



Comparative Study of FOSS ERP Tools

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Abstract— An ERP is a new phenomenon within the software industry and many organizational are looking for changing their legacy system with ERP system to achieve their respective goals and objectives, but ERP implementation is a expensive in term of time and capital. In this paper we are discussing 14 fee and open source software with their detail description, so one can choose a best FOSS ERP tool.

Keywords— ERP, FOSS, GPL, Apache, CRM

I. INTRODUCTION

An ERP (Enterprise Resource Planning) system can be the lifeline of a company, integrating internal and external management information across the entire organization. The business environment is dramatically changing. Companies today face the challenge of increasing competition, expanding markets, and rising customer expectations [3].

ERP implementation takes a lot of effort, time and money and if these are not handled properly they can become the reasons why ERP is not successfully implemented [1] as the business world moves ever closer to a completely collaborative model and competitors upgrade their capabilities, to remain competitive, organizations must improve their own business practices and procedures. Companies must also increasingly share with their suppliers, distributors, and customers the critical in-house information they once aggressively protected [4].

ERP provides two major benefits that do not exist in non-integrated departmental systems: (1) a unified enterprise view of the business that encompasses all functions and departments; and (2) an enterprise database where all business transactions are entered, recorded, processed, monitored, and reported [5]. Enterprise resource planning (ERP) systems were introduced into companies to solve various organizational problems and to provide an integrated frame as an information technology. An ERP system is an integrated software package composed by a set of standard functional modules (production, sales, human resources, finance, etc.) developed or integrated by the vendor that can be adapted to the specific needs of each customer [6]. We can categories ERP software and tools in two categories as commercial and Free & open source. Commercial ERP tools are highly expensive to implement while FOSS ERP are free, educational ERP wide area of application and now a day's educational institutes also looking for ERP implementation. In next section a detail description of 14 FOSS are given [2].

II. PAGE LAYOUT

Adempiere

ADempiere is a commons-based peer-production of Open Source ERP Applications.

WebErp

webERP is an Open Source project. As such there are no fees associated with using the system! What is more, there is competition between service providers to provide the best and most cost effective support. Service providers are more readily available because the availability of the source code enables those with PHP knowledge (the web programming language used by webERP) to be able to identify exactly what processing is performed by the system. In proprietary systems this information is often not available even to licensed support providers - they need to communicate back to the software vendor for a response [8].

OpenTabs

opentaps Open Source Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) is a fully integrated application suite that brings together top-tier open source projects to help you manage your business more effectively. Today, opentaps supports ecommerce, Customer Relationship Management, Warehouse and Inventory Management, Supply Chain Management, and Financial Management to Business Intelligence and mobility integration out-of-the-box [9].

OpenErp

Open ERP has been specifically designed to help businesses improve their performances. Its functional coverage expands to all kinds of different areas. Open ERP offers to customers a set of editions that bundle Open ERP with commercial maintenance and services. These editions provide you the guarantees you need to run Open ERP in a

professional environment. These editions are second level maintenance contracts, for a first level support contract, you should contact an Open ERP certified partner. Open ERP provides a fully integrated accounting module that covers financial accounting, analytic accounting, third party management, taxes management, budgets, assets, etc. Open ERP has more than 50 extra modules for specific accounting features: electronic bank transfers, assets management, automatic invoicing, analytic controls, financial indicators, statements management, etc [10].

Apache Open For Business

Apache OFBiz (The Apache Open For Business Project) is an open source enterprise automation software project licensed under the Apache License Version 2.0. By open source enterprise automation we mean: Open Source ERP (Enterprise Resource Planning), Open Source CRM (Customer Relationship Management), Open Source E-Business / E-Commerce, Open Source SCM (Supply Chain Management), Open Source MRP (Manufacturing Resources Planning), Open Source CMMS/EAM (Maintenance Management System/Enterprise Asset Management), Open Source POS (Point Of Sale), and so on [11].

Jfire

Fire is a very comprehensive and flexible Open Source ERP-Solution. It was designed to provide any sized enterprise with very powerful analysis, reporting, and customization options. This provides companies with a highly scalable system that supports small companies as well as global businesses who have large user base, multi-currency & multi-language requirements. The new, powerful and free ERP, CRM, eBusiness and SCM /SRM solution for business enterprises. JFire is entirely free/open-source software, uses the latest technology [12].

