



# Compiere Professional Services

## Overview

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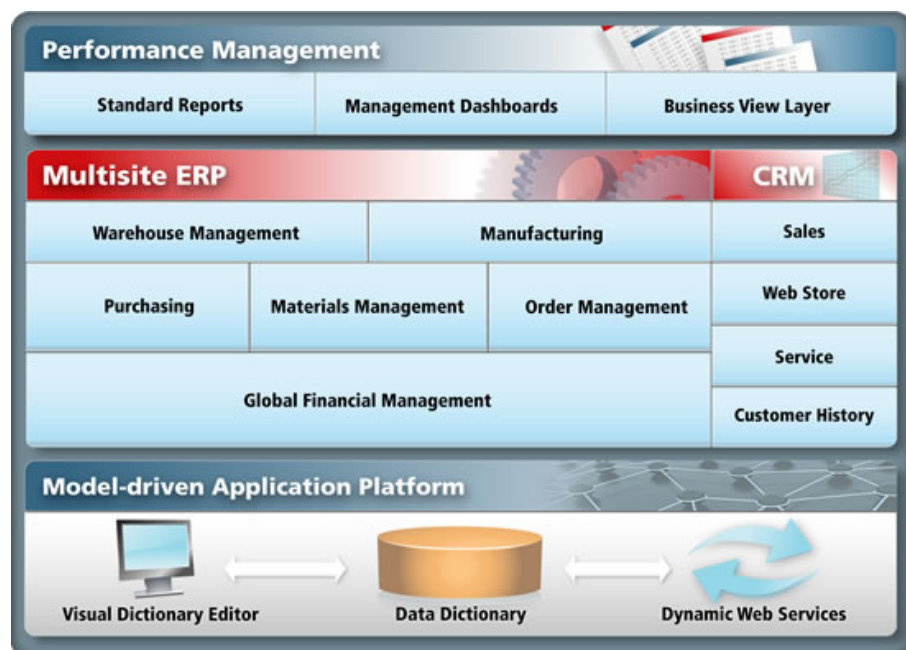
## Compiere Overview

Compiere is an integrated and highly adaptable open source business management solution. Companies choose Compiere for its broad functionality, ease of use, advanced technology and world-class support – all offered at a fraction of the cost of today's proprietary business management solutions.

Unlike traditional ERP solutions that force you to change your business to match their software design, Compiere enables you to quickly, easily and affordably customize the system to match your business – typically without programming. Leave the era of complex and inflexible ERP solutions behind and enable your IT department to move with the agility that your business demands.

### Rich, Integrated Business Functionality

Compiere delivers a broad and rich set of integrated business functionality. Its ERP capabilities include: global financial management, purchasing, materials management, order management, manufacturing and warehouse management. CRM capabilities utilize customer information for automating sales and service processes. Compiere also includes a web store and a point-of-sale interface. Performance Management capabilities include a variety of financial and managerial reports enabling you to make informed decisions and grow revenue and profit. All of these capabilities are offered out-of-the-box. Implement according to your most critical business needs first, with the flexibility to implement additional business



processes later. And don't worry about out-growing Compiere. You are selecting a global-ready and enterpriseready platform that gives you the assurance your ERP system can grow with you – both in increased transaction volume and the complexity of supporting the business needs of a global enterprise.

## Exiting the Stage...STATIC Applications

Compiere breaks away from the traditional STATIC Applications model common to the majority of today's enterprise applications. Static Applications are large and complicated pieces of software composed of millions of lines of 3rd generation procedural code. They utilize an inflexible architecture that intermingles application logic, business rules and company-specific customizations in a single code base.

Customizing Static Applications to meet unique business needs is a significant concern to many businesses leaders. Virtually all changes to Static Applications are major projects requiring highly skilled personnel and significant resources. Further, upgrading the customized solution to future versions of the Static Application requires the same expensive personnel to re-implement the customizations with each new software release.

To avoid the risk and expense from customizing Static Applications, many businesses simply deploy default functionality and modify their business processes to match the software. While this strategy minimizes financial risk, it also severely limits the benefits from an automated ERP solution.

## The New Generation... DYNAMIC Applications

Compiere applications are DYNAMIC Applications—highly adaptable and easily customized without programming—a first in the ERP industry. This new generation of business solutions enables rapid customization at far less expense and risk.

Compiere uses a revolutionary model-based application platform that speeds and simplifies application development and customization. Application elements are defined as objects in an Active Data Dictionary rather than programmed as 3GL code. Business analysts create and modify application elements such as the data model, screen layouts and business rules by defining the new elements in Compiere's Active Data Dictionary. Your IT staff will easily embrace the techniques required to customize and extend Compiere.

An additional breakthrough associated with Compiere's architecture is that customized Compiere solutions can be automatically upgraded to latest Compiere software releases. Your businessspecific customizations are segregated from the base Compiere functionality in the Active Data Dictionary. Compiere Automated Upgrade Technology upgrades your base Compiere software to include the latest functionality while preserving customizations in the Active Data Dictionary. This technology breakthrough solves the major problem presented when modifying other application packages – it is extremely costly to analyze and reapply all of your code changes to new releases. With Compiere, this problem is largely eliminated.

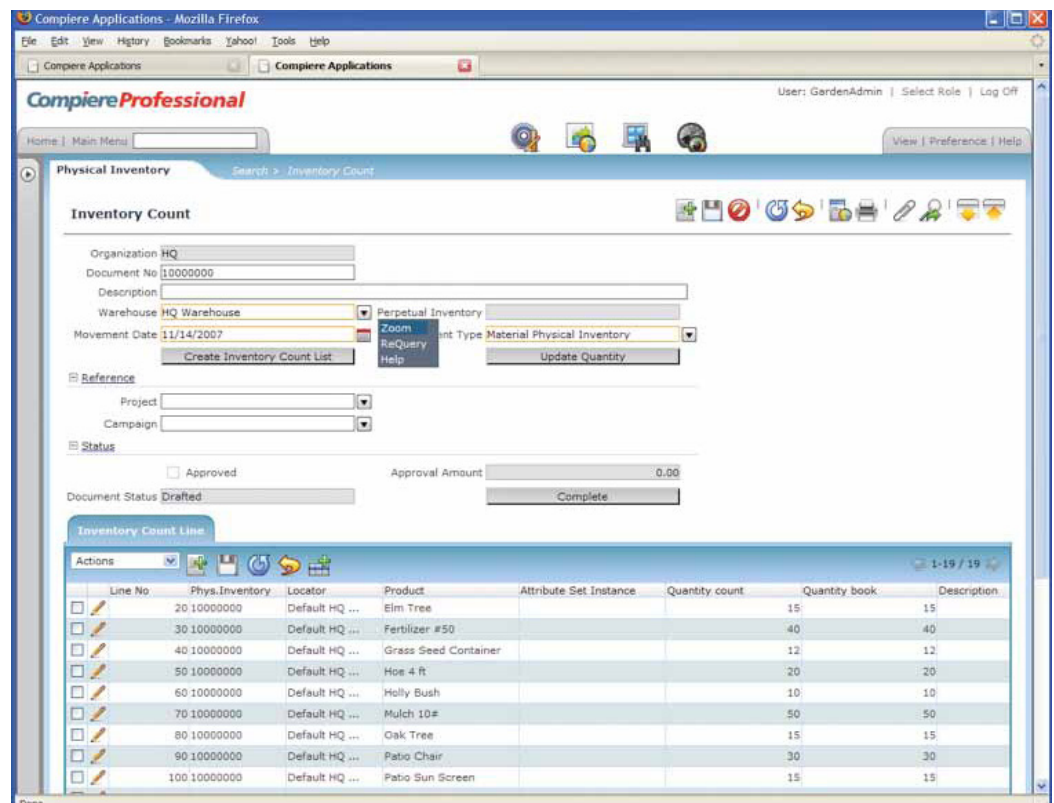
Adaptability Without Programming  
See "**DYNAMIC Application Platform**" to learn how you can't make develop and customize applications using the innovative Compiere platform.

