent to the non-SAP system in real time for actual production to take place and finally getting back information from these systems and updating SAP ERP with the production and inventory details.

3.0 Integration Process:

SAP ERP ↔ Middleware

(Message Broker, TIBCO, BizTalk, XI…etc)

Non-SAP systems
(Mainframe, AS400...etc)

3.1 SAP ERP Integration Components:

SAP ERP transmits data to the Middleware system in the form of an IDOC (Intermediate Document). There are two different types of IDOCs namely the Outbound and the Inbound. If the IDOC is sent from SAP to the middle ware/non-SAP/other SAP systems then it is Outbound and if the IDOC comes from the middle ware/non-SAP/other SAP systems into SAP ERP then it is Inbound.

3.1.1 IDOCS (Intermediate Documents)

IDOC is just the common name to the different types of data (in the form of messages), in standard SAP ERP application depending on what data is to be transmitted to the external non-SAP systems/SAP ERP systems the messages are named, and the structure of each message is different, for example material master message structure is different than Bill of Materials data message or an Advanced Shipment notification message because they all are meant to carry different sets of data and for different purposes. The IDOCS are triggered from the application and the type of the message depends on which application triggered the message. Once the IDOC is triggered it is then sent to the appropriate system, it could be an external system or another SAP ERP system and the messages going to the external system are passed through the middleware system, which does the translation and routing. The messages coming from the external systems through the middleware are loaded into SAP ERP in the form of an IDOC.

3.1.2 Logical Systems
3.1.3 Ports
3.1.4 Partner profile
3.1.5 RFC connection
3.1.6 Distribution Model
3.1.6 Commonly used SAP transactions

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