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Overview and Analysis of SAP ERP System

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ABSTRACT: Enterprise Resource Planning (ERP) is used by different industrial sectors and is a software that aids the organizations workflow irrespective of their size and strength. The ERP bundle is intended to help and incorporate practically every functionality of a business process such as obtainment of goods and services.

GENERAL TERMS: The general perspectives in a SAP venture includes the fundamental investigation of SAP, it's sales and distribution in ERP, procurement of SAP , materials management, inventory management and its optimization, production planning, quality management and detail study of sap ABAP.

KEYWORDS: Enterprise Resource Planning, Systems Applications and Products (SAP)

I. INTRODUCTION

An ERP framework commonly plays out the accompanying capacities –Supports the coordinated business process inside the association. Enhances capital planning and aides in executing hierarchical plans and techniques. Helps accelerate the basic leadership process over the investigation of exact information. Stretches out the business system to more extensive spaces, extending the items and administrations to achieve more clients, providers, and accomplices. Distinguishes operational dangers to enhance governance. Provides assurance against authoritative information breaks and security dangers to spillage of data. Makes the association versatile to the fast changes in the business procedure as indicated by the needs. Gives long haul benefit by giving intends to build the client base.

II. FUNCTIONAL AREAS

ERP is a business administration programming is generally a suite of coordinated applications that an organization can use to gather, store, oversee, and interpret information from numerous utilitarian zones including:

- **Financial Accounting:** Manages money related exchanges and information.
- **Human Resource:** Manages data identified with worker of an association.
- **Customer Relationship Management:** Manages catching and dealing with client's relationship, encouraging the utilization of client experience to assess the learning database.
- **Sales And Distribution:** Manages order placement, conveyance, shipment and invoicing.
- **Logistics And Warehouse Management:** Manages stockpiling of items and shipment.
- **Manufacturing And Materials Management:** Manages the generation and creation planning exercises.
- **Supply Change Management:** Manages the supply of items, putting away, overseeing, and controlling supplies.
- **Business Intelligence:** Generates information by analyzing data.



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III. SOFTWARE SYSTEMS IN ERP

System Software is a sort of PC program that is intended to run a PC's equipment and application programs. On the off chance that we think about the PC system as a layered model, the system programming is the interface between the equipment and client applications.

1. **EPICOR** : Utilized for long history of respectable products. Used by 20,000 clients, 140 nations, 30 dialects. It has a few in number industry arrangements. It utilizes MS/SQL/SOA technology .It is Low to respectably valued.
2. **INFOR** : It has more than 70,000 clients. It is the third biggest worldwide ERP creator. It has Complex and discrete assembling. It is Low to modestly valued.
3. **MICROSOFT** : It has Over 83,000 ERP clients. It is Very solid accomplice channel. It is just sold through VAR channel.
4. **ORACLE** : It has more than 37,000 application clients. It has 30 year demonstrated believability. It has new SOA engineering and profound programming usefulness. It has preposterous adaptability. Oracle stack is the technology used. It is estimated at the top of the line.
5. **SAP** : It has more than 35,000 ERP clients, more than 120 nations. It has likewise constructed the customer/server ERP showcase. It has very noteworthy appropriation/SCM. It has Netweaver, SQL and an abyss of advances. It is valued at the top of the line.

IV. SAP HISTORY

SAP (Systems, Applications and products) was established in 1972 by a gathering of IBM dropouts. It was first called as R/1 which implies continuous information handling and was at first utilized for money related bookkeeping. It had no database, application or introduction layers. In the late 1970s, R/2 was discharged which had two layers - appropriated as database + application and introduction layer. Following 20 years SAP now named its item as R/3 which changed its outline into three layers in particular database, application and introduction. The new plan incorporated various working systems, database , and distinctive stages. From the arrival of R/3, SAP began naming its discharges with variants like R/3 3.11, R/3 4.0B... ..R/3 4.6D till 2001 and the fundamental segment was called BASIS.



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R/3 4.7 was the principal discharge which accompanied an innovation stage Web AS(Web Application Server) which included BSP(Business Server Pages) Applications, another intriguing certainty is that J2EE Engine was presented in R/3 4.7 itself, it was never utilized as a part of those years however. From that point on SAP began adding innovation stage naming to the product offering and that was the point at which all the disarray began. SAP assembled a stage, the first being Web AS to be incorporated into item naming or referenced when talking/expounding on the item. They additionally gave the Web AS an adaptation. So you have your R/3 (ongoing 3 layer SAP system) 4.x (rendition of your R/3) on Web AS (base stage) 6.10 (form of your stage). Presently SAP had particular segments which speak to the stage and different segments demonstrated the usefulness of the system. At that point Enterprise versions were presented alongside the Web AS 6.20 as R/3 enterprise 4.70. SAP R/3(real-time 3 layer SAP system) Enterprise (segments split and plausibility to utilize expansions) 4.x (variant of your R/3) on Web AS (base stage) 6.20 (form of your stage).