Compiere's DYNAMIC Application model has addressed the major deficiencies of the STATIC Application model by delivering:

- A powerful application platform for deploying highly tailored applications
- Rapid deployment, customization and expansion of applications functionality without programming
- Automated upgrades to newer Compiere versions while preserving business-specific customizations.
- Segregation of business logic from platform logic for easier maintenance
- Greater stability because windows and reports are generated from rules stored in the Active Data Dictionary rather than programmed using 3GL code
- Higher productivity for developers and users alike
- Affordable customization of applications at any time without specialized programming staff

## Modern, Web-based Technology

Compiere is not only an applications innovator, but also a technology leader. Compiere Professional Edition leverages the latest generation of Rich Internet Applications (RIA) technology to deliver a productive, personalized and highly interactive user experience.



Users can access Compiere from leading web-browsers including Microsoft Internet Explorer, Mozilla Firefox and Google Chrome. There is no need to install and maintain client application software across all of your computers. Authorized users securely access your important business information from any web-enabled desktop anywhere in the world.

## **Disruptive Economics of Open Source**

Compiere Professional Edition delivers exceptional value, with no upfront license fees, reducing the financial risk and challenges commonly associated with ERP implementations. Customers tell us that the return from their Compiere projects comes from multiple sources not simply from reducing software licensing fees. Compiere open source benefits include:

### **IT Benefits**

- Lower implementation and customization costs
- Lower operating system, database and hardware costs
- Lower costs associated with upgrading to new software releases
- Easier access to technical staff with relevant skills

### **Business Benefits**

- Ability to quickly adapt to new business requirements - without programming
- Streamlined business processes
- Improved customer service and responsiveness
- Improved integration between departments and divisions
- Better information and business visibility

By delivering DYNAMIC Applications through a commercial open source business model, Compiere is able to deliver significant business value at a fraction of the cost of proprietary software vendors. Annual support and service subscriptions funds Compiere's continuing investments in product innovations through:

- Leveraging the latest in open source technology
- Incorporating ideas and contributions from our community
- Leverage global resources from our customers and partners
- Focusing our spending on product development and support
- Empowering our global partner community to expand customer adoption

## **Unmatched Freedom and Control**

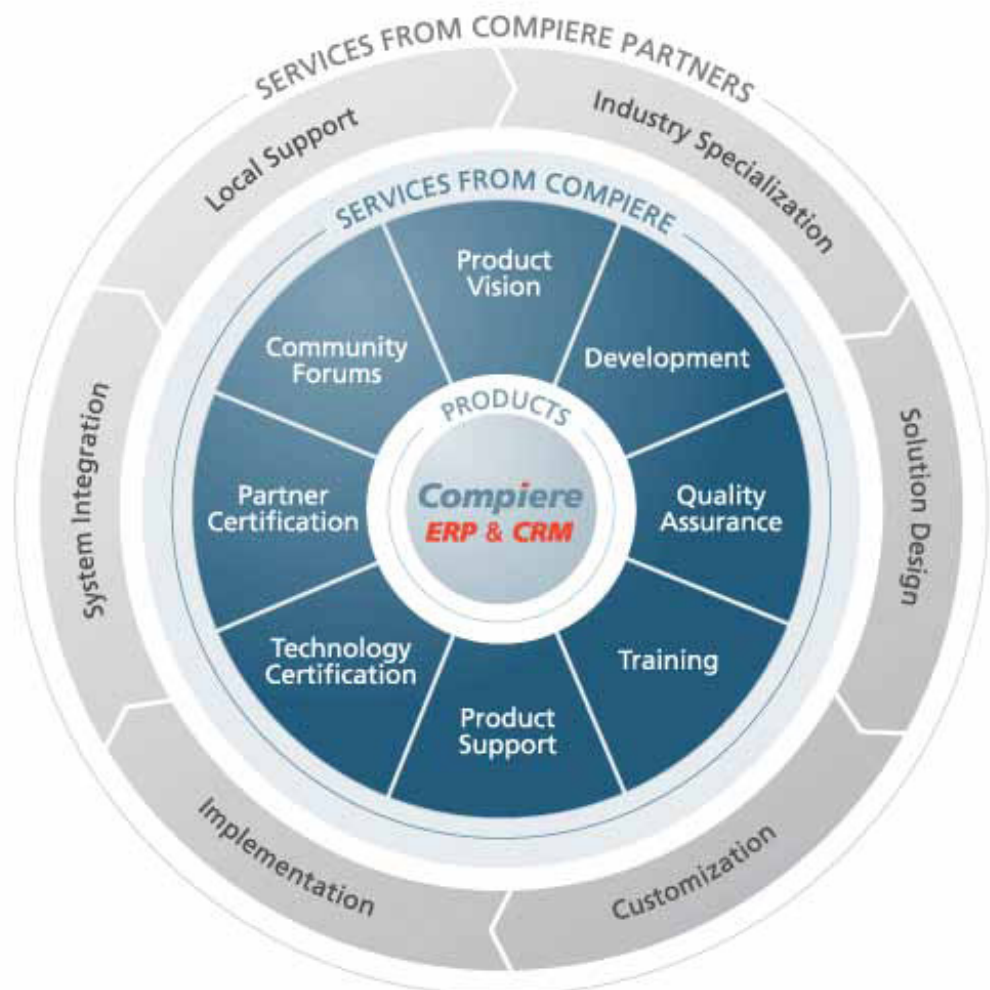
Compiere's flexibility gives you many choices and puts you in control of your business solution. Compiere's open architecture and adherence to open standards allows you to choose from a variety of supported computer hardware, operating systems, databases and web browsers. You can easily extend the system to meet your unique needs at any time, now and in the future. And you can license Compiere under either an open source license or a standard commercial license.