Compiere

Compiere delivers a broad and rich set of integrated business functionality on a global-ready platform. Manage any number of organizations, warehouses, languages, currencies, and accounting rules. The scalable and adaptable Compiere platform handles high volumes and business complexity required by demanding businesses of all sizes [13].

Open Bravo3

Openbravo3, the agile ERP, empowers organizations across industries worldwide to improve business performance through increased productivity and business agility--while delivering superior ROI over the long term [14].

Blue ERP

BlueERP is a double entry accounting application for small and medium business. Written in PHP, it is delivered through a LAMP environment to provide web access to your accounts. Its goal is to provide a flexible and user friendly interface that can work out of the box and be modified to suit specific needs easily. Blue ERP is an open source project by its licence and by its philosophy [15].

Dolibarr

Dolibarr is an ERP/CRM (Enterprise Resource Planning and Customer Relationship management) for small and medium companies but also independent or foundations. Dolibarr success is probably due to the goal to build, since the beginning. Dolibarr has been integrated into the long list of installable applications from interface Virtualmin Professional. Virtualmin is a powerful and flexible web server control panel based on the well-known Open Source web-based systems management GUI, Webmin [16].

TryTon

Tryton is a three-tiers high-level general purpose application platform under the license GPL-3 written in Python and using PostgreSQL as database engine. It is the core base of a complete business solution providing modularity, scalability and security [17].

GnuCash

GnuCash is personal and small-business financial-accounting software, freely licensed under the GNU GPL and available for GNU/Linux, BSD, Solaris, Mac OS X and Microsoft Windows. It designed to be easy to use, yet powerful and flexible, GnuCash allows you to track bank accounts, stocks, income and expenses. As quick and intuitive to use as a checkbook register, it is based on professional accounting principles to ensure balanced books and accurate reports [18].

PostBooks

PostBooks is a full-featured, fully-integrated accounting, ERP, and CRM system, the core of the award winning xTuple ERP Suite. Built with the open source PostgreSQL database, and the open source Qt framework for C++, it provides the ultimate in power and flexibility for a range of businesses and industries [19].

DWS Systems Inc.

SQL-Ledger® is a double entry accounting system. Accounting data is stored in a SQL database server, for the display any text or GUI browser can be used. SQL-Ledger is platform independent and runs on any *NIX, Mac or Windows computer. SQL-Ledger can be accessed remotely so people can be in different parts of a city, country or across the

world. The assembly feature can be used to build manufactured goods from parts, services, labor units and assemblies. When the assembly is sold all the accounts linked to the individual items are updated and stock levels adjusted accordingly [20].

Here all the above Free & Open-Source tools have been described and explain in detail through the appendix A, B.

III. CONCLUSIONS

After the detail evaluation of all 14 FOSS ERP tools, the work is summarized in the form of two tables with 14 parameters which are enclosed in appendix. So one can choose the best FOSS ERP software/Tool for their organization to implement.

APPENDIX

See Appendix A, B.

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Anubhav Kumar obtained M.E. (Comp Sc Eng.) from MDU, Rohtak and pursuing PhD (Comp. Sc. Eng.) from JNU Jaipur. He has been published many research papers in national and international journals, also he has presented some papers in national and international conferences. His research area is Web mining and ERP and Knowledge Management.



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Appendix - A

S No	ERP S/W	Company	Language base	Logo	Website	Price	Distribution Method

1	Adempiere	Adempiere	Java		adempiere.com	0 \$	GPL Open Source
2	WebErp	Adempiere	weberp.org		weberp.org	0 \$	GPL Open Source
3	OpenTabs	Java	Java		opentaps.org	0 \$	Apache Open Source
4	OpenErp	openERP	-		Openerp.org	0 \$	Software as a Service
5	Apache Open For Business	Apache	-		Apache.org	0\$	Apache Open Source
6	Jfire	NightLabs	-		Jfire.org	0 \$	GPL Open Source
7	Compiere	Compiere	-		Compiere.com	\$995	GPL Open Source
8	Open Bravo3	openbravo	-		Openbravo.com	0 \$	NA
9	Blue Erp	blueErp	-		open.mitija.com	0 \$	GPL Open Source
10	Dolibarr	dolibarr	-		dolibarr.org	\$ 0	GPL Open Source
11	TryTon	tryton.org	-		tryton.org		GPL Open Source
12	GnuCash	gnucash	-		gnucash.org	\$ 0	GPL Open Source
13	PostBooks	xtuple	-		xtuple.com	\$ 0	NA
14	DWS Systems Inc.	sql-ledger	-		sql-ledger.org	NA	GPL Open Source

