

# Compiere - An Open Source ERP System

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## Rechtlicher Hinweis

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## Zusammenfassung

One area where so far a professional Open Source solution was missing, are ERP systems. Compiere fills this gap and gives small and medium sized business a complete ERP solution with CRM functionality:

Quote to Cash Quote to Cash covers the business process for creating a quote for a prospect or customer, order management, invoicing, and cash receipt. The functionality is highly integrated with Supply Chain Management and Customer Management. In traditional systems, you find this in modules like order entry and accounts receivable.

Requisition to Pay Requisition to Pay covers the business process for creating requisitions, purchase order, invoice receipt, and payment processing. The functionality is highly integrated with Supply Chain Management. In traditional systems, you find this functionality in modules like purchasing and accounts payable.

Customer Relations Management Customer Relations Management is not an independent module, but the logical view of all customer and prospect related activities. Customer management functions are an integrated part of the business process. Therefore, there are (in contrast to traditional CRM systems) no batch or synchronization processes for the back-office functionality.

Partner Relations Management Partner Relations Management links different clients to each other allowing them to manage lead distribution, service requests, collateral distribution, and marketing expenses. It also allows you to provide (centralized) services.

Supply Chain Management Supply Chain Management covers all material management activities including inventory receipts, shipments, moves, and counts within a client and its organizations and to suppliers and customers.

Performance Analysis Performance Analysis covers the costing and accounting dimension of the application. In traditional systems, you find this functionality in Reporting and General Ledger, modules as well as in those modules that generate accounting entries.

Web Store The Compiere Web Store provides all you need to run your web presence. The information is shared with the standard application, so no synchronization or extra integration work is required. The web store components can be customized to the look-and-feel of your web site.

## 1 Introduction

The paper will give a high level overview of Compiere, without going to much into technical details of the program.

The content of the presentation will cover the following areas. First a short introduction of the company ICONTEC AG. Then an overview of technology of Compiere, followed by the concept of the software and the functional areas the system covers. Some remarks on what tools are available to customize Compiere.

I would also like to give my view on what the target markets for Compiere are and in what business areas Compiere might be difficult to use.

Some remarks concentrate on the potential business model of distributing Compiere and a high level comparison to other commercial products in this market.

The presentation will close with a short product demonstration, remarks on future developments of Compiere and some conclusions.

## 2 Presentation ICONTEC AG

The ICONTEC AG was founded 2003 in Lucerne, Switzerland. Purpose of the company is to help small and medium size companies with the evaluation and introduction of Open Source solutions. Our business is to consult, to do analysis, to offer training for the administrators and users and to support the customer. The areas we consult in are for example Open Office, Groupware and as the main area ERP and CRM systems.

## 3 Technology of Compiere

Compiere is completely developed in JAVA. The big advantage is that the application runs on all platforms that support JAVA. Most users still prefer to use Windows on the client, but it also runs in LINUX, UNIX, Free BSD and Mac Environments. Disadvantage is that the application doesn't look like a typical application of the platform used. Also the performance on older computers is not the best. On 1-2 year old machines this is not a problem.

As application server the Open Source Solution Jboss (J2EE) is used. The application server runs typically on the same machine like the database server.

As Database Server ORACLE is used. The advantage is that ORACLE is a very solid database with high performance and available for most operation systems. The disadvantage is that it is a commercial product, that doesn't 100% fit into the Open Source environment. The license and service costs for larger companies can become quite significant and one should never underestimate the costs of installation. Compiere is working on database independence, but I don't expect this to become a viable alternative for the next 1-2 years in production systems.

Functionality of Compiere is split between JAVA Code and ORACLE stored procedures and triggers, which make a transition to other databases difficult.

Currently a JAVA Client with full functionality and platform independence is available, while the HTML Client offers only reduced functionality and is not used by any of our customers. There is also a Webshop available that allows to purchase products directly from the ERP system. Some added functionality is developed to allow also to enter support requests or expenses.