With no upfront license fees and only an annual subscription, Compiere must earn your business year after year by providing valuable product improvements and technical support. In contrast to the traditional software model where the vendor controls technology decisions, support policies and licensing, Compiere's business practices puts customers in control of their business solutions.

## Services from the Compiere Partner Network

As a Compiere customer, you have access to the vast resources of the global Compiere Partner Network. Compiere Partners are trained, certified and supported by Compiere. Compiere partners deliver a range of customer-focused services such as implementation services, training, product extensions, localizations, vertical module development, first-line support, and complimentary software.

Compiere Partners  
The Compiere Partner Network includes Value-Added Resellers, System Integrators and Technology companies that provide products and services that enhance Compiere solutions.



While most customers utilize the services of a local Compiere Partner, some larger companies choose to self-implement. Self-implementers build an in-house implementation team, attend Compiere training classes, and may purchase additional consulting support from Compiere or one of our Partners. The choice is yours.

# Global-Ready

In today's business environment, companies rapidly move into new geographies. When selecting an ERP solution, it is an ideal time to consider what the impact of an acquisition, both domestically and abroad, would have on your ERP system and global-ready requirements. Selecting Compiere gives you the assurance that your ERP system can grow with you, even if you don't utilize its global-ready features in your initiation deployment.

## Multi-Organization

Multi-Organization capabilities ensure that different organizational entities can share (or secure) data. For example, a holding company can have several wholly owned subsidiaries each operating as independent businesses, while enabling consolidated financials and performance views of the business for executive management.

Compiere implements multi-organization support using three entity levels:

- **System** - where infrastructure information for the Compiere instance resides, enabling Compiere to support multiple independent businesses. New Windows, User Interface changes, Currency Rates are typically defined at System Level.
- **Tenant (company)** - where consolidated business information and accounting structure is defined. Products, warehouses and other business-wide elements typically are defined at the Tenant level.
- **Organization** - where transactions are created. Organizations may also have their own data and information structure that is not shared by other Organizations within a company. Organizations can be structured in hierarchies for use in reporting and to administer user access security. Hierarchies are commonly used to define division, branch, or business unit structures within an organization.

Role-based security is fully supported in multi-organization structures, with the ability to control role and user level read and write data privileges at each level. Compiere fully supports multiple legal entity accounting, ensuring that transactions crossing legal entity boundaries are accounted for correctly. This can include calculation of cost charges (e.g. the selling organization is a different legal entity than the product owning organization).

## Simulate and Implement Re-Organizations

In today's world of corporate mergers and divestitures, Compiere's ability to simulate and implement corporate reorganizations without disruption to the business is a tremendous advantage. This is a key differentiator from traditional ERP systems where corporate reorganizations often translated to costly and time-consuming reimplementations of ERP systems.



Using multiple organizational hierarchies, along with your primary hierarchy, you can simulate the effects of corporate reorganizations on financial statements. This is an extremely powerful tool to simulate the impact of reorganizations prior to implementing changes.

## Multi-Currency

As trade becomes more and more global, multi-currency features become increasingly important. Compiere transparently supports transactions across multiple currencies, including the ability to:

- Transact in multiple currencies
- Revalue transactions
- Maintain bank accounts in multiple currencies
- Accurately report multi-currency transactions, including translation of transactions or balances for reporting purposes
- Account for transactions in parallel using multiple currencies
- Maintain currency-specific price lists
- Define customer preferred currency

## Multi-Accounting

- Compiere supports parallel accounting standards for any combination of the following:
- Accrual and cash-based accounting
- Multiple accounting standards (e.g., US GAAP, UK SAP, German HGB)
- Multiple inventory costing methods (e.g., Standard, Average, FIFO)
- Multiple currencies

Usually, a "Set of Books" is defined as a set of transactions with the same Chart of Accounts, Calendar, Accounting Currency, Accounting Standard and Costing Method. Compiere addresses situations where this is not sufficient with support for parallel accounting through the concept of an Accounting Schema. An Accounting Schema is any combination of the following:

- Chart of Accounts
- Accrual or Cash-based accounting
- Accounting standard
- Costing method
- Accounting currency

In contrast to a "Set of Books", a Calendar is not directly part of an Accounting Schema, meaning you may have multiple calendars per accounting schema. The calendar is reduced to transaction support functions including open/close periods, summary postings and allocation definition for ease of entry. Multi-Tax

Compiere offers a robust tax engine with support for sales taxes, value added taxes as well as interfaces to 3rd party tax services. The tax engine determines the correct tax amount based on:

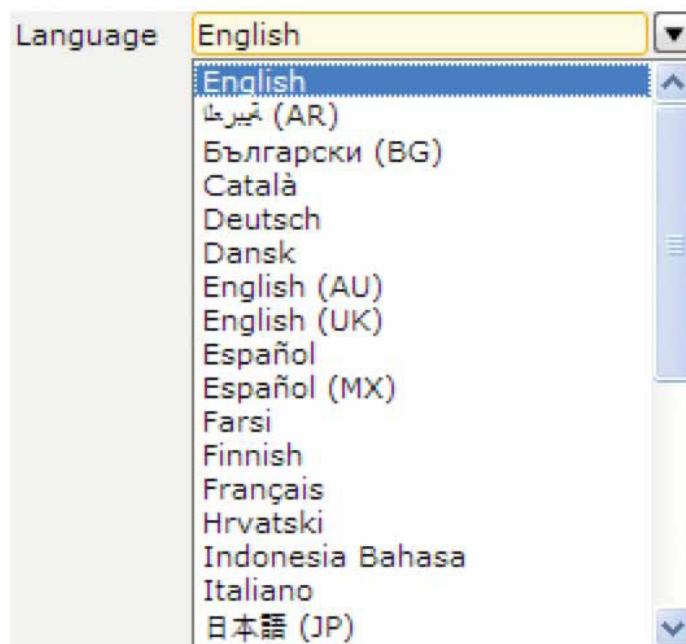
- Transaction time
- Product category
- Ship from/to location and
- Invoice from/to location

## Multi-Language

Compiere is fully internationalized and supports operation in multi-lingual environments.

Compiere enables multiple language support by design, isolating localizable text strings and messages from source code. The Compiere multi-language infrastructure utilizes UNICODE, ensuring support for the widest range of character sets and languages. Support for localizations extends to any customizations made using the Compiere Active Data Dictionary.

Users choose their preferred language at login. Business documents, such as invoices, are generated based on the preferred language of the associated business partner. The default language for Compiere is US English. Additional language packs are available from Compiere partners and the Compiere community.



Regardless of the language chosen for operation and documents, Compiere enforces your business rules and practices.

# Financial Management

Good business accounting is about more than simple debits and credits, and department-level functionality for General Ledger, Accounts Receivable and Accounts Payable. Compiere automates all of your financial, distribution, manufacturing, sales and service processes, and unifies your enterprise data in a single repository. Compiere takes a unified approach to integrating enterprisewide business processes and data. This ensures that your customized deployment provides you with reliable information for accurate financial reporting and informed decision-making.