Appendix - B

S No	Attributes	License Period	Free Trial	Platform	Intended User	Features	Support features
1	Adempiere	Indefinite	Yes	Windows Mac Linux/Unix	•Mid-Market Business	<ul style="list-style-type: none"> •Accounts Payable (A/P) •Accounts Receivable (A/R) •Business Intelligence •Customer Relationship Management (CRM) •Enterprise Resource Planning (ERP) •General Ledger •Inventory Management •Manufacturing Management •Payroll 	<ul style="list-style-type: none"> •Email Support
2	WebErp	Indefinite	Yes	Server/Database	•Mid-Market Business	<ul style="list-style-type: none"> •Accounts Payable (A/P) •Accounts Receivable (A/R) •Analytics •Audit Trail •Automated Transactions •Budgeting •Business Intelligence •Costing •Tax Preparation •Warehouse Management •Double-Entry Accounting •Encryption •Enterprise Resource Planning (ERP) •General Ledger •Inventory Management •Manufacturing Management •Multi-Currency •Online Accessibility •Online Backup •Point of Sale •Supply Chain Management 	<ul style="list-style-type: none"> •Email Support •Community Support
3	OpenTabs	NA	yes	• Windows	•Mid-Market	•Accounts Payable (A/P)	•Email Support

				<ul style="list-style-type: none"> • Linux/Unix 	Business	<ul style="list-style-type: none"> • Accounts Receivable (A/R) • Business Intelligence • Customer Relationship Management (CRM) • E-commerce • Enterprise Resource Planning (ERP) • General Ledger • Inventory Management • Point of Sale • Supply Chain Management • Warehouse Management 	<ul style="list-style-type: none"> • Community Support
4	OpenErp	NA	Yes	<ul style="list-style-type: none"> • Windows • Mac • Linux 	<ul style="list-style-type: none"> • Mid-Market Business 	<ul style="list-style-type: none"> • Accounts Payable (A/P) • Accounts Receivable (A/R) • Automated Transactions • Business Intelligence • Calendar Management • Customer Relationship Management (CRM) • E-commerce • Enterprise Resource Planning (ERP) • General Ledger • Human Resources (H/R) Management • Inventory Management • Manufacturing Management • Multi-Currency • Payroll • Point of Sale • Portfolio Management • Supply Chain Management • Tax Preparation • Warehouse Management 	<ul style="list-style-type: none"> • Email Support • Community Support
5	Apache Open For Business	Indefinite	Yes	<ul style="list-style-type: none"> • Windows • Mac • Linux 	<ul style="list-style-type: none"> • Small Business • Mid-Market Business 	<ul style="list-style-type: none"> • Accounts Payable (A/P) • Accounts Receivable (A/R) • Business Intelligence • Calendar Management • Costing • Customer Relationship Management (CRM) • E-commerce • Enterprise Resource Planning (ERP) • General Ledger • Human Resources (H/R) Management • Inventory Management • Manufacturing Management • Online Backup • Point of Sale • Portfolio Management • Reporting Management • Supply Chain Management • Warehouse Management 	<ul style="list-style-type: none"> • Email Support • Community Support
6	Jfire	Indefinite	Yes	<ul style="list-style-type: none"> • Windows • Mac • Linux/Unix • Server/Databases 	<ul style="list-style-type: none"> • Small Business • Mid-Market Business • Large Enterprise 	<ul style="list-style-type: none"> • Accounts Payable (A/P) • Accounts Receivable (A/R) • Analytics • Customer Relationship Management (CRM) • E-commerce • Enterprise Resource Planning (ERP) • Inventory Management • Multi-Currency • Reporting Management • Supply Chain Management • Tax Preparation 	<ul style="list-style-type: none"> • Email Support