V. VERSIONS OF SAP

1. **SAP R1** :SAP R/1 was the principal adaptation and it is one level engineering in which three layers Presentation, Application and Database are introduced in one system/server. (Server one - Presentation + Application + Database)
2. **SAP R2** : SAP R/2 was the second form of programming and it is 2 level design in which three layers Presentation, Application and Database are introduced in two separate server. (Server one - Presentation, Server two - Application + Database)
3. **SAP R3** :SAP R/3 is the client/server rendition and it is 3 level design in which three layers Presentation, Application and Database are introduced in three system/server. (Server one – Presentation, Server two – Application, Server three – Database)

VI. SAP PROGRAMMING LANGUAGE(ABAP)

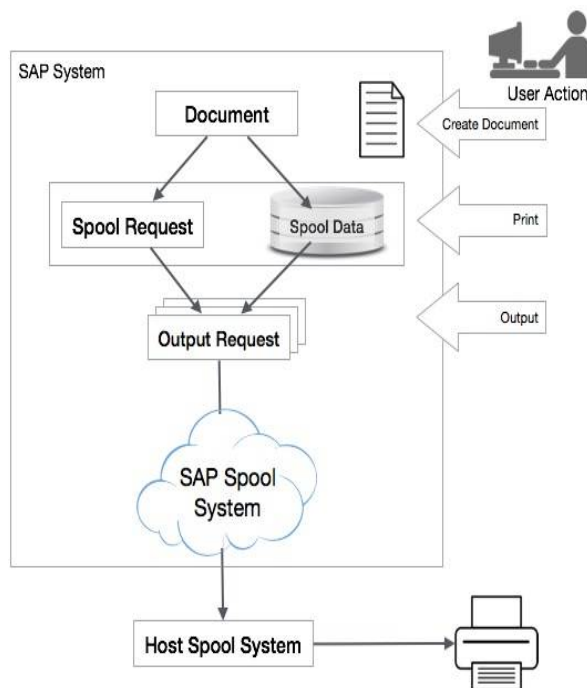
ABAP (Advanced Business Application Programming) is a programming dialect which executes in SAP ABAP runtime environment. ABAP was invented by SAP for creation of application programs which includes: Reports, Module Pool Programming, Interfaces, Forms of Data changes, User Exits and BADI. ABAP was used for developing entire of R/3's applications and also parts of its basis system. One of the best examples of event-driven programming language is SAP ABAP. The execution of the application are based on actions of the user and system events. ABAP is also known as ABAP/4. The "4" in the name represents "4th generation language" or "4GL".

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ABAP Workbench :

The ABAP Workbench is utilized by SAP for the improvement of standard and custom application programming. The ABAP Workbench is additionally used to make dictionary objects. It comprises of the accompanying parts and they are **ABAP Editor** is utilized to look after programs. **ABAP Dictionary** is utilized to keep up Dictionary objects. **Repository Browser** is utilized to show a various leveled structure of the segments in a bundle. **Menu Painter** is utilized to create graphical UIs including menu bars and toolbars. **Screen Painter** is utilized to keep up screen segments for online programs. **Repository Information System** contains information about advancement and runtime objects, for example, data models, dictionary sorts and table structures, projects, and capacities. **Test and Analysis Tools**, for example, the Syntax Check and the Debugger. **Function Builder**, which permits to make and keep up work gatherings and function modules. **Data Modeler**, a device which underpins graphical model Workbench Organizer, which keeps up different advancement extends and deals with their dispersion.

REPORTING :

Report programs produce records and can be partitioned into classical reports and interactive reports. **Classical reports** don't permit interaction by the user; therefore, the fundamental rundown contains broad information that the user should frequently sort through to discover relevant information. **Interactive reports** permit interaction by the user; therefore, the user can produce secondary, nitty gritty arrangements of the fundamental rundown by picking the relevant information and requesting more information. **SAP Query** or **Ad-hoc Query** or **Information Set Query** is an apparatus that enables the end-user to plan different queries in light of different info and yield parameters in the SAP framework according to the requirement. This is one of the reporting instruments majorly utilized as a part of the HR Module to pull information from relational databases. Information Set Query is reasonable for reporting in all areas of the SAP R/3 framework.