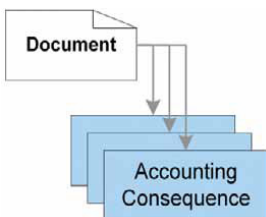
Compiere offers comprehensive financial management capabilities. Your integrated Compiere ERP solutions supports the complexities of complex businesses that span multiple organizations, currencies, accounting schema, tax laws and languages. Confidently customize our solution without violating accepted accounting and tax rules.

## Accounting Rule Enforcement

Compiere strictly enforces base accounting rules to ensure balanced accounting entries and overall system integrity. An example of a base rule is that the system will reject an entry if the accounting date is in a closed period.

## General Ledger

As outlined in the Multi-Accounting section above, Compiere offers a robust multi-company financial accounting solution with support for parallel accounting standards. All accounting transactions posted to the General Ledger are recorded at their lowest level. Documents (Invoices, Orders, Material Movements) are stored separately from their accounting consequences. This foundational principle offers the following benefits:



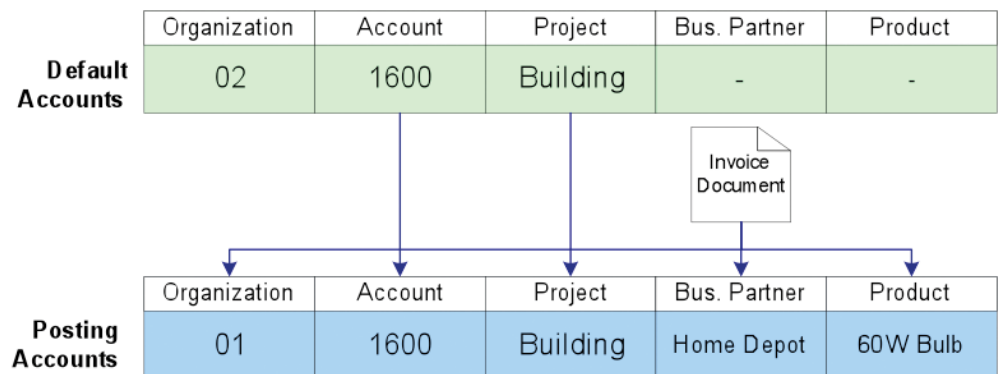
- Transaction data is not replicated when multiple accounting schemes are used
- You can add or discontinue an accounting scheme at any time
- You can generate accounting information for historical transactions
- You can modify or replace any dimension (and optionally regenerate the accounting)
- Its easy to extend and to maintain your parallel accounting practices

**Foundational Principle**  
Separation of transaction details from accounting consequences provides high scalability, low overhead and flexibility.

Each Accounting Scheme includes the accounting method and the account elements that will define the accounting structure. Both Account and Organization are required, with the flexibility to use other system elements such as Business Partner, Product, Project, and Campaign, or userdefined elements. Accounting elements are derived from the document at the time of posting and are leveraged to provide detailed tracking and financial reporting. This ensures high quality data as the clerks entering documents do not need to know what financial data is required. This also eliminates the need to define rules for valid account combinations as only valid combinations are generated.

The Accounting Scheme also includes definition of its' specific General Ledger processing rules including error handling, method of currency balance and default accounts for standard transactions, retained earnings, inter-company and balancing.

When standard transactions are posted, the default account element values for the accounting scheme are selected, and then overridden with transaction-specific values. As an example, a vendor invoice is posted for the purchase of 60W light bulbs from the vendor Home Depot for organization #01. When posted, the account element values are assigned dynamically with the organization value overridden, and the business partner and product elements assigned per the vendor invoice.



Posting to the General Ledger can occur in real-time as a document is processed, or in the background by the application server. A unique feature of Compiere's multi-accounting design is that a controlled 'reset' of the accounting can be performed for specific documents or for all transactions. This design supports a highly efficient method for making controlled resets of General Ledger account structure and balances. Controls can be put in place to restrict the use of this feature. In all instances, no accounting is reset for posting periods that have been closed.

## Accounts Receivable

Accelerate your accounts receivable processes and easily track customer payment activities. Specific features include:

- Open item and aging tools to highlight problem areas and reduce your backlog of receivables.
- Robust payment capabilities include automatic payment allocation.
- Flexible payment terms and cash discounts.
- In-depth details to assist in customer relationship management including address details, taxation rules, credit terms, available credit, sales history, and pending orders.
- Multiple currency handling and exchange rate adjustment.
- Automated generation of collection (dunning) letters.
- Pre-payment capability for sales orders.
- Handling for direct charges, partial payments and write-offs.

## Accounts Payable

Optimize your cash resources and simplify payment processes with fully integrated accounts payable functionality. Specific features include:

- Prioritize the order in which vendors are paid or determine payment schedules based on discount availability and invoice due date.
- Write checks fast when a manual payment is required for a specific vendor or invoice.
- Multiple currency handling and exchange rate adjustment.
- Incorporate manager approval requirements in the payment process.
- Easily review related purchase order and material receipt documents before bill payment.

## Tax Calculation and External Reporting

Most tax entries are created by the transaction. Compiere calculates, manages and applies multiple taxes (e.g. GST/PST) as well as local tax. Tax rules create correcting tax entries for Sales Tax and VAT systems. Compiere automates the preparation of reporting to external tax agencies.

## Banking Management

Compiere automates the management of your banking relationships with support for:

- Loading bank statements with payment allocation, using OFX, IFX and SWIFT formats.
- Ease of transferring money between banks
- Creation of payments directly in the bank statement to handle direct deposits

## Financial Reporting

Generate financial and managerial reports including Balance Sheet, Profit and Loss, Statement of Cash Flows and others using the Financial Report Writer tools.

Using the power of Dimensions for financial reporting, you can rid yourself of complicated Excel macros traditionally used to create management financial reports. Standard dimensions including business partner, product, project, activity and sales region are automatically tracked for every transaction. You can then implement user-defined dimensions for ultimate flexibility in the generation of financial reports.

Additional financial reporting options include customizing reports with Compiere's standard report writer, Business View Layer for use with 3rd party report writers, or data exports for analysis in spreadsheet or OLAP tools.

Consolidation Using Counter Documents Use the Counter Document feature to automatically create counter documents in associated companies. For example a Purchase Order created by the distribution company auto-generates a sales order for the production company.

# Order Management

Order Management spans from the creation of a quotation for a prospect or customer, sales order processing, invoicing and receipt of payment. Order Management is seamlessly integrated with Materials Management and management of Business Partners (Customers).

## Quotations

Create customer quotations using standard or customer-specific price lists. Binding Quotations will reserve inventory. Quotations may be modified at any time and can be used to automatically generate a Sales Order.

