

# **1C:ENTERPRISE 8 SYSTEM OF PROGRAMS**

## Table of contents

Introduction.....	3
1C:Enterprise 8 Integrated Framework.....	4
Business applications.....	8

## Introduction

1C:Enterprise 8 system of programs is intended for automation of everyday enterprise activities: various business tasks of economic and management activity, such as management accounting, business accounting, HR management, CRM, SRM, MRP, MRP, etc.

1C:Enterprise 8 system consists of two parts: an integrated framework (aka '1C:Enterprise 8 platform') and a set of applied solutions created and executed in the framework.

The framework and an applied solution together constitute a business application that end-users usually interact with while performing their everyday routines. The framework itself is not software for end-users, though it's always supplied as part of any business application.

Hereafter in this document you may see 'platform' term which here means the same as '1C:Enterprise 8 integrated framework', both are used equally.

There is a great number of business applications developed on 1C:Enterprise platform. There are 30+ of boxed (off-the-shelf) business applications supplied for a wide range of tasks: accounting, sales and warehouse, payroll calculation and HR management, manufacturing and financial planning, accounting and reporting for private entrepreneurs, public sector accounting, report consolidation, accounting in non-profit organizations and others.

More than 400 solutions for vertical markets have been developed by 1C Company's partners throughout CIS and East Europe territory: for armed forces, transportation, public health, educational institutions, agriculture, public catering, insurance, non-profit organizations, manufacturing, tourism, service industry and many others.

Total number of companies by present time using 1C:Enterprise platform-based solutions comes to one million.

Having our software separated into applied solutions and a platform allowed us to establish a whole industry for development of 1C:Enterprise business applications, automating various types of business activities using the single technologic platform.

## 1C:Enterprise 8 Integrated Framework

On the one hand, 1C:Enterprise 8 is an integrated framework where an applied solution is operating while a business application is being used by end-users ('1C:Enterprise' operation mode).

On the other hand, 1C:Enterprise 8 platform is called 'integrated' because it includes a full set of integrated tools for designing and development of applied solutions ('Designer' operation mode).

The composition of the platform and an applied solution running with it gives us a business application, as it's seen by a user.

Therefore, the platform is an execution environment for an applied solution, and it's also a development framework, with a complete set of tools for development, administration and maintenance of business applications created on the platform.

The important thing about the platform is that it provides a developer with a **single development model** that isolates the one from terms and details of lower-level technologies and other platforms where it operates (such as operating systems). This allows –

- To use various low-level technologies in the platform, not interfering with actual end-user's application business logic, and therefore utilize the most efficient technologies to customers' advantage;
- To create business applications quicker, meeting RAD concept, and a developer does not have to think of low-level details.



General 1C:Enterprise 8 architecture

The platform includes a number of templates of **business components**, such as document templates (for invoices, orders, bills, etc), catalog templates (for various lists,

like personnel roll, or catalog of customers), management accounting mechanism template, real-time asset movements' registration mechanism, templates for complex periodical calculation (such as payroll calculation, flexibly configurable for various economic conditions), etc. For example, if a developer creates a business application with usual tools (universal programming languages), he must think of many details concerning creation of tables, fields, relationships between objects, links, database issues, etc. In case of creation one on the platform, he deals with metadata (i.e. the data describing other data); the framework isolates him from those details, providing a full set of tables, functions forms and properties in the templates.

The **scalability support** provided by the platform makes a business application capable to work in a standalone computer, in multi-user environment (within LAN) in file-server mode (a native file server engine is included into the platform), in a three-tier architecture with a separated application server (1C:Enterprise 8) and MS SQL Server, PostgreSQL or IBM DB2 databases, as well as with a distributed database (i.e. on a standalone PC interacting with a central database, but without a permanent connection with it).

There is an **embedded language** (similar to Java Script) used for creation an application's business logic or modification of standard objects' behaviour; a **native SQL-like query language**, supporting all SQL standard, but extending it with more business tasks-oriented features.

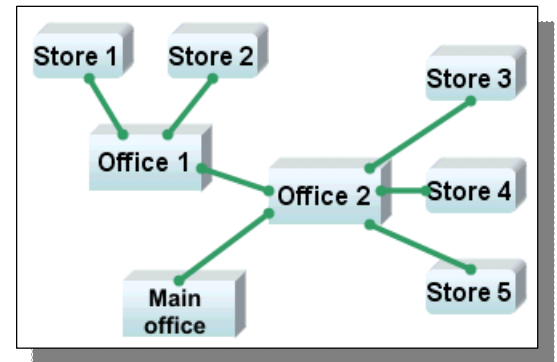
**Reporting mechanism** uses this query language to provide a quick and easy visual way to build representative reports, and for a user to compose his own (customized) reports or modify existing ones without the need to write some code but just using special report building tools. A report may include spreadsheet-styled information, as well as various types of diagrams (charts, histograms, Gantt charts, etc).

**Integrated localization support** allows creating business applications with multilingual interfaces and with proper date/time formats and number-to-text conversion (for textual representation of totals, for example).

**Data exchange support** provides working with distributed databases. This is used, for example, for remote offices in arbitrary interaction scheme (centralized or hierarchical, for example). In this case there is one centralized file database server, and the information base is spread across several offices (warehouses, street vendors, etc.). Data exchange

occurs only from time to time, at that various means can be used for this – from data upload over Internet to a courier service (with data on external media, such as floppy or flash drive, etc.).

**Integration support** provides integration with other business software in various ways – through 1C:Enterprise 8 external components, plain text documents, XML, DBF files, COM-connection, Automation Client/Server, ActiveX, ActiveDocument templates, interaction over HTTP (Internet), etc.



Hierarchical data exchange

**Web-extension** uses .NET Framework technology and makes it possible to access a business application's functionality; this is very useful for mobile users or remote departments.

A powerful **access rights system** controls user access to diverse business information. It allows management for user access on various levels - from access to entire documents to particular fields in forms (row-level security). The system also provides logging of users' activity; the log can be viewed only by users permitted to do so.

**User productivity means** include several aspects. First, this is the ergonomic user interface, designed for continuous user work. It provides such convenient features as 'data entry by line' (the system displays a drop-down list with items from a catalog, beginning with the one or several letters typed by user), speeding up mass data entry times faster; or 'auto select' mode, when a user, using a single adjustable hot-key, selects a unfilled field in a form, fills it with data and goes over to next field, etc. This is important for tasks involving mass data entry. The second thing is that a user is provided with a developed help system, on both the platform and the business application he's using. The third, there is a set of means making work with the system for a user more productive, such optimization of browsing broad lists and tables, data filtration by a substring, etc.

Developed **administration means** include 1C native authentication, also support Windows authentication, user actions log, database set up and maintenance, platform and business applications update, client-server and file server administration tools, file database restore tool, lists of active users, etc.

The complete set of integrated **development tools** is intended for creation of complete commercial business applications and modifying existing ones. Designer is a powerful visual development tool (**IDE**) specially designed to provide **rapid application development (RAD)**. Development of economic business applications with 1C:Enterprise Designer is times faster than in case of using universal programming languages for the same goal. It is efficient and convenient way for a developer to create, debug and profile business applications. There are means for group development, including versioning, checking-in/out functionality, visual comparison of versions and other means.

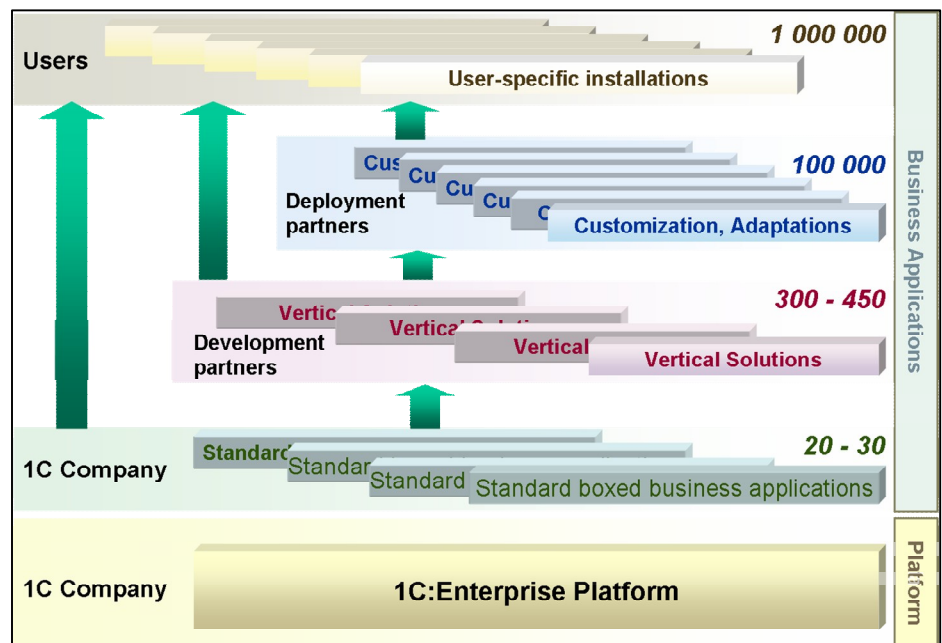
This unique composition of integrated means, and technologies makes 1C:Enterprise platform a very flexible and comprehensive tool for implementation of the tasks being solved by business applications created and functioning on the base of the platform.

## Business applications

An applied solution is the part of the program system that a user interacts with, using forms, documents and business logic provided by the business application to solve relevant business tasks of the user. Business logic of an applied solution defines business logic of final business application.

A business application is an independent entity and may be a separate software product, but it is based on the platform technologies.

There are two big groups of business applications: **boxed business applications** (developed by 1C Company and its partners) and **special (individual) business applications** (developed by 1C Company's partners only)<sup>1</sup>.



Among the boxed solutions there are *standard*, *regional* and *vertical business applications*. Standard ones include business applications for Trade Management, Human Resource Management, Enterprise Accounting and Manufacturing Enterprise Management. Regional business applications are adapted standard applications (to make them meeting a particular region's conditions). Vertical business applications are standard ones adapted for requirements of a certain industry. This adaptation work and further maintenance is performed by 1C company's partners. Apart from adaptation of standard solutions, the partners can create and supply their own business applications – both based on boxed ones from 1C, as well as created by them from scratch.

<sup>1</sup> Including business applications based on 1C:Enterprise platform of previous versions

Special (individual) solutions are created by partners, too, and aimed to a particular business task or enterprise, which don't fit any industry or regional group.

All solutions can be customized corresponding a particular enterprise's needs and conditions. This adaptation work can be done by 1C specialists, certified specialists of a partner company or by staff of the enterprise itself, with or without participation of the solution's supplier's specialists.

Along with these groups of business applications there is one more term – **1C:Compatible Certified**. The certificate is assigned by 1C Company to a business application which has passed examination of its specialists for meeting a number of strict requirements, such proper code structure, general business application architecture, user dialog convenience, etc. The certificate implies that the business application is ready for replication. All boxed business applications are 1C:Compatible from the beginning, as well as vertical solutions and regional solutions. Other solutions supplied by 1C company's partners or other companies may be or not 1C:Compatible certified.

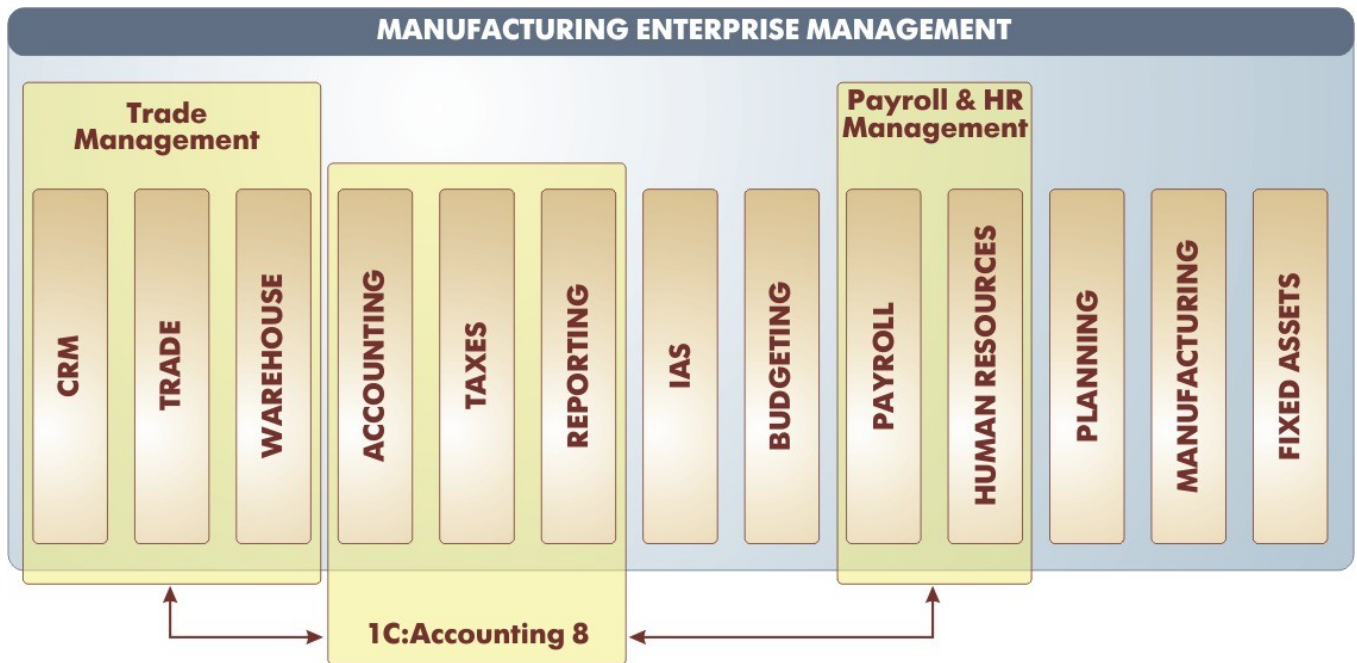


There are several **applied solutions produced by 1C Company itself** (i.e. boxed business applications):

- 1C:Accounting 8 – provides everything necessary for an accounts department's activity.
- 1C:Enterprise 8. Trade Management – for small and middle sized trade business.
- 1C:Enterprise 8. HR Management – includes management and regulated accounts.
- 1C:Enterprise 8. Manufacturing Enterprise Management (including MRP, CRM, SCM, ERP functionality and meeting IAS standards) – for automation of manufacturing enterprises, holdings, etc.

The solutions have modular structure and the same modules may be used in different business applications and various combinations. For example, CRM module is used in Trade Management application, as well as in Manufacturing Enterprise Management (see the picture below).

For more information on applied solutions refer to '1C:Enterprise – The Business Applications' document.



Standard applications – composition and correspondence diagram

All 1C:Enterprise users, as well as all 1C partners receive all the same development tools as 1C Company’s developers have. They have full control over the solutions, too. Business applications created by 1C partners, or by ordinary users, may include some of modules from boxed business applications, with some modifications in them or as they are, or they may also create their own modules using just some parts of those, or create entirely new modules interacting with them somehow, etc. Any combinations are possible.

For example, there is a payroll module in HR Management applied solution, providing a ready mechanism for payroll calculation, flexibly adjustable for any country, economic conditions and payroll calculation rules. It’s easier to use this module in a new business application and adjust it, than to create a new one from scratch, as this task may be very sophisticated.

For more information on issues concerning development on 1C:Enterprise platform see '1CEnterprise - the platform' document.