## 4 Concept

### 4.1 Active Data Dictionary

Compiere's data dictionary is at the meta-data layer, and knows how to access data and how data is related. The data dictionary contains definitions of a data entity (type, validation, etc.), how it is displayed (label on screens and reports, help, display sequence and position relative to other fields), and the display rules. Security and access rules are also maintained here. The data dictionary is 'active', meaning it is used at runtime and context sensitive. For example: it 'knows' that an over-the-counter sale does not have a payment term and does not display it. However if you change the transaction type to a standard order, a payment term becomes a mandatory part of the transaction.

The Data Dictionary is user-extensible and can include user specified rules and information.

### 4.2 The „Multis“

Compiere was designed with the know-how from many large ERP systems and the concept included from the beginning the possibility to work with multiple entities of a type. The „Multis“ are:

- – Multi-Clients
- Multi-Organisations
- Multi-Currencies
- Multi-Cost and Accounting Schemas
- Multi-Languages
- Multi-Pricelists

– Multi-Tax

### **4.3 Workflow Tool**

To make it easier for the user to understand what steps to take when setting up the system and entering data a small workflow tool allows showing the steps needed before the main data are entered. Before entering the business partner a business partner group, greetings, payment terms, an invoice schedule etc. has to be defined.

### **4.4 Document Management**

Compiere allows attaching multiple documents of any kind to be attached to each record. This helps to keep important information regarding specific data stored within the database.

## **5 Functional Areas**

### **5.1 ERP**

#### **5.1.1 Business Partner**

Business Partner is the central module to manage all business contacts. In this module you save your customers and vendors, but also your employees and the users of Compiere. On twelve screens the information for the different types of business partners are centrally stored. For each business partner multiple contacts, locations, bank accounts etc. are possible

#### **5.1.2 Products**

The second central module is the products area. On ten screens all the information for the product is available. Besides the standard information on the product attributes, accounting and cost information also a bill of material is available, purchase information and a complex pricelist functionality.

#### **5.1.3 Quote-to-Cash**

The sales area of the application consists of the modules Quote, Sales Order, Customer Shipment, Customer Invoice and Payments. All business transactions are automatically booked in the accounting module according to the standard settings required in the application.

#### **5.1.4 Requisition-to-Pay**

The purchase area of the application consists of the modules Requisition, Purchase Order, Vendor Shipment, Vendor Invoice and Payments. All business transactions are automatically booked in the accounting module according to the standard settings required in the application.

### **5.2 CRM**

The standard functionality for a Customer relationship system are very basic and not fully developed. Still it is worth to evaluate the functionality, because the integration of the CRM functionality into the ERP system might outweigh the short comings. The integration gives direct access to all relevant information of the customer like sales figures, orders, unpaid invoices. The Requests module allows to manage customer requests and complains and to delegate the tasks within the organisation. The e-mail integration helps to send out automated answers to requests and also helps to manage marketing campaigns.

## 5.3 Webshop

The integrated Webshop offers less functionality than most specialised Webshops, but the integration into the ERP system gives a lot of advantages like one central management of product and customer data, the request module etc. Therefore it needs to be evaluated if the functionality of the webshop is sufficient or if an external solution is needed. The interfaces between the systems and the problem of data consistency need to be managed and will create costs.

## 5.4 HR/Salaries

So far no module for managing HR functions and salaries is foreseen. Taking into account the very different legal requirements internationally it makes sense to purchase a national solution and to define an import interface for the accounting system within Compiere.

# 6 Customizing

## 6.1 Tools

Several tools are available to customize Compiere:

The Active Data Dictionary can be edited to change names, forms, fields etc. The report generator allows changing and creating new forms for the customer. This non-graphical generator offers only a limited functionality and is not easy to use. As an alternative other open source tools like Jasper Report can be integrated to allow an easier and more complex definition of reports.

Functionality can be added and changed directly by adding and changing the JAVA code, one of the main advantages of an Open Source system. The functionality currently built in ORACLE stored procedures can also be edited. Compiere doesn't need a complex structure to manage different layers of software development, like the fixed software core and the customized software.

By using the programming and design conventions Compiere recommends an update of the customized software parts to a new version of the Compiere core should in most cases be possible without any manual changes.