## Sales Orders

The Sales Order is the “fulfillment control document” for generating shipment and invoicing documentation. Many standard types of sales orders are supported, with the ability to customize the associated workflow or create new sales order workflows to implement your organizations best practices for order management.

Sales order types include:

- **Standard Order** - the order process ships product based on availability with the option to generate the invoice immediately or after shipment.
- **POS Order** - for point-of-sale environments with anonymous customers. The order process generates both the shipment and invoice. Payment is received via Cash, Check, Credit Card, etc.
- **Credit Order** - used for known (on account) customers. The order process generates the shipment, invoice, and optionally receives the payment.
- **Warehouse Order** - used when creating summary invoices. Users can select invoices manually or create the invoice based on invoicing rules (e.g. weekly, on the 1st and 15th of a month, etc.).
- **Prepay Order** - used for Web Store transactions. The order process requires receipt of payment, then generates the invoice and releases the order for shipment.
- **Direct Ship Order** - used when a sales order is directly shipped from a supplier’s warehouse to a customer. A Vendor Purchase Order may be created automatically for fulfillment.

Flexible Document Numbering Schemes Use a variety of options to manage document numbers and formats. Multiple document types can share a sequence or can have it’s own sequence

## Shipments

A Sales Order generates one or more shipments based on inventory availability, with optional back order support for unavailable items. Utilize workflow configuration to make customizations to the standard shipment process including:

- Preparing shipment documentation
- Confirmation of picking and/or shipment
- Generation of invoice documentation

## Customer Returns

Automate your customer return processes, including:

- Generation of Return Materials Authorization (RMA)
- Specifying return policies, including exceptions for specific Products, Business Partners or other criteria.
- Granting override privileges to authorized users to enable even greater flexibility in processing returns.

## Sales Invoices

Generate sales invoices according to general business rules with flexibility for invoicing:

- Immediately after each shipment.
- When the order is completely shipped.
- Based on a predefined invoice schedule specific to the customer.

For example, an invoice schedule could be established to arrange for the creation of a summary invoice including all shipments to the customer for the previous month.

## Receipts

Flexible payment rules support the automatic generation of payment receipts for:

- Cash transactions
- Credit card, check, and direct debit transactions
- Merchant payment processors via VeriSign and PayFlowPro.

Open Items are settled by entering Payments (i.e. receiving a check or creating a direct debit), creating a Cash Book entry, or during the process of reconciling Bank Statements (i.e. bank transfers).

Automatic Clearing House facilities can be used to directly debit a business partner's bank account. The invoice is marked as paid and the transfer is maintained in the system as an un-reconciled payment.

Multi-Currency & Invoice Transactions  
Create an Invoice in one currency, a Payment in another currency, and generate your financial reports in a third.

# Material Management

Materials Management delivers a broad range of inventory capabilities.

## Product

A Product is something that may be sold, purchased or stored. It must have a price. Products include Items, Services, Resources and Expense Types.

For additional control over large product lines, Compiere enables you to categorize products according to:

- A specific Attribute Set for tracking products. There are two types of Attribute Sets, Instance Attributes and Non-Instance Attributes. An Instance Attribute Set identifies a specific instance of a product, for example a serial number, lot number or expiration date. A Non-Instance Attribute Set is used for searching, for example size or color of a shirt. Product attributes may assigned during material receipt, production, or when assigned to a sales order.
- A Product Category, enabling grouping of products with similar characteristics, pricing structures, accounting rules and reporting. For example, product categories can be utilized as a means of globally defining or changing a discount structure for all products belonging to the product category.
- A Storage Location, as defined by a combination of warehouse and locator. The warehouse is the point of service. A warehouse may have more than one locator. Each locator has up to five user-defined dimensions such as aisle, bin, rack, level, bay, etc.

## Product Catalog

Organize your products for simplified searching using the Product Catalog. For example, you may use the Product Catalog to search for all products that are "shirts," "yellow" and "short-sleeved." The Product Catalog optionally details the product bill of material and substitute products.

## Price Lists

Utilize multiple Price Lists to manage pricing policies for both purchasing and sales. The date effectivity of a Price Lists allows you to setup seasonal and special price lists in advance, and have them automatically used during the defined start and end date.



## Multi-Warehouse Control

User-defined locations within each warehouse are used to record stock locations in shelves and bays (Bin Locations). A physical warehouse can be broken into multiple logical warehouse areas such as receiving, quality assurance, bulk storage and picking. Priorities can be set to ensure that picking takes place from bin locations in a prescribed sequence. Inventory movements can be effected between bin locations and warehouses. Movements between warehouses can be configured to generate appropriate shipping documentation, and manage 'in transit' stock.

Complete Inventory Counts and Inventory Valuation to record write-offs of stock used for internal purposes is supported.

## Material Receipts and Replenishment

Shipment documentation can be created in batches, or individually on a per order basis. Goods received from vendors can be compared directly with the purchase order or the vendor invoice.

Sales functions can utilize 'available to promise' information that includes reserved inventory for future customer shipments and expected vendor receipts.

Generate Material Replenishment lists based on inventory replenishment rules, past sales, or targeted inventory levels. Optionally use replenishment rules to generate Requisitions or Purchase Orders automatically.

# Purchasing

The Purchasing process covers the business processes required for the creation of requisitions, purchase orders, receipt of vendor invoices, and payment processing. The functionality is seamlessly integrated with Materials Management.

## Purchase Orders

Reduce data entry with auto-generation of Purchase Orders from Material Replenishment Reports, Requisitions, Sales Orders and Projects. Two-way and three-way matching is supported, with receiving and invoicing documentation.

## Material Receipts

Avoid the overhead of additional data entry by auto-creating and auto-matching material receipts to purchase orders or vendor invoices.

## Return to Vendor

Automate your return to vendor process using Vendor Return Materials Authorization (RMA). Vendor RMAs link to the original Purchase Order and Material Receipt. Utilize Vendor Return Policies to control whether the goods are eligible for return, with override capabilities for authorized users.

## Vendor Invoices

Create and match vendor invoices from purchase orders or material receipts. Material Receipts can also be created automatically from the vendor invoice when the invoice and shipment are received concurrently.

## Payments

Generate payments via printed checks, direct debits or credit cards. Optimize the discounts you realize with auto-generation of payments based on vendor invoice payment terms.

# Manufacturing

Manufacturing automates discrete manufacturing operations by supporting your business processes for assembling raw materials into finished goods. Manufacturing capabilities include:

- Support for multi-level bill of materials
- Work-in-process tracking and costing
- Work order transactions
- Seamless integration Purchasing, Materials Management, Order Management and Financial Management

## Bill of Materials

A Bill of Materials (BOM) is a product structure that lists the parts and components that constitute the product in the context of an assembly, kit, or model. It contains one or more Products, Services, or BOMs. The number of components a Bill of Materials may contain is unlimited. A product can be assigned to multiple BOMs. A Bill of Materials can be either stocked or non-stocked.

