OS Based Aplix Software Solution

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Abstract: - With a high experience level in information technology, design and client/server solutions implementation, Aplix is involved not only in project design execution but also in complex software solutions orientated on process and information systems. Their desire is to offer customers high technology information solutions at a reasonable price. Aplix solution means more than Aplix-ERP. Their customers had during time not only an efficient and secure relational data managing system but also complete solutions such as: intranet/ internet/ VPN and office: data servers and Ubuntu intranet/ Linux/ Samba / Apache/ Firebird/ SQL/ SVN/ e-Groupware/ Mozilla Firebird, Thunderbird, OpenOffice, Free Mind and others. All these form in reality the Aplix solution, which is based on Open Source software. The Aplix-ERP (Enterprise Resource Planning) integrated application software automizes the processes of bookkeeping and administration, fixed means and inventory objects issues and also human resources processes.

Key-Words: - Open Source, Flexibility, Performance, Low Costs, SQL

1 Introduction
At present modules such as book keeping, CDIP and administration are available. AplixERP distinguishes itself from other similar applications through:
-performance and special interface facilities due to the use of SQLRoots technology
-low implementation costs by using Firebird relational data managing system
-simplicity and flexibility in implementation and utilization due to an original concept presentation.

2 AplixERP solution
Performance
Operation and report is carried out in complex multi user areas or high data volumes without significant influences on performance. As the firm develops (data volume or number of users increases) AplixERP works with the same performance, without the need of additional expensive software and equipment purchase. (2)

Usability
A continuous and coherent data structure enables operative and unitary data history access without the need of additional archiving/disarchiving operations.

Modules
Module structure enables implementation and gradual utilization of modules as this becomes necessary for the firm. The costs of applications and maintenance reflect exactly the modules used at that time by the necessary number of work positions.

Integration
Modules interoperate online in real time, without data transmission interfaces or other periodical processing. Files are introduced one single time in a single screen and are entirely processed at validation time.

3 Flexible report mechanism
Consolidate reports
A third party or article can be part of several classes and classes of third parties/ articles can have a hierarchical tree structure. Subunits can have the same structure too. Time intervals of more months or years can be defined according to needs. The capacity to report to a subunit, time interval, class of articles and/ or third parties (where these facilities are applicable) offers a high flexibility level and enables with minimum effort to obtain situations adapted to various operative needs of the firm. (1, 3) By calling reports to a subunit level which includes the others, consolidate reports at unit level can be obtained with the same simplicity.

Security
Multi user authentication system based on access rights and roles, independent from the operating system which enables flexible set up of different users access levels to data base functionalities (although their access is different to using the client component of the application). This confers
integrity and data base security and allows decision separation at organizational level.

Distribution
Version control mechanism, independent or client-server correlated, ensuring the usage of correct client-server versions.

Technology
Client component is carried out with individual design technology which offers to AplixERP similar functionality as the Oracle developed applications.

File collection, update and search are fully carried out in a minimum number of screens having unique functions and facilities specific to Aplix applications, significantly simplifying the users’ adjustment process to the new system.

Documentation
AplixERP user is assisted by accurate online documentation which advises on file operation method and on the recommended utilization.

Technical support
The bug tracker available on the site and the automatic, secure version distribution trough internet ensures a comfortable and efficient relationship with the support team and dramatically reduces utilization and maintenance costs of the informational system. The subscription to technical support represents the cost of new versions (functionalities) delivery.

Reliability
AplixERP is produced in client/server technology and uses the Firebird open source product as relational data managing system— the safest technology in data base storage.

Legislation
File reports and situations prepared according to collected files correspond to legal regulations regarding type, elaboration norms and standardized form utilization in what the financial activity is concerned. (5) Parameter and access rights (decision separation) mechanisms, expression analyst, accounting notes generator, the manner to handle operating methods (accountancy, finance, administration, etc) in an unitary principled manner, verification and control keys ensure the solid premises necessary to an implementation according to legislation. AplixERP is set to be integrated into a heterogenic and complex informational system. SGBDR Firebird is available on various platforms (Windows, Linux, OSX, IRIX, AIX, etc) and is provided with native interfacing mechanisms, with current or potential applications through direct access or web interface. The system can be implemented with minimum effort and without many requirements regarding electronic equipments (computers, POS equipments, code bar readers, electronic cash registers, etc). There is also instant availability for database search with various tools of data analysis.

The application has a powerful parameter mechanism and a flexible report system. This enables the (authorized) user to adjust application to new legislative regulations or to willingly modify reports for the standardized forms that he uses. Therefore, both maintenance costs are reduced as well as the need for personalized services from the applications provider.