## 6.2 Functionality

Generally all functionality of Compiere can be changed and adjusted to the customer needs. The most important areas that will almost always be needed to be adjusted are:

- Accounting Schema
- Forms/Reports
- Standard Interfaces
- Customer Interfaces
- Language

# 7 Target Market

To determine the target market of Compiere it is important to look at the strengths and weaknesses of the product. While the concept is very broad and should fit from the structure even for many large companies, so far the functionality is limited in some areas. As Compiere is developed as an Open Source project, functionality is added depending on the needs of the clients. Therefore often an overall concept for one module is missing and some essential functionality is not implemented, because the respective client didn't need it.

To help decision makers to determine how suitable for their needs Compiere is a list of criteria is given to narrow to help the decision process. Nevertheless even if many points speak against using Compiere it might

still be worth evaluating the costs of sponsoring missing parts of the system to make Compiere suitable. The total costs of licenses and services of another commercial product might still outweigh the development costs for extending Compiere.

### **7.1 Criteria in favour of Compiere**

- Areas of business that are most suitable: Marketing, Wholesale and services
- Number of users of Compiere between 5 - 100 employees. (Smaller businesses should use a smaller package, larger business might need a more complex solution)
- Independent Business Unit(s)
- International relations (especially USA, UK etc)
- Business process has a medium level of complexity

### **7.2 Criteria not in favour of Compiere**

- Manufacturing support needed.
- Complex organization with several locations that need to work on a central system.
- Large number of business transactions
- Many standard interfaces needed
- Non standard business process and/or documents

## **8 Compiere Business Model**

### **8.1 Consulting/Training**

Helping customers to implement and integrate Compiere into their specific IT environment and doing the customization for the business process is the main business opportunity on the long run. While the software is generally free the know-how how to implement and customize the software will in most cases overextend the IT responsibilities of a company.

By offering the know-how as consultants and trainers the Compiere partner can help to make the implementation much faster, reliable and solid. The costs of working with a consultant will in most cases be much lower than the costs of internal staff trying to make the application work.

Before the implementation a feasibility study should be done to avoid costs and time.

Offering training for the users and administrators is also an area that should be offered to the customers to ensure a high productivity from the beginning.

### **8.2 Software Development**

Currently the software development for Compiere seems to be the main source of income for many Compiere partners. The main reason for this is that the lacking functionality of Compiere in many areas needs to be filled and in many cases the result is still a system with lower costs than the competing products.

This source of income should in theory go down as Compiere keeps growing in functionality. One potential problem for customers is the fact that they might get customized functions that in a later version are made redundant by a new version of Compiere.

Compiere allows developing extensions of the program that are not made available as open source. This fact leads to many different closed software solutions for Compiere in areas where functionality is missing. As these developments are not made available for the other users the product itself is not growing as fast as it could (and should). This tendency can also lead to some problems for customers, that in the end have almost an individual software, that is expensive and difficult to maintain and update.

### 8.3 Partner contracts

A Compiere Partner Contract costs 6.000 USD and offers the following benefits:

- Advantage level Support for all your customers.
- Placement of your Logo and Introduction on the Compiere web site
- Receive and Manage your Leads
- Get Documentation Source files as well as updated Training material (after participation) for creating user documentation and user training.
- Get Compiere Presales materials for your promotions
- Use of the Compiere Training Center for your Presentations as well as desktop sharing for support issues (no costs for less than 5 participants).
- Ability to participate and exhibit at OMG Technical Meetings and Conferences (ComPiere is a OMG Domain Member).
- Become a Certified Partner as soon as your first implementation is in production. We also require, that you use Compiere internally.
- Exclusive Compiere Partner Forum with proactive information
- Get first hand updates in the monthly conference calls.
- Determine the priorities of the Compiere development.

### 8.4 Service contracts

As a Compiere Partner you can offer service contracts to your customers at different levels. Usually you will give a first level support to the customer and benefit from the second level support from Compiere.

Compiere also offers direct service contracts. They can be used as a guideline for offering direct service contracts to customers.