7	Compiere	Annual	Yes	<ul style="list-style-type: none"> • Windows • Mac • Linux/Unix 	<ul style="list-style-type: none"> • Mid-Market Business • Large Enterprise 	<ul style="list-style-type: none"> • Analytics • Customer Relationship Management (CRM) • Enterprise Resource Planning (ERP) • Inventory Management • Manufacturing Management • Multi-Currency • Online Accessibility • Online Backup • Point of Sale • Supply Chain Management • Warehouse Management 	<ul style="list-style-type: none"> • Email Support • Tutorial • Consulting • Community Support
8	Open Bravo3	NA	Yes	<ul style="list-style-type: none"> • Windows • Mac • Linux/Unix 	<ul style="list-style-type: none"> • Mid-Market Business • Large Enterprise 	<ul style="list-style-type: none"> • Accounts Payable (A/P) • Accounts Receivable (A/R) • Audit Trail • Business Intelligence • Customer Relationship Management (CRM) • E-commerce • Enterprise Resource Planning (ERP) • General Ledger • Inventory Management • Manufacturing Management • Payroll • Supply Chain Management 	<ul style="list-style-type: none"> • Email Support
9	Blue Erp	Indefinite	Yes	<ul style="list-style-type: none"> • Windows • Mac • Linux/Unix 	<ul style="list-style-type: none"> • Small Business • Mid-Market Business 	<ul style="list-style-type: none"> • Accounts Payable (A/P) • Accounts Receivable (A/R) • Analytics • Customer Relationship Management (CRM) • Double-Entry Accounting • Enterprise Resource Planning (ERP) • General Ledger • Human Resources (H/R) Management • Reporting Management • Supply Chain Management • Tax Preparation 	<ul style="list-style-type: none"> • Email Support • Tutorial • Consulting • Community Support
10	Dolibarr	NA	Yes	<ul style="list-style-type: none"> • Windows • Mac • Linux/Unix 	<ul style="list-style-type: none"> • Small Business • Mid-Market Business 	<ul style="list-style-type: none"> • Accounts Payable (A/P) • Accounts Receivable (A/R) • Calendar Management • Customer Relationship Management (CRM) • Enterprise Resource Planning (ERP) • Inventory Management • Manufacturing Management • Supply Chain Management • Warehouse Management 	<ul style="list-style-type: none"> • Email Support
11	TryTon	NA	Yes	<ul style="list-style-type: none"> • Windows • Mac • Linux/Unix 	<ul style="list-style-type: none"> • Mid-Market Business 	<ul style="list-style-type: none"> • Accounts Payable (A/P) • Accounts Receivable (A/R) • Analytics • Double-Entry Accounting • Enterprise Resource Planning (ERP) • General Ledger • Inventory Management • Multi-Currency • Supply Chain Management 	<ul style="list-style-type: none"> • Email Support • Community Support
12	GnuCash	NA	NA	<ul style="list-style-type: none"> • Windows • Mac • Linux/Unix 	<ul style="list-style-type: none"> • Small Business • Personal Finance 	<ul style="list-style-type: none"> • Accounts Payable (A/P) • Accounts Receivable (A/R) • Analytics • Budgeting • Costing • Double-Entry Accounting • Portfolio Management 	<ul style="list-style-type: none"> • Email Support
13	PostBooks	NA	NA	<ul style="list-style-type: none"> • Windows • Mac • Linux/Unix 	<ul style="list-style-type: none"> • Mid-Market Business 	<ul style="list-style-type: none"> • Accounts Payable (A/P) • Accounts Receivable (A/R) • Customer Relationship Management (CRM) • Double-Entry Accounting • E-commerce • Enterprise Resource Planning (ERP) 	<ul style="list-style-type: none"> • Email Support • Tutorial

						<ul style="list-style-type: none"> •General Ledger •Inventory Management •Manufacturing Management •Multi-Currency •Point of Sale 	
14	Sql-Ledger	NA	NA	<ul style="list-style-type: none"> •Windows •Mac •Linux/Unix 	•Mid-Market Business	<ul style="list-style-type: none"> •Accounts Payable (A/P) •Accounts Recievable (A/R) •Business Intelligence •Double-Entry Accounting •Human Resources (H/R) Management •Inventory Management •Supply Chain Management 	•Email Support