## Work Orders

Work orders can be generated manually or via integrated support with sales orders. Manufacturing requirements are generated from an integrated bill of material, and the issuing of inventory to manufacturing work orders. The seamless integration between business processes results in optimized inventory levels, increased operational efficiency and better customer service.

## Costing

Customize costing to meet your organizational requirements. Flexible features include:

- Level of detail to track
- Using parallel costing methods for legal versus management reporting.
- Costing methods including:
  - Standard Costing
  - Actual Costing (Last PO, Last Invoice, LIFO, FIFO)
  - Average Costing (PO, Invoice)
- Include Standard and Actual costs
- Costs composed of both Material and non-Material costs.

Costs can be recorded at three levels: Company, Organization, or Batch/Lot. You can also specify a different costing method or level for a Product Category. This allows the maximum flexibility for costing analysis. You may switch the costing method used at any time. The information is very valuable to compare trends.

# Complimentary Capabilities

## Web Store

Deploy your online web store with direct integration to your ERP solution to avoid the complexities of synchronizing independent E-commerce and ERP applications. The Web Store utilizes cascading style sheets that enable you to create a consistent look-and-feel between your Web Store and your corporate web site. The Web Store features include:

- Online Product Catalog - view the product catalog including product images and descriptions.
- Online Pricing and Availability - use customer classes to securely provide authorized product list, prices and inventory availability details.
- Shopping Cart – supports the purchase of items via the Product Catalog, payment processing and email confirmation of the sale. Payment processing integration is available for Verisign, PayFlowPro and AuthorizeNet.
- Automatic User Detection - user information can be stored as cookies for automatic detection and sign in functionality for return users. Users are required to authorize their email address to reduce the possibility of fraudulent transactions. The system monitors all web requests, then collects web statistics to analyze E-commerce activity, and quickly identifies visitors to the site as well as click counts.

## Service

Service focuses on managing service request activities related to business partners and products. The self-service capabilities offered via the web allows customers to submit new service requests, check on the status of existing service requests, as well as download software products and documentation.

Requests may be configured to automatically:

- Generate a target document (e.g. a quote, order, or invoice)
- Send a confirmation email with a service request tracking number
- Assigned to the pre-defined role or user for follow-up

## Assets

Asset capabilities are used to track products once sold to a customer. When a product is setup to be tracked as an asset, each shipment of the product automatically generates an asset and records its location and associated serial or lot number. Service requests received that are related to the Asset can be logged directly against it to track associated service and maintenance history.

# Reporting & Analytics

Standard Reporting Compiere offers four types of internal reports:

- List Reports, or queries, are available in every Window or from the Main Dashboard. List report layouts are fully customizable by the end users, including broad control over the fields, appearance and parameters used to generate the report. Compiere gives users flexibility over the display, grouping, order, and summary information. End user report customizations can be saved as templates for future use.
- Forms are used to generate business documents such as Sales Orders, Sales Invoices with a specific print layout. As with list reports, forms are fully customizable by the end user.
- Financial Reports are standard financial accounting reports from the General Ledger. Financial Reports are similar to List and Form reports, but are generated for an accounting scheme. They include the flexibility of customization across accounting dimensions and can be generated based on the organizational hierarchy selected by the end user. Financial reports may be generated across multiple calendar years or periods
- Statement of Accounts are lists of all transactions for an account or account segment for a given date or period range.

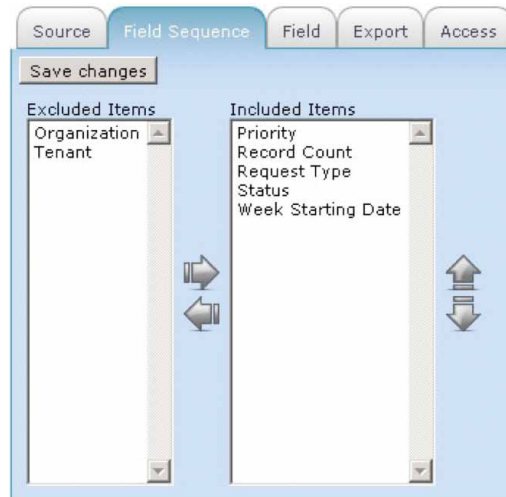
The user-selected language drives the language used in presenting the report. Each user can have a different language. All information can be printed or exported to Excel, Word, XML, PDF, etc. for further processing.

## Archiving Reports

Take advantage of online document management capabilities with Compiere's Archival capabilities, available for all standard reports. Standard reports can be configured for automatic archival when generated by the end user. Customizations can be completed to integrate Compiere archived reports with third party documentation management systems.

## Business View Layer

The Business View Layer enables report designers and users to access data from an optimized reporting schema that incorporates user-friendly field names, role-based security, and database security. Pre-defined business views span customer, vendor, product, invoice, shipment, and material receipts. Additional Business Views can easily be added using the Business View Layer toolset.



The Compiere Business View Layer supports Jasper Reports, Crystal Reports as well as other open source and 3rd party analysis and reporting tools, such as Microsoft Excel and Pentaho Business Intelligence Suite. Compiere data and report templates are securely accessed through Compiere login credentials directly from the 3rd party tool or from a menu within the Compiere application.

## Reporting & Data Security

Compiere's comprehensive Role-based Security and Data Security extends to all reports generated based using the Standard Reporting tools internal to Compiere, and the Business View Layer.

Customers seeking to utilize 3rd party reporting tools should always utilize the Business View Layer to take advantage of full data security and views optimized for reporting performance.

## Performance Dashboard

The Performance Dashboard is used to visually monitor overall status of the business using the key performance measures used by each role in the organization. Performance measures are updated in real time as transactions are generated.

End-users have the flexibility to utilize:

- An unlimited number of performance measures allowing each department to track their key performance indicators.
- Goals for each performance measure, defined for flexible periods and at any level of the organizational structure.
- Color schema associated to the performance measure for quick visual interpretation of actual performance compared to defined goals.
- Definition of complex performance measure calculations using SQL statements.
- Role-based assignment of performance measures to customize the Performance Dashboard used by the CEO, CFO, Warehouse Manager etc.

# Dynamic Application Platform

Compiere applications are DYNAMIC Applications—highly adaptable and easily customized without programming—a first in the ERP industry. This new generation of business solutions enables rapid customization at far less expense and risk. The DYNAMIC Applications for Financial Management, Order Management, Materials Management, Purchasing, Manufacturing, Warehouse Management and others are developed and supported by Compiere. These applications are available to you to customize and extend.

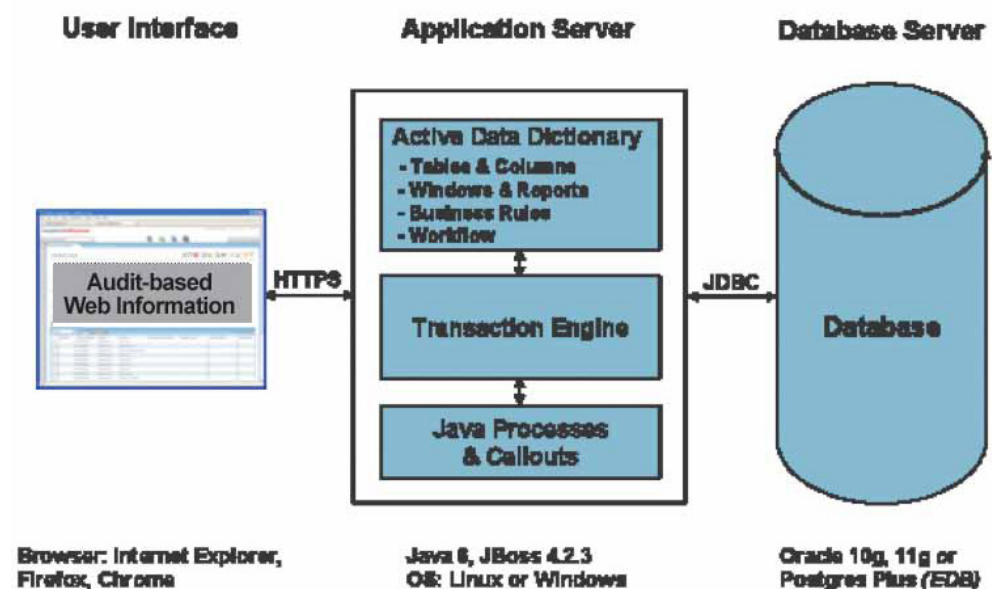
Importantly, all of the Compiere-developed applications are created and maintained using the same Model-driven Application Platform, Active Data Dictionary, Automated Upgrade Technology and other development services that available to partners and customers. As a result of these powerful, productive and broadly distributed tools, Compiere is enabling an ecosystem of compatible applications and extensions available for everyone.

This section of the paper describes the technology platform for Compiere DYNAMIC Applications, focusing on the tools and services available for application customization and development.

## Model-Driven Application Platform

Compiere employs a Model Driven Application Platform to enable broader application adaptability, faster deployments and lower cost of ownership than is possible with products utilizing earlier generation enterprise software architectures.

Multi-tier Architecture  
Compiere utilizes a modern, standardsbased multi-tier architecture for maximum flexibility and scalability.



The Compiere Model-driven Application Platform is composed of an Active Data Dictionary, a Transaction Engine and a Transaction Database. The Active Data Dictionary is the repository of business logic meta-data such as window, field, report and workflow definitions. The Transaction Database is the repository for your transaction (e.g. invoices) and set-up (e.g. customer) data. The Transaction Engine manages the interplay between business logic from the Applications Dictionary, transaction data from the Transaction Database and user requests.

The significant architectural breakthrough is that Compiere manages all business logic both the core application functionality delivered out-of-the-box and your customized applications as meta data stored in the Active Data Dictionary.

Without procedural coding or crafting of SQL commands Compiere's Model-driven Application Platform enables rapid application customization such as:

- Configure Business Rules
  - Application setups
  - Workflow & security
  - Accounting Dimensions
  - Change setups at any time
- Configure User Interface
  - Field, windows, labels
  - Layout, theme, language
  - Search fields
- Configure Reports
  - Dynamically create reports
  - Format reports w/ Compiere or 3rd party report designer
- Extend Compiere Applications
  - Add new fields (DB columns)
  - Add new entities (DB tables)
  - Add data validation & defaults
  - Add new workflows
  - Change security rules
  - Add performance measures
  - Link to external systems
  - Callout to Java processes if needed
- Create New Applications
  - Design data model & UI
  - Design business rules & reports
  - Enter into Active Data Dictionary



The Compiere platform embodies the promise of rapid application development and rapid customization. No big bang deliverables. No lengthy trial and error designs. No costly interruptions to your business. Change the system and immediately get confirmation from the user that you delivered what they want.

## Active Data Dictionary

Compiere's Active 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 reports, help, display sequence position relative to other fields), and the display rules. Security and access rules are also maintained here.

The Active Data Dictionary is 'active', meaning it is used at runtime and is context-sensitive. For example: it 'knows' that a counter sale does not have a payment term and does not display it. It also knows that there must be stock available even if the inventory record shows zero (because, say, a material receiving has not been processed). However if the user changes the transaction type to a standard order, a payment term becomes a mandatory part of the transaction and the transaction recognizes the "out of stock" situation.

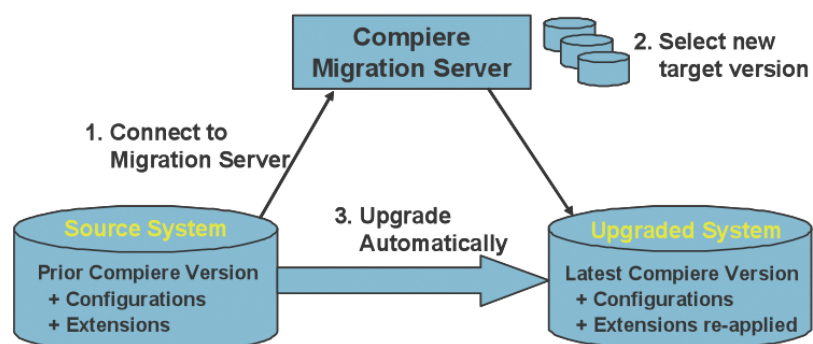
As described above, the Data Dictionary is user extensible and can include user specified rules and information. This enables authorized users to add new tables, windows and workflows to existing applications.

Your new applications and customizations are designated as "User Maintained," enabling independent management. All added items are automatically able to be listed and reported using the standard reporting functionality available throughout the whole application. The designation is also essential for successful use of Compiere's Automated Upgrade Technology.

## Automated Upgrade Technology

One of Compiere's primary design principles is that any element of the system can be changed at any time without consequences in other parts of the application or to application data. This very simple principle gives you unprecedented flexibility in managing your application over time.

Automated Upgrades  
Stay current with  
the latest Compiere  
release with the  
confidence you're  
your configurations  
and extensions are  
preserved.



Compiere's Automated Upgrade Technology fully embodies the "change anything at any time" principle. The Automated Upgrade Technology enables you to migrate to newer versions of the Compiere platform periodically while preserving all of the customizations, extensions and transaction data accumulated since you first deployed your Compiere solution. Automated Upgrade Technology allows you to:

- Deploy Compiere and upgrade from any previous release to the current release
- Deploy and upgrade partner-developed applications
- Migrate a company instance or "tenant" from one database to another database
- Migrate/copy setup meta-data (i.e. no transactions)
- Delete tenants or transactions ("clean start")

## Preserving Customizations

The Compiere Automated Upgrade Technology will not modify your customizations - as long as they are marked as customizations. Automated upgrades give you the confidence to customize your application to meet business needs, without impacting the supportability and upgradeability of your solution. Upgrade to newer Compiere versions and partner Application extensions on your timetable with confidence that any and all customizations required by our business needs are preserved.

## Automated, Fast and Dependency-Free

Upgrading your Compiere software is an automated process that completes in just a few hours. There are no manual steps required prior to running a migration or after the process completes. The Automated Upgrade Technology upgrade all Compiere solutions regardless of patch level or version.

## Web Architecture

The Compiere Web architecture dramatically improves ERP user experience. It is an example of the latest generation of Rich Internet Applications (RIA) that utilizes Ajax (Asynchronous JavaScript and XML) technology to deliver functionality, usability, responsiveness and personalization through a Web browser. Built using standards-based Service Oriented Architecture (SOA) and open source Google Web Toolkit technologies, the Compiere Web architecture provides advantages for end user productivity, ease of customization and ease of management.

## Ease of Customization

The Compiere Web architecture is fully compatible with Compiere's Model-driven Architecture Platform which stores business logic in an Active Data Dictionary for ease of customization without programming. Customize Windows, Tabs, Fields, Reports and more using your choice

of Web or Java clients. The Web architecture provides application administrators with the same usability advantages available to end users. The Active Data Dictionary enables you to customize and store business logic once. Compiere ensures that your changes are rendered correctly in both Web and Java clients.

## Ease of Management

The Compiere Web architecture generates significant cost savings by eliminating the installation, configuration and management of desktop client software. It is compatible with modern browsers such as Mozilla Firefox 3 and Microsoft Internet Explorer 7 and does not require client software or plug-ins. The flexible architecture is platform- operating system-and browser-agnostic, securely operates within most firewall configurations and supports the demands of a mobile workforce.

The Compiere Web architecture makes intelligent use of network bandwidth and server computing resources. The Compiere Web client sends focused procedure call instructions to the server only when additional data is needed. The server replies by sending exclusively data. The Compiere Web client, resident in the browser memory, manages data presentation. This design is far superior to traditional web architectures that require the server to maintain state for each user, dynamically render HTML pages with every command, and transport fully formatted HTML pages across the network.

## Security

Compiere provides a complete application-level security infrastructure, supporting role-based security, data security, data encryption and auditing. You are fully equipped with an application architected to implement security policies that protect valuable corporate data from inappropriate or unlawful access.

## Role-based Security

Each User account is associated with one or more roles. Roles are used to secure access to both data and functionality. An inheritance-based model is used to grant or revoke privileges according to role. For example, everyone assigned to accounting roles are granted view-access to account balances, but only the users assigned the role of CFO can change the chart of accounts.

## Data Security

Robust data-level security is applied using Roles to restrict read and write level access at the record or field level. For example, a data security policy can restrict sales representatives from viewing sales invoices from outside their territory. A different data security policy would enable accounts receivable staff to process sales invoices from all territories, but restrict them from changing prices. With data security you have the ability to automate internal controls using precise access rules, ensuring appropriate governance checks and appropriate segregation of duties for transactions.

## Auditing

Compiere provides the ability to audit any transaction in the system, including changes to the Active Data Dictionary (metadata). For example, if an administrator changes a user's role, a security policy or a field on an order screen, those changes can be logged and audited. New transactions, changes to existing data and even queries of specific records and fields can be tracked in the audit log. The choice of how restrictive or open your security policies are in your control.

## Workflow

Establishing best practice workflows for your organization can eliminate unnecessary steps and optimize business processes for all users. Compiere provides a flexible workflow engine and template workflows by module that you can change to implement workflow rules that match your best practices. Achieve significant improvements in the efficiency and effectiveness of standard business processes using:

- General Workflow – providing users with guidance and step-by-step instructions to complete tasks with multiple steps such as setup of a new customer account or Month End procedures.
- Document Process Workflow – used to incorporate approval and validation steps for any document. For example, a document process workflow can be used to require a Controller to approve Purchase Orders over a certain amount.
- Document Value Workflow – used to automatically start a defined workflow process when any entity fulfils a user-defined condition. Example: Start credit approval when a new Business Partner is activated.

## Alerts

Empower your users to monitor, notify responsible parties, and respond to events in a timely and decisive manner. Alert and request capabilities allow you to define escalation rules by document type that are linked to workflows and send alerts to the responsible manager or supervisor. For example, an alert can be defined to notify the warehouse supervisor via email when an order that is ready and scheduled for shipment today is not picked within four hours.

Alerts can be generated as:

- Emails to internal employees or external vendors and customers
- Internal notifications communicated via the Compiere dashboard.

## Developing Applications

The Development Platform empowers partners and customers to create add-on Applications that can be licensed and distributed using Compiere's Version Migration solution.

Applications can include:

- Localization of financials and reporting for a specific region
- Translation of Compiere into a specific language
- Customization of existing modules for your customers or internal business units
- New modules developed for a vertical industry

An Application is composed of one or more Packages. A Package is a logical collection of add-on functionality that is distributed, versioned and licensed in entirety, and managed with unique registration of an Entity Type with Compiere for version migration support. Once an entity type is registered, it is solely assigned to the registering partner or customer.

Compiere's Version Migration solution manages application licensing including trial licenses, subscriptions and perpetual licenses. Also incorporated are any version dependencies and preinstallation checks that must be performed.

## Data Import

The Data Import Utility is a valuable tool during the implementation process for data migration. Data can be loaded directly or imported with an intermediate step where data is scanned for any corruption, as well validated against database and application constraints. Using the multi-step process, you have the opportunity to review and manually edit data before loading into Production tables.

Import data can be in comma delimited, tab delimited or fixed format file. Compiere provides import loaders for standard migration data, which impose the recommended database and program logical constraints, including:

- Business Partner
- Element Value
- Vendor Price Updates
- GL Journal
- Invoice
- Order
- Product
- Report Line

The Data Import Utility may also be used for imports that occur on a regular basis, such as the import of vendor price list updates, invoices, orders or journals from external systems.

## Data Export

Compiere supports the export of any data in reports to the following data formats:

- Excel
- HTML
- XML
- Text
- PDF
- PostScript
- Word

## About Tenth Planet Compiere ERP

Founded in 2002, Tenth Planet is an open source IT services company. We are in Chennai, India. We serve customers across the globe. Tenth Planet products support the needs of a wide range of distribution and manufacturing companies, including Compiere - the world's leading open source and cloud-based ERP business solution. Created in 1999, this award-winning software has been downloaded over 1.8 million times and is deployed worldwide by companies of all sizes. Powered by a revolutionary model-based platform, Compiere is a comprehensive, modern, highly-adaptable and low cost ERP solution available from Tenth Planet. Compiere ERP solutions are available on-premise or on the Cloud.

For more information, please

**[VISIT WWW.COMPIERE.COM](http://WWW.COMPIERE.COM)**