#### 8.4.1 Compiere Bronze Support

ComPiere Bronze (self service") Support enables you to use Compiere in production environments. The included licenses are valid worldwide. Costs: 1.500 USD. Bronze includes:

- Installable Fixes and Patches (no need to download changes from CVS)
- Data Migration <<http://www.compiere.com/migrate/index.html>> (version upgrades)
- Documentation (when available)
- PDF Print Library License
- Discounts for Intensive Training
- Annual embedded Oracle License <<http://www.compiere.com/licenses.html>> (no development, third party application or ASP)

#### 8.4.2 Compiere Silver Support

ComPiere Silver Support (3.000 USD) enables you to use Compiere in complex production environments and includes:

- Bronze Level support
- Second Level EMail Support - including database operations issues
- 5 support incidents
- Support of JBoss, and the JBossWeb (Web Interface)

### 8.4.3 Compiere Gold Support

ComPiere Gold ("full") Support (5.000 USD) enables you to use Compiere in mission critical situations and includes:

- Silver Level support
- 5 additional support incidents
- Phone support
- Dial-in to diagnose problems on your machine (W2000 and Solaris only at this point)
- 24 hour reaction time (EST business hours)

## 9 Comparisson to commercial products

For many reasons it is difficult to compare Compiere to commercial products. Generally said the concept and technology of the product, the data structure and vision behind the product make it comparable to big ERP packages like ORACLE applications or Peoplesoft. On the other hand, the lack of many important functions, the limited customization for many countries makes the systems in many areas weaker than even small ERP solutions. I would still position the system in the area of Navision, but with the functional limitations mentioned earlier.

Therefore the decision between Compiere and any of the commercial counterparts should be taken based on a cost - benefit analysis. The limited license costs for Compiere (only for Oracle) plus the service contracts plus the (sometimes high) development costs, to create the missing functionality, should be lower than the license and service costs for a competing product.

I would suggest a 3 year cost comparison to offset probably higher development costs for Compiere with the higher license costs of any other product. The decision can only be taken on a case by case basis and depends very much on how much of the standard functionality of Compiere already meets the requirements of a company.

The costs for consulting and training should be on the same level for all products.

### 9.1 Cost example of Compiere

An installation of Compiere can cost only 1.500 EURO for 10 users if everything is done in-house. But this doesn't take into account the hidden internal costs. A complex installation with a lot of additional external development can also cost some hundred thousands EURO.

As example a recent installation: A small company with 30 employees with one location. They want to do sales, purchase, stock management, accounting and basic CRM functionality. The total cost of the implementation will be between 25.000 - 30.000 EURO, half of this is consulting and training, the other half is software development. Additional functionality was needed in the CRM part of the software and in the Bill of Material. The yearly costs for licenses, support, consulting will be around 10.000 EURO. A comparable commercial solution would have costed roughly twice those amounts.

## 10 Future Developments

### 10.1 Functionality

- **Manufacturing** : Adding basic functionality for manufacturing will make Compiere a very good tool for smaller and midsize production companies.
- **Performance Analysis** : Based on definable ratios, the ability to get a quick overview of the performance of customers, vendors, products, sales reps, etc.
- Dunning

- Prepay Orders

## 10.2 Technology

- **Database independence:** One of the biggest steps for Compiere would be database independence. This would make Compiere a „true“ Open Source product. It would help to keep costs for the product low and also would better fit the system into a pure Open Source environment with an Open Source database.
- **General Interface & API :** The current functionality allows you import data. There is a need for bi-directional (synchronization) interface and API based on SOAP.
- **Workbench :** Ability to group different windows in one workbench (e.g. customer workbench with all customer related windows)

## 11 Product Demonstration

A short 5 minute demonstration of the product to show the interface.

## 12 Conclusion

Compiere is currently not an ERP solution that will fit for all companies. Still it has the potential to considerably save costs for companies that have the right profile for Compiere. It can be expected that with growing functionality (especially for manufacturing) more and more companies would be able to work with Compiere. With the database independence the total costs of Compiere will be further reduced, making the system even more competitive.

One important success factor for Compiere in countries other than the USA will be if country versions will be made available that contain most or all interfaces, functionality, language, handbook etc. required. Otherwise many different individual solutions will coexist reducing the advantages of a unified Open Source solution.

We believe that Compiere has the potential to become THE Open Source ERP system that can compete with systems like Navision, Peoplesoft or Oracle Applications.

## 13 Q & A