Efficient client/server solutions based on relational data base managing systems (MSSQL, Oracle, etc) are generally expensive. By developing personal technologies we succeeded in creating a product which provides superior functionalities regarding user interface and data base access optimization. By using a relational data base managing system developed by the open source community, we removed the financial matter – investing in purchasing and developing an informational system is directly orientated to application software and to consulting services, assistance and implementation. Technical support costs are reflected in applications development and in exploitation assistance services (through electronic communication) and not in expensive interventions at your office. Therefore, AplixERP price can be brought to comparison with the price of software products developed by traditional technologies (FoxPro, Paradox, etc) and not with the price of similar complex systems developed by client/server technologies. (Fig. 1)

4 Software technologies in AplixERP applications
Client/server architecture
Client/server architecture stands for transparency between two distinctive software components:
Server – usually a database managing system which manages data, stocks it, processes it, verifies data structures integrity rules using a program (server component of an application)

Client – interface program between server and user. (7, 9) The client requires data from server, shows data in logical structures easily interpreted by the user, enables updating (adding, modifying or deleting) in an easy and logical manner. Finally, data operations are sent to server.

Firebird

Firebird is a relational database managing system bearing the SQL programming. It can run on a great variety of operating systems (Windows – all versions, Linux – all versions, OSX/Darwin, etc) and provides an excellent multi-user work capacity, a high level of performance, and also support for stocked procedures and triggers. Firebird is developed by Open Source community and is included in the AplixERP installation kit without royalties, according to Interbase public License 1.0.

Aplix SQLRoots represents an avangarde product addressed to software developers using Delphi designing and consists of a Delphi set of components for fast SQL server based applications. Applications using this technology have direct database access in an optimal and efficient manner. Data is taken form server as this becomes necessary and is transmitted at the user’s command. This significantly reduces traffic between client and server, improving at the same time application performance.

SQLRoots technology enables visual elements (field) to accomplish multiple tasks – data collection, display and search - all in the same screen - thus simplifying the application interface, also adding functionality. Basically, it has the same facilities as any other application running on Oracle platform.

5 AplixERP implementation solution

AplixERP available in modules: accounting, management, CDIP (claims, debt, receipts, payments), fixed means, human resources, production, administration (access rights) parameters, along with optional services packs and calculus equipments in order to be purchased and gradually implemented depending on the organizational structure and needs.

Claims/Debts – Receipts/Payments

Aplix CDIP supports process automation regarding emission and tracking of claims/debts and treasury files and provides support for their automatic registration in accounting.

The module enables received and emitted fiscal files registration and offers support for clearings and internal transfers. (10, 11) Received and emitted fiscal files can include mixed stock and services positions as well as financial/commercial reductions. Within selling process it enables the firm politics implementation regarding discounts.

On the basis of collected files, the required financial positions for the commercial relations with third parties (clients, co-operators, etc) are obtained. In order to allow complete editing of purchase book, sell book, cash book to unit level, CDIP module enables physical (inventories, storage locations) and logical (departments, job positions, etc) subunits definition and interacts with access rights modules and with the subunit dictionary in order to permit data access delimitation depending on access rights. The flexible parameter mechanism along with the expression analyst and accounting notes generator allows absolute user control on (Fig. 2):

- Automatic performance of different types of files – automatic emissions of inventory files and of receipts/payment files can be defined from claims/debs files, as well as from accounting notes, concurrently with their validation.
- Adding, tracking, updating, deleting entries is carried out in six screens.
- Debts – screen used to collect debt files (received fiscal files including returns). From this screen receipt files or payment files associated with these can be automatically or manually generated. Collected files: individual tax record, fiscal receipt, etc
- Payments – screen used to collect payment files (including those not referring to settlement operations with third parties). Collected files: individual tax receipt, order of payment from the treasury, cheques, letter of payment, bank statements, etc
- Claims – screen used to collect claims files (emitted fiscal files including returns). From this screen receipt files or payment files associated with these can be automatically or manually generated. Collected files: individual tax record, fiscal receipt, etc
- Proceeds – screen used to collect proceeds files (including those not referring to settlement operations with third parties). Collected files: individual tax receipt, order of payment from the treasury, cheques, bank statements, letter of payment, etc
Clearings – screen used to collect clearing files. Collected files: clearing records

Internal transfers - screen used to collect transfer files. Collected files: monetary, cash orders, etc Accounting notes associated to collected files can be manually or automatically generated/ tracked/ deleted from all CDIP screens. To simplify work at selling points CDIP module is provided with an additional sales screen, having a simplified informational content under the name of POS (“point of sale”) - resulting screen from the claims files screen.