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Data Entry :

The SAP database must be filled before the end-clients can begin working once again the business procedure for examining and revealing reason. Different strategies are utilized to move data into the system at different stages relying on the unpredictability and data volume to be exchanged. Data can be exchanged from SAP to SAP or SAP to non-SAP systems (legacy system). Data can likewise be exchanged through manual passages. The instruments utilized for data exchange are as per the following BDC (Batch Data Communication), IDOC (Intermediate Document), LSMW (Legacy System Migration Workbench) Interfaces through transfer of .txt or Excel records holding data, Manual data section utilizing exchange codes.

VII. SAP BUSINESS OBJECTS

SAP Business Objects BI (also known as BO or BOBJ) is a suite of front-end applications that enable business clients to view, sort and dissect business intelligence information. The suite incorporates the accompanying key applications are Crystal Reports will empowers clients to plan and produce reports. X-Celsius/Dashboards will enables clients to make intuitive dashboards that contain diagrams and charts for envisioning information. Web Intelligence will gives a self-benefit condition to making impromptu inquiries and examination of information both on the web and disconnected. Explorer will enables clients to seek through BI information sources utilizing an iTunes-like interface. Clients don't need to make questions to look through the information and results are appeared with an outline that shows the best information coordinate.

VIII. ADVANTAGES

By coordinating the business forms, the ERP offers the accompanying favorable circumstances spares time and expense, .allows speedier basic leadership by the administration, using the information and detailing instruments composed in the frameworks, single information source and sharing of information among every one of the units of an association, helps in following each exchange that happens in an association from beginning till end, supplies continuous data at whatever point required, gives synchronized data move in the middle of various utilitarian ranges, for example, sales, marketing, finance, manufacturing, human resource, logistics, etc.

IX. DISADVANTAGES

ERP experiences the accompanying disadvantages and they are now and again business forms basic to an association are to be re-designed to adjust them to an ERP arrangement, cost of complex joining can be high, changing starting with one ERP arrangement then onto the next expands the usage cost considerably further, end-clients are to be prepared for their everyday operations, customization isn't favored.

REFERENCES

1. History of SAP R/3 http://en.wikipedia.org/wiki/SAP_R/3
2. SAP ABAP Online Magazine <http://www.abapcode.info/2007/12/eventdriven-programming-selection.html>
3. SAP Logical Databases <http://en.wikipedia.org/wiki/ABAP>
4. HIMSS Enterprise Information Systems Steering Committee, "Healthcare ERP and SCM Information Systems: Strategies and Solutions", White Paper , 2009
5. M. Brandena, N. Wiratungaa, D. Burtonb and S. Crawa, "Integrating case-based reasoning with an electronic patient record system", Artificial Intelligence in Medicine, vol. 51, 2011, pp. 117– 123
6. Tzu-Hsiang Yang, Yeali S. Sun, FeipeiLaiSmith, A Scalable Healthcare Information System Based on a Service-oriented Architecture, J. Med. Syst., vol. 35, 2011, pp. 391–40
7. Chang Won Lee, N.K. Kwak, "Strategic Enterprise Resource Planning in a Health-Care System Using a MulticriteriaDecisionMaking Model", J. Med. Syst. Vol. 35, pp. 265–275, 2011
8. S. C. Mathews and P. J. Pronovost, "The Need for Systems Integration in Health Care", Journal of American Medical Association (JAMA), Vol. 305, 2011
9. R. Anzbock, "Interorganizational workflow in the medical imaging domain" Distributed System Group Science, Viena University of Technology, 2007
10. H. K. Huang, PACS and Imaging Informatics Basic Principles and Applications, John Wiley & Sons Inc, 2004



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11. S. Cohen, F. Gilboa, U. Shani, PACS and Electronic Health Records, IBM Haifa Research Labs, Haifa University, Mount Carmel, Haifa, Israel, 2009
12. R. A. Moreno, T.P.N. Iversen, K.S. Nielsen, S.S. Furuie, M.A. Gutierrez, U. Tachinardic, Mini-WEBPACS – A Compact System for Storage and Retrieval of Medical Images, Computer Methods and Programs in Biomedicine XX, p1-p2, Elsevier Science, 2005
13. I. Khoury, C.S. Chang, C. Cebeci, e-Healthcare Web service Broker Infrastructure for Medical Data Exchange, Oakland university Research Paper, USA, 2011
14. R. Anzbock, S. Dustdar, Modeling and implementing medical Web services, Data and Knowledge Engineering, Wien, Austria, 2005 [
15. E.L. Siegel, R.M. Kolodner, Filmless Radiology, Springer, 1998