Dictionaries
Dictionaries allow complete user control on definitions as:

- Subunits –organizational entities, physical (inventories, storage locations, etc) and logical (departments, work positions) can be defined for re-usage, which can be linear or tree structured, on any levels.
- Types of files and their report form –types of files can be created aside from the standardized ones, as well as personalized report forms, resulting from the basic ones.
- Report periods: can be defined on any month/year scale, according to the entries interval from the database.
- Third parties – natural or legal persons can be defined for re-usage, as well as firm personnel, associates, etc
- Third party classes – once the third parties are defined they can be grouped in classes having linear or tree structure, on any levels in order to enable situation report specific to a third party class level.
- Articles – articles and services with individual VAT can be defined for re-usage, catalogue prices in Romanian and foreign currency (with automatic price calculus depending on the exchange rate), minimum stocks per subunits (to enable purchase need of the article)
- Article classes – once the articles are defined, they can be grouped in classes having linear or tree structure, on any levels, in order to enable situation report specific to a class article level.
- Discounts – commercial discounts can be redefined for their re-usage/application automization, on the junction of classes of articles and third parties.
- Taxes – they can be defined on the basis of calculus formula according to file values
- VAT – it allows the updating of VAT percentage classes for the situation when legislation will require modifications
- Banks – they can be defined for re-usage within entries about third parties/exchanging rates/etc.

Coins - they can be defined for re-usage within entries about articles/exchanging rates/accounts/etc.

Exchanging rates – screen used to collect daily information about various currency exchanging rates. It is used by the application’s modules to convert various reports in a foreign currency.

Countries/counties/localities – these can be defined for re-usage within entries about third parties/ units/ etc.

Reports
On the basis of collected data, the reporting system enables the attaining of following situations (9):

- Purchases journal at unit level, with option for subunit, period, Ron adjustment report, on the screen and/or printer. Sales journal at unit level, with option for subunit, period, Ron adjustment report, on the screen and/or printer. Received or emitted discounts list at unit level, with option for subunit, period, Ron adjustment report, on the screen and/or printer. Cash book at unit level, with option for subunit, period, Ron adjustment report, on the screen and/or printer, file subunit registration. Bank journal at unit’s account level, with option for subunit, period, Ron adjustment, file subunit registration report, on the screen and/or printer. Third parties financial situation at unit level with current balance report option or given financial situation for suppliers/clients with or without sold clearing possibilities, for a third party/group of third parties or all third parties, Ron adjustment, on the screen and/or printer.

- Articles/services offer at unit level with class of articles report option, Ron adjustment, on the screen and/or printer.

AplixERP is not resource pretentious. In what calculus platforms are concerned, we highly recommend purchasing not the strongest available equipments but those that do not have documented functional issues regarding the operating system. Up to now we haven’t encountered the situation when customers are recommended to replace their equipments.
6 Conclusion
To come to their support with integrated solutions, we offer to Aplix clients preinstalled equipments enclosing Aplix solution.

Single-user solution
Observation: it requires client and server run on the same computer. Minimum recommended configuration: Windows 98/ME/XP operating system, Pentium II or a faster processor, 64 MB RAM, 30 MB free HDD space, 800x600/256 colors graphic controller.
To install the application you will need a CDROM unit or internet access. To use the automatic updates program you need internet access.
For non intensive usage, for a restrained group of up to 3 users, we recommend the usage of a work station as a server instead of a dedicated server. If there’s an intensive utilization (it is worked with many work positions) we recommend the use of a dedicated server and faster computers as client work stations.
Set up in 1999, Aplix is a Romanian private company based exclusively on developing and providing information solutions.
With a high experience level in information technology, design and client/server solutions implementation, Aplix is involved not only in project design execution but also in developing ERP (enterprise and resource planning) application software. Having ERP as nucleus, we develop and implement personalized informational systems.
Aplix Accounting automizes the activity of the accounting department. Concurrently to reports specific to this activity, expression analyst and the included graphic report possibility, it offers the option to attain and fructify financial analysis reports which enable high exploitation of collected data. [5, 7]
Aplix Accounting can be used both by certified accountants who create registers for more commercial units, having the benefit of a unique data base structure and the possibility to transfer definitions and automatisms among units, as well as by small/medium/large business operators, having the advantage to adjust the system to the organizational needs as it evolves.

References: