

UNIT4

Product Guide
ERP Fundamentals



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1. Introduction

An organization needs relevant and timely business information to make informed tactical and strategic decisions. The type of information it needs will evolve over time based on a variety of factors such as market changes, regulations, etc. Also, the organization must be able to make operational changes without being blocked by its information system, hence the need for a system that can change quickly and easily. Unit4 ERP meets both these requirements.

The system is characterized by its adaptability to different types of sectors. This adaptability is delivered at a functional level and not by custom development, which greatly reduces the impact of these adaptations on future updates. To achieve this, the solution is based on certain concepts that are further explained in this document.

The underlying structure of Unit4 ERP is remarkable and its architecture is based on an organization-wide information warehouse. Not only does the coding structure allow for unlimited dimensions of analysis, but that structure can be changed at any time during the life of the system as the business requirements change. For example, it can adapt to support a new organization chart or a new product range. Furthermore, in Unit4 ERP, all enquiry, analysis and reporting tools are integral parts of the application.

The key to the power of Unit4 ERP business information is that these two factors are intertwined: it doesn't matter if you have great information extraction tools if the underlying information is inadequate. With Unit4 ERP you have both: great tools, overlaying a remarkably flexible and rich structure, which can change as the organization requires it.

To consume these concepts in a consistent way the right foundation needs to be in place. This is defined in Unit4 ERP Fundamentals. The data modelling concepts and supporting functions are described in this document.

2. The ERP Functional Architecture

2.1. General Description

Before implementing an information system, it is important to define the organization's **requirements**. In many cases, one of the main requirements is the production of relevant (management) information. It is therefore important to structure the application so that the information can be presented in the most practical way for all Users (and esp. decision-makers).

Financial and statistical reports, management information and financial accounting requirements, as well as business processes will determine how to structure Unit4 ERP. Before designing the system, it is important to understand the 4 fundamental components of Unit4 ERP, the cornerstones, which allow to freely define all the information needs of the organization. Collectively, they empower users with a virtually unlimited number of possibilities to retrieve, process and report/analyze the information they need and thereby support their role within the organization.

What follows is an explanation of each of the cornerstones.

2.1.1. Attributes

An Attribute is a **category of information** on which you want to record, report, analyze or make decisions. Attributes can be created at any time, with an unlimited number. All data in Unit4 ERP are Attributes: Account, Employee, Project, period, Product, Customer, administration, license plate, supplier, Department, mobile phone, ...

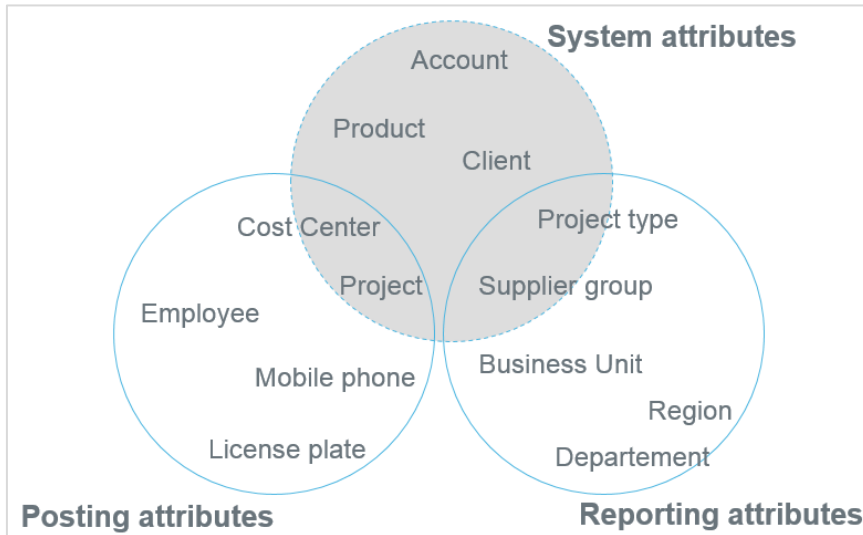
All these Attributes are populated with **values**. Each Attribute value is normally a code up to 12 positions (plus or minus with a maximum of 25) and a description up to 255 positions.

Cost Center	Account	Product	Supplier
Purchases	440000	Paper	Proximus
ICT	600000	PC	De Post
Accounting	700000	Envelopes	Telenet
Sales	411000	Pencils	Engie Electrabel

Example of Attributes and Attribute values

We distinguish 3 types of Attributes:

- **System Attributes**, which are part of Unit4 ERP's standard functionality, e.g. the 'Account' Attribute or the 'Client' Attribute. These Attributes can appear in one of the following 2 types:
- **Posting Attributes**, which are used during the posting of a transaction, e.g. mobile phone
- **Reporting Attributes**, which are used for reporting on structured data. These Attributes are always related to a posting Attribute or other Attribute



Types of Attributes with examples

2.1.2. Relations

On the basis of the list of Attributes, we can define the **Relations** between the Attributes, if there are any. We have 3 types of Relations:

- **Fixed Relations**, which are necessary for the operation of Unit4 ERP, e.g. a Customer is linked to a group of Customers;
- **Direct Relations**: when the value of an Attribute depends on the value of another Attribute, the Attribute is an owner. Both Attributes are saved with the transaction. E.g. an Employee is linked to a Cost center;
- **Indirect Relations** between reporting or posting Attributes. E.g. a manager is responsible for several regions.

Unit4 ERP uses Relations for several reasons:

- To create a reporting structure
- To fill out information automatically during posting ('code completion'), e.g. by entering a mobile phone number, Unit4 ERP automatically retrieves the related Employee and his Cost center
- To validate information by Account rules
- To apply automatic numbering

- To define the Distribution rules in the Workflow
- To limit access to data (data control)

2.1.3. Rules

When the Attributes and Relations have been determined, the option per Account must be set to whether dimensions are required, optional or fixed on that Account. Via the Account rules, Unit4 ERP offers the possibility of defining multiple dimensions per Account (also called 'categories'). In each rule and by dimension we can indicate if the dimension is mandatory or rather optional.

Account rules can be used to:

- Automatically complete the dimensions ('code completion'), eg. 'Project' defaults the 'Cost Centre'
- Validate inputs based on a Relation (validation against a list of pre-defined values)
- Set up the entry/posting model
- Allow the capture of two statistical values (eg. quantities) per account code

A second type of rules are the so-called **Distribution rules** which are used in the Workflow definition to determine how the flows should be routed. Distribution rules can make use of the data model as defined above, based on Attributes and Relations. For example: An Employee's Expense note is to be approved by the owner of the Costcenter to which the Employee belongs. (cfr. Topic Workflow)

2.2. Business Benefits

- Unlimited reporting dimensions;
- The adaptability of the functional architecture guarantees a continuous alignment with the business needs. Typical examples of changes are:
 - Re-structuring the Costcenter or Divisional structure;
 - Changing sales people's territories;
- The adjustments can be done without any technical expertise;
- Possibility to add dimensions for reporting purposes only;
- The functional architecture and changes to it are applied in a consistent way in the different functions of the ERP;
- By defining rules, the data entry is automated and end users are guided to feed the system with consistent and correct data;
- The rules are also automatically applied in the integration with other solutions.

2.3. Most important functions

- Easy to use setup screens to define or adjust the data model by defining
 - account rules,
 - attributes
 - relations;
- Changes directly available in the integrated reporting tools;
- Each new data-element (Attribute) is considered as a standard item without any impact on the future evolution of the software;
- As the consistency of the application is an important aspect, the access rights to the setup screens can be limited to specific user profiles (Roles);

- Public Restful APIs respecting the concept;
- Possibility to create a master file out of a newly created attribute;
- Relation values can be date based (like responsible employee of costcenter from-to).

3. Modeler

3.1. General Description

Modeler can **present any hierarchical structure** in the organization. A typical use of Modeler is to give a correct, graphical presentation of an organization structure at a selected date, including pictures of all Employees (an internal 'face book'). But Modeler can as well be used to present the hierarchy of a Product catalogue or a building infrastructure. As long as data is structured in a multi-layered model, Modeler can enhance the overview. On top of that each layer in the model can be connected a person responsible.

For each element in the structure it is possible share additional information. This can be a few fields of information directly visible in the Model but also a detailed and richer information section accessible via a zoom function e.g. to retrieve a full history of the data element that has a focus.

An advanced functionality for authorized Users is to use Modeler to **modify the underlying structure**. With drag & drop, one can change for example an Employee's Cost center with a specified future date. Any changes to the model will be first saved as draft, and can follow a formal approval Workflow before taking effect. The validated models can be used in different functions of the application like:

- workflow distribution rules of other transactions like Procurement or Expenses.
- in reporting to present transactional information in accordance to the structure used by the Model.
- In data control to determine automatically which data can be seen or maintained by the different employees/users in the model.

3.2. Business Benefits

- Modeler allows to get better control over the different data models defined in the application because of its visual presentation.
- By applying Modeler in the other setup components of the application (Reports, Workflow, Data access control), it becomes easy to maintain the complete behaviour of the application from one central place.
- Changes to the data model can require a formal approval which reassures that the responsibilities as decided in the organization are also correctly reflected in the application.

3.3. Most important functions

- Visual representation of all data structures based on attributes and relations
- Easy search functions to find data elements like a costcenter, employee, project etc. in the Model.
- Making available additional information on high level but also on detailed level (zoom function).

- Add the model in the menu wherever needed. Example, an orgchart or 'Who is Who' that is made available to all employees, a project structure that is made available in the Project module.
- Create new versions of the same model.
- Do changes to the model via simple drag and drop.
- Validate the Model via workflow before making it active in the application.

4. Dynamic zoom

4.1. General Description

Dynamic zoom is a function that allows to deliver **extra information** related to attribute based **entry fields**. It is when using the entry or approval screens that users may have the need for a better understanding of a broader context to decide which action to take or choice to make. The Dynamic zoom is a **configurable** feature by which each organization can decide what kind of information to share with the end-user. This is strongly dependent on the organization structure and its **business context**.

4.2. Business Benefits

- Fast access to **relevant information** concerning a certain field in screens;
- Efficiency by not losing time on retrieving the information;
- Using the functions and screens within a clear business context;
- Well informed employees making correct decisions.

4.3. Most important functions

- Show Information Browser template results as separate fields, table or enquiry;
- Show Documents from the document archive;
- Link Dynamic zoom setup to attribute and screen(s);
- Link Dynamic zoom setup to a Workflow element type to follow the entire process;
- Link multiple dynamic zoom definitions to the same attribute or element type.

5. Flexifields

5.1. General Description

Flexi-Fields is a flexible concept of **extending your masterfiles** with the information you find relevant, e.g. like adding new properties to the already defined 'Customer type'. By the use of Flexifields, masterdata can be expanded with as many fields as necessary for all the different stakeholders (NB: access to Flexi-fields can be restricted by Role). Flexifields can also be used to **create a whole new Masterfile** from scratch. This requires that you first define a new Attribute and then use the Flexifield functionality to define its properties.

Once a field is added, it becomes immediately available for reporting and to drive Workflow. There are 3 types of Flexifields: input forms, input tables and Browser templates.

A first application of Flexi-fields is to use them as **input forms**. Relations as described above, can be used to hold additional information against Master files, such as Project manager against the Project Masterfile, or grade against the Employee Masterfile. However, in some cases you may want to hold multiple lists or sets of data that are relevant for your organization that are not available as standard fields in Unit4 ERP. A simple definition screen allows you to define your own input fields, specifying whether they are optional or mandatory, how they are to be validated and how they are to display on an input form. Fields can be validated against User defined lists or other Attributes defined elsewhere in Unit4 ERP.

Flexifields can also be used as **input tables**. Where you need to hold multiple sets of additional information you can choose to define input tables rather than input forms. This might be the history of consultants who have been assigned to a Project, or appraisal information for an Employee.

Finally, with Flexifields used as **Browser templates**, you can create additional tabs in the Attribute Masterfiles that use the results of a Browser enquiry (see **Error! Reference source not found.** for more details on this functionality) to display additional information about the Attribute. For example

- The Project Masterfile can include a summary of all time booked to that Project, or all revenue forecast, billed and collected.
- The Employee Masterfile can include a summary of an Employee's training record, or absence history.
- The Customer Masterfile can include tabs that show all open items, or a summary of revenue over time.

The information displayed in a Browser template can include non-Unit4 ERP data, so you could also include the outstanding help desk enquiries against a Customer Masterfile from a third party CRM system, or a summary of payments made by an external payroll system.

5.2. Business Benefits

- With Flexifields the need for storing additional information outside the ERP is eliminated.
- More efficiency in the daily job by the quick access to all relevant information.
- Flexifields are always considered part of the standard functions of the application without negative impact on the adoption of future enhancements.
- Flexifields are automatically available in the other core functions of the application like Forms, Modeler, Reporting, Workflow, automatic alerts, interfacing.
- It will help to build and create digital forms to avoid paper based processes.

5.3. Most important functions

- Adding individual fields to existing master files.
- The fields can be in different formats: Text, date, amount, number, period, check box, attribute (see Functional architecture).

- Flexifields can also be registered in a table format. This allows to register multiple records to the same master file value. An example could be a complete follow up table of the different deliverables of a project.
- Enquiries can also be defined as Flexifields. That way the system can automatically retrieve relevant information belonging to the master file. Examples are :
 - List of different projects executed for a customer
 - Different outstanding invoices of a project
 - List of active contracts of a supplier
- Field validation by defining a predefined list of accepted values.
- Autocompletion of field based on the value in another field (based on attributes and relations).

6. Dynamic forms

6.1. General Description

Dynamic forms help **simplify and automate routine activities** to free up your Employees' valuable time for tasks that really add value. We are not only considering processes regarding Unit4 ERP data and application management, but also other business processes that are not or only limited related to Unit4 ERP functionalities or processes.

We can think of many situations in which **paper or digital forms** (or emails) are used to process all kinds of requests, e.g. an Employee changes position or address, an Employee gets other tasks and needs other access rights in Unit4 ERP, a supplier assessment after delivery, a request for a new Product,...

Dynamic forms minimize the input by avoiding duplicate input (copying data in several systems). Maximum use is made of Unit4 ERP data and of Unit4 ERP platform functionalities such as Workflow, Document archive, ... Dynamic forms also allow an automatic action to be performed as part of the process through web services / API, e.g. the adjustment of the supplier's Masterfile after a new assessment or the creation of a Customer after approval in the Workflow.

6.2. Business Benefits

- Eliminate Paper documents.
- Form data immediately captured and stored in a structured way.
- All data stored in forms can immediately be reported and analysed.
- Forms can follow an approval process by defining a workflow.
- Different employees can collaborate on the same form.
- Easy to define new digital forms that are immediately webified in all modules of the application.
- Efficient data entry by automatically hiding or presenting fields or sections.
- Prepare the data before the actual creation of the related master file value or transaction, e.g. A project request form that will create the actual project after final approval.

6.3. Most important functions

- Definition of different sheets and sections in the form.
- Automatically default data into form fields based on other fields and data stored elsewhere in the application.
- Dynamic layout definition based on rules.
- Free creation of menu item for the form.
- Creation of workflow for form.
- Add documents to the form.
- Automatically generate transactions or master files based on the entered form data.
- Create reports based on the form data.

7. IntelliAgent

7.1. General Description

IntelliAgent is a flexible **alert and response system** that allows you to define rules for what constitutes an event and set up actions to handle these events without the requirement of having technical expertise.

To respond to events, IntelliAgent employs Information Browser templates, file polling or data changes stored by the internal amendment logging. The following examples give you an idea of what you can achieve with IntelliAgent:

- Notify the Customer contact when a credit limit is exceeded;
- Send a reminder when an Employee turns 50;
- Send a warning when the available budget falls below the predefined threshold;
- Monitor critical system services and warn the application administrator of any errors;
- System tasks like file handling; starting a Unit4 ERP server process or launch a report with automatic distribution from the moment the accounting period is closed, start an import routine when a file has been delivered from an external application...

Alert recipients can be manually entered or automatically derived from the data (e.g. alerts relating to a certain Customer can go to that Customer's Account manager or even a contact person of that customer). The alert message can handle attachments and HTML links.

The alert notification can be done either by email, or the digital assistant. Each User has the ability to choose their preferred method of notification and to turn on/off alerts that are of no interest. The alert scheduling lets the User decide the frequency of event monitoring (every minute, hour, specific dates or days in the week etc.).

7.2. Business Benefits

- Faster availability of information;
- Efficiency by taking away manual control activities;
- Less mistakes;
- Less blocking situations in operations for budget reasons (pro-active budget alerts);
- Improved cashflow by detecting situations with a negative impact on that cashflow, e.g. timesheet entry delays;
- More consistent data by improved integration between ERP and peripheric applications.

7.3. Most important functions

- Information polling based on self-defined queries (all data in the ERP can be used to trigger the event);
- File polling mechanism to detect the existence of a file in the Azure storage;
- Capability to look into the file for certain content;
- Definition of frequency of polling;
 - Between certain dates;
 - Only during certain hours of the day;
 - Only certain days in the week;
 - Only at a certain moment in the day;
 - Every x minutes or every x hours or every x days;
 - Certain days in the week, certain day in the month, certain date in the year.
- Definition of e-mail templates using tags based on the underlying query;
- Generate message hub event to trigger event in external application or to communicate via the Unit4 digital assistant;
- Automatically start processes like;
 - generating end of month reports;
 - starting import or export processes;
 - generate documents like invoices, purchase orders.
- Define whether end-user can deactivate the alert or not.

8. Workflow

8.1. General Description

Unit4 ERP provides a graphical Workflow definition module, which makes it easy to set up a process, respecting the organization's specific procedures and organizational structure, and to evolve it at the pace and according to the needs of the organization.

A Workflow is defined for one or more so-called 'element types', e.g. invoices, Expense notes, absences,... and consists of one or more activities or steps, as well as information about the participating Users. The Workflow will be routed from one activity to another, according to the defined **routing and Distribution rules**. It can either be handled by a participant (in a 'User step') or processed automatically by (in a 'system step').

Distribution rules make use of the Unit4 ERP data model based on attributes and relations (see above 'Unit4 ERP Architecture'). An example of this could be the routing in a 3-tiered approval flow in which the project responsible (= relation on project) always has to approve first. In case of a higher expense (here > 2.500 EUR), the project's cost centre responsible also has to approve (also relation on project). In case of a very high expense (here > 25K EUR), the CFO is also involved in the approval flow. In our example (as in most cases), CFO is based on a fixed user role, so independent of the project, project type or any other underlying data element.

8.2. Business Benefits

- Stronger focus on the essence of the job.
- Better guarantee procedures will be followed;
- Less mistakes;
- Management by exception by defining the happy flow;
- Segregation of duties;
- Task handling in a decentralized, international context;
- Faster availability of correct information;
- Solid historical audit trail of all performed actions;
- Aligned with the central data model and organization chart.

8.3. Most important functions

- Graphical design of the workflow without need of technical expertise with use of:
 - or-splits,
 - and-splits,
 - synchronization action when a task can only be generated when a number of simultaneous tasks are all performed,
 - delay steps that wait for a condition to be met,
 - auto-approve steps,
 - reminder and escalation functions,
 - stepwise instructions to guide the user,
 - forward and distribution functions to delegate the tasks,
 - user steps
 - system steps (e.g. generate invoice)
- Possibility of multiple authorizers for a single transaction e.g. a purchase requisition, with simultaneous and/or sequential authorization. Option of defining authorization groups;
- Level of authorization determined by amount level, volume, hours;
- Technical as well as financial approval, with intelligent and easy to adjust routing e.g. purchase requests for IT-Products have to be approved by the IT-Department;
- Auto-approval option for when requestor and approver are the same person;
- Four eyes principle;
- Activation of substitutes in case of absence;
- Hyper linked email notification and task list notification;
- Automatic reminders and User defined escalation rules;
- Notification of rejection;
- Re-direction of wrongly distributed transactions and management of undistributed items;
- Validation to enforce segregation of duties and eliminate fraud;

- Approval via web-client, mobile or e-mail;
- Use the approved organization chart to determine who needs to perform the task.
- Graphical presentation to show the performed actions in a flow.

9. Task handling

9.1. General Description

In addition to the standard task overview, Unit4 ERP also offers the user the possibility to handle tasks in a more advanced way. Via the Task management screen, tasks can be **sorted** by priority, expiration date, etc. and they can also be **shared** with other colleagues in a certain pool (provided this is foreseen in the Workflow set-up).

Next to the Task management screen in the web client, the user can also deal with the tasks via a mobile device. This is possible via the task web app but also via the digital assistant in Microsoft Teams app or Skype. The digital assistant takes task handling to a next level as it will also push high priority tasks in a more demanding way to the user.

9.2. Business Benefits

- Efficient and faster task follow up
- Good overview of tasks, organized by urgency and importance
- Better collaboration by the capability of sharing tasks
- Also the employees on the move can efficiently deal with the tasks
- For users with many tasks, the search function makes it easy to focus on a job
- With the option of adding manual tasks, all tasks centralized in one place

9.3. Most important functions

- Graphical presentation of tasks and priorities;
- Filter by priority and due date;
- Free text search function e.g. search invoice to approve for a specific supplier;
- Task sharing function;
- Configuration to automate priority setting;
- Creation of manual tasks;
- Grouping based on urgency or by process or step in the process;
- Mobile Web app for task treatment;
- Digital assistant to ask for tasks or get alerted automatically for high prio tasks.

10. Document Archive

10.1. General Description

In Unit4 ERP, all **transactions** are integrated with the Document archive, which allows to add any document type (text, images, videos etc., i.e. everything that can be saved as a 'file'), both during registration of a transaction, during the approval flow, or even after posting. Documents can also be added to **Masterfiles or Forms**, e.g. supplier master file, customer master file, Project Change Request form. Typical examples of documents stored in Unit4 ERP are contracts, correspondence, invoice scans or expense notes.

Documents can be linked **manually or automatically** from an external source via the Document archive API. Documents generated by the integrated reporting tools like Excelerator, Worderator or Xtra Reports can be added automatically to the underlying transaction or master file. Documents can be easily accessed from Information Browser enquiries by applying drill down. A click on the paper clip icon brings the User to the Document archive.

Depending on the requirements, different **document types** (similar to folders) can be set up to organize the documents logically. Once in the document archive of a certain data element like a customer, the document archive also has a **search function** across all folders. One can easily add a new document with simple '**Drag and Drop**' and even multiple documents at once. The document images can be combined with indexes giving more context to the document. Unit4 ERP also supports the bulk import of documents, such as incoming invoices in a zip-file.

10.2. Business Benefits

- Non-structured information is also available in the ERP;
- Easy to find the documents because they are directly connected to the item to which they belong;
- Always retrievable what documents others have automatically received from the ERP (like customers who received invoices, suppliers who received purchase orders or employees who received employment related documents);
- The document archive can be combined with external document handling solutions like scanning applications or e-signature solutions;
- Document templates give guidance to end users on the format and layout of the document to be delivered;
- The documents can be secured by setting access to the created document type.

10.3. Most important functions

- Self-definable document types (folders);
- Possibility to create document templates;
- Check in and check out function;
- Revision history;
- Report outputs automatically stored in archive;
- Retrievable and updatable via Rest API webservice;
- Add indexes to give additional to the document;
- Document archive widget to embed the archive directly in Workspaces;
- Browse function to add documents;
- Drag and drop function to add one or multiple documents at once;

- Visualize image and pdf documents directly in the application;
- Show the documents individually, in a grid or as a list;
- Visualize the documents on a second screen.

11. Information Browser and Analysis

11.1. General Description

Information browsers are the central query function in Unit4 ERP, ideal for **ad hoc data investigation** but also as the basis for pre-defined reports and layouts. They allow real-time data to be retrieved from what we call 'Enterprise Documents'. An **Enterprise Document** contains all related information belonging to a certain domain in the application. It is a set of properties logically belong together. Examples are customers, suppliers, projects, expenses, students, general ledger transactions. By using Enterprise Documents there is no need to understand the technical structure of the underlying database. This makes the use of the reporting tools **much easier for non-technical users**.

The Information Browser offers a variety of features to allow more complex enquiries to be built, e.g.

- by adding or removing fields
- by the use of '**macros**' in criteria (likes dates and periods, User ID logged on,...);
- by allowing the User to add fields belonging to associated Enterprise Documents. E.g. When creating a query on supplier invoices it is possible to add all fields available in the supplier enterprise document like address, mother company,....
- by defining expressions (formulae) and statistical functions.

Standard **drill-down** allows the user to reach every level of detail and even acquire access to the related master files and maintain the data directly.

Enquiry results can be **formatted** with color, fonts, shading, groupings, subtotals etc., but also based on conditions which gives 'traffic lighting' for easier identification of exceptions.

Each Information Browser definition can be saved as **template** for reuse, shared with other Users and even with other companies managed in the same database clients.

With the Analysis function it is possible present the result of the query as a pivot table, chart and/or gauge. The analysis function allows additional filtering and easy switching between the different ways of presenting the data. Also the Analysis can be saved as template.

By applying data-control the Information Browser is a secure source of information that is used in combination with many other functions in the system. As such the ERP is a consistent system applying the same mechanism to retrieve information.

11.2. Business Benefits

- Efficient way of getting the relevant information from the system;

- Intuitive tool that allows all types of users to define the query, no need for technical expertise;
- Easy understanding of the data by the different presentation layers;
- The real-time information allows to take measures quickly in a fast-moving environment;
- One single concept makes it much easier to adjust the application to changing business requirements;

11.3. Most important functions

- Adding fields and position them wherever needed in the data grid;
- Rename the fields;
- Add expressions (formulae);
- Apply conditional formatting;
- Apply sorting and subtotaling;
- Standard drilldown capability;
- Save as template and share with other users and/or companies in the database;
- Apply search criteria of different types;
- Apply macro's in search criteria like current period, current user,...
- Export the result of the enquiry directly in a printable format for example, as an Excel spreadsheet, Word document or pdf document;
- Embed the Information Browser template in Master Files to retrieve specific information about that Master file value, e.g. all reminded invoices of a customer;
- Use the Information Browser template in an API call to visualize the information in other applications;
- The enquiry can be used as a source for alerts like a budget that reaches 90% of its consumption or a contract that reaches its renewal date;
- The Information Browser template or the analysis can be easily embedded in a Workspace to give immediate access to relevant information when performing the daily job.
- The Information Browser template can also be used as a source to limit the values that can be entered in a field.
- Dynamic zoom, a way to retrieve information belonging to a field in an entry screen, is based on Information browsers.

12. Balance tables

12.1. General Description

A Balance table is a general concept in Unit4 ERP that fulfils 2 purposes:

- Aggregation of detailed transactions to the level of the most important reporting attributes.
- Combine different types of transactions to allow comparison reporting. A typical example of this is the combination of General Ledger transactions with outstanding commitments (purchase orders) and different budget variants like the initial budget and the most recent forecast.

Balance tables can work with standard posting attributes like a GL-account, a cost centre or project but also with self-defined attributes.

Defining a balance table is easy and there is no limit on the number of balance tables created. Balance tables can be kept up to date on a continuous basis but it is also possible to update balance tables periodically. This is interesting when certain figures should only be reported or published after controls and corrections e.g. P&L results after period closing.

Once the balance tables presents figures, these figures automatically deliver drill-down capability to get the lowest level of detail.

12.2. Business Benefits

- Balance tables minimize the number of records to be retrieved from the database when using business reports. This results in a better reporting performance;
- The better performance is not only interesting for reporting purposes but also for sharing the information with other applications via the APIs;
- Comparison of different transaction types can deliver a good status overview but also the capability of defining KPIs like comparing total costs with hours worked;
- Allows to keep control over the way figures are published/reported, continuously or periodically.

12.3. Most important functions

- Define up to 8 basic dimensions in one balance table;
- Creation of multiple balance tables with a different dimension structure;
- Select all types of transactional amounts, number or volumes;
- Continuously up to date decided by checkbox;
- Process to do an initial update of the balance table or to refresh the content on a periodical basis;
- Drill-down from the balance table aggregated data towards the details;
- Available for being used by the Information Browser.

13. Report engine

13.1. General Description

The Report Engine contains all functions needed for the generation of printable documents from the ERP in various formats like .pdf, .xlsx, .docx. This function also allows to generate .xml outputs based on the reported data set.

This reporting function can be used in combination with functional processes like generation of invoices, purchase orders, reminder letters but also in combination with the Information Browser to create a printable layout from the result of an enquiry.

All of the created layouts can be saved in the solution for contemporary use or occasional re-use.

Not only can report engine be used to report and print data, with the Excel Add-in called Excelerator it is also possible to post data into the ERP (Postback function). This is very useful when certain transactions need to be generated based on complex calculations. The entire calculation of Excel

becomes available. The transactions posted as a result of these calculations, will always be validated by the ERP.

Once the postback template is defined, it can be used as a server process. This means the end user does not need to interact with Excel to have the posting done. The user will only launch a process with optionally some parameters like the period in which the transaction needs to be posted. The server will take care and deliver a report to the user with the result of the process.

With the integrated e-mail split function, it is possible to generate automatically e-mails to the different recipients. This feature is not limited to sending the report but can also retrieve related documents from the document archive like the invoice documents mentioned on a reminder letter. These documents will then also be added as annex to the e-mail.

13.2. Business Benefits

- Great flexibility in the way reports can be visualized in a printable format;
- Available for system administrators to create complex layouts but also for less expert end users to define a print-friendly layout with the tools they are familiar with like 'Excel' and 'Word';
- One-click capabilities without the need of defining a report;
- Easy way of sharing information with persons who are external to the application.

13.3. Most important functions

- Create layouts in PDF, Excel or Word format;
- Available for server processes (e.g. Mass invoicing, Purchase orders, Reminders,...);
- Available with Information Browser as a direct print solution;
- Save any created layout as a template in the application and make available to other users;
- Postback feature in Excel to upload certain master data or generate transactions;
- Add text but also visuals like images to the report;
- E-mail split features to automatically send the report to the recipient;
- Add automatically annex documents from the document archive to the generated e-mail;
- The printing process can be scheduled or triggered by an event (cfr. part on IntellAgent);

14. Workspaces

14.1. General Description

Unit4 ERP Workspaces are **dashboards** that contain (access to) all relevant information, organized in the most logical way for specific user profiles, such as a project/program manager, HR manager, A/R responsible, ... As the name of this function indicates, a Workspace is a capability to define a **work environment** that fits perfectly the needs of a given **user profile**.

All in one place

Using visual tools like dashboards with charts and gauges, the users have a complete overview of everything they need in their daily work, including analytics, KPI's, personal details and requests, as well as notifications and outstanding tasks.

More than just a dashboard

Because users can interact with their Workspace, they can easily submit or change data, update records, perform tasks or even give their employer feedback. A workspace can also be used as a perfect monitoring system, e.g. a system administration workspace showing nr. of active users, nr. of outstanding workflow tasks, pending import batches,...

All in context

Workspaces take data in the Unit4 ERP system and visualize it depending on a user's system rights, their role and personal requirements. This means you can dedicated workspace for any type of user. The workspace is configured around what we call a '**context value**'. Examples of such a context value are 'project', 'customer', 'supplier', 'Fund', 'employee', 'department', or any other attribute defined in the data model. Workspaces are easy and **flexible** to set up.

The workspace can be made available directly when it relates to only one value, like an employee workspace. If the workspace is made to work on multiple values, it can be combined with **a portfolio** that lists these values. The portfolio can list only those values that fall under the **responsibility** of the user. E.g. a project manager only sees the projects he/she manages.

The portfolio, not only shows the values but can only present immediately some **KPI's and notifications** (missing timesheets, unpaid invoices, budget exceeded,...).

A Workspace can also be set as the homepage. As such it can replaces the need of using the menu to perform the frequent tasks.

Out of the box: The Project Workspace

The Project Workspace is a dashboard which provides a 360° overview of the organization's Project portfolio. It's a **Project-centric point of navigation** for all Project management functions, to track and monitor Project performance.

Unit4 ERP comes with a **predefined workspace**, which can be further tailored to the organization's requirements if necessary. The predefined workspace consists of 3 **dashboards**:

- The **Overview** displays general Project information using widgets on the Project's basic info, Project KPIs, the team working on the Project and the documents attached to it. Expanding the overview tab gives access to a contextual navigation menu, in which there's a link to the Project Masterfile, the Manager, the Customer and the Main Project.
- The **Planning** dashboard consists of information related to Project planning: KPI's, the people & Project planning and Project budgets & forecasts
- The **Billing** dashboard displays invoice-related information, with a/o a widget of unpaid, paid and upcoming invoices, a link to the Customer Masterfile, to the Project's invoice rules and invoice base.

14.2. Business Benefits

- User **efficiency** by easy navigation corresponding to a logical way of working of the user;
- Interactive and intuitive;
- Tailored for each role;
- Insightful visual analytics delivering a **good understanding** of the situation;
- Pleasant user experience;

14.3. Most important functions

- Creation of dashboard sheets including charts, enquiries, entry and maintenance screens and widgets;
- Contextual actions to open other entry and maintenance screens, start processes or generate reports with an automatic transfer of the context value (e.g. Project, Customer,...) as a parameter for the opened screen;
- Creation and visualization of KPI's and notifications;
- Self-definable Portfolios that display a list of attribute values and data related to them;
- One portfolio can give access to multiple workspaces like workspace of a Project but also the workspace of the customer of the project;
- Grouping of the attribute values according to the notifications that apply to these values. E.g. grouping of all projects that have missing timesheets or a delay in invoicing;
- As other screens a workspace can also be set as the home page.

15. Widgets

15.1. General Description

Widgets are simple and **easy-to-use screens** or components made for being used in Workspaces. They are a functionally reduced variant of the main screen or function but with a focus on ease of use. With Unit4 ERP a set of **system widgets** are delivered:

- Document Archive widget
- Calendar widget
- KPI widget
- Information Browser Widget
- Information Browser Analysis Widget
- Task management widget
- Employees widget

Besides these system widgets it is also possible to define **custom widgets** to deliver extra visual information in a concise way

15.2. Business Benefits

- Making certain capabilities very easy to consume;
- Deliver the most relevant information in a very concise way.

15.3. Most important functions

- System widget for Calendar;
- System widget for Document Archive;
- System widget for Poll;
- System widget for sharing News;
- Specific screen/functions for defining custom widgets (information delivery)

16. Collaborator

16.1. General Description

Collaborator is an **advanced chat functionality** within Unit4 ERP that allows colleagues to send messages to other users of the system regarding a certain purchase order, invoice, ... The User can easily pin the conversation to the relevant transaction/screen and/or a **screen shot** with the option to annotate. As with other chat functions it is easy to **involve other users** and open the discussion around a certain subject. Those users that are not connected to the system at the moment a message is created for them, will receive an **e-mail notification**. This greatly enhances the efficiency of information exchanges.

16.2. Business Benefits

- Supports good collaboration between users;
- Efficiency because of direct access to underlying element;
- No misunderstanding about the matter concerned;
- Full history of decisions taken.

16.3. Most important functions

- Creation of chat from main menu and pin link(s) to open screen(s) of choice;
- Pin conversation directly from within open screen;
- Select users based on name;
- Add screen capture of open screen and add annotations to it;
- Central list of all conversations in main menu;
- Automatic e-mail to non-connected users;
- Add hyperlinks of external information sources to the conversation.

17. Knowly

17.1. General Description

Besides the available default field help in Unit4 ERP, one can define Knowlies; these are used to store information, **knowledge, tips & tricks** regarding the use of a certain window. This can be done for personal use or to share with other Users. It is also possible to include a link to a different

environment (e.g. a document on Sharepoint), a video, etc. in the Knowly. Common examples of the use of Knowlies are related to internal policies on Expense notes, timesheets, etc.

17.2. Business Benefits

- Better quality of data by respecting internal procedures;
- Less corrective measures;
- Faster availability of information because directly available usage instructions.

17.3. Most important functions

- Create one or multiple Knowlies directly from within a screen;
- Highlight lightbulb icon when Knowly available;
- Text layout settings (bold, color,...);
- Add hyperlink to external sources.

18. Timelines

18.1. General Description

Timelines offer an engaging, graphical, single-screen, **timeline view of all date-related information** e.g. your team's absences, your Customer's invoice dates, your Project's milestones, your facilities inspection dates and so on – across all Unit4 ERP modules. You can choose a quick single-line overview of something specific, such as one Employee, or get a consolidated view of a set of Attributes, e.g. a Department or a team, and then zoom in on a single item in that view to get more info.

Timelines help to **analyze trends**, gain instant clarity and accelerate decision-making. Immediately you see a problem, you can use the collaboration and chat features available on the same screen to get the issue resolved.

18.2. Business Benefits

- Clear compact view of what is happening or happened;
- One overview of different date related information flows;
- Better control over certain risks and delays;
- Easy understanding of data and transactions that include dates.

18.3. Most important functions

- Flexible Timeline setup function;

- Single view Timelines combining several date related events for one object (e.g. related to a specific employee, supplier, customer,...);
- Multi view Timelines focusing on one type of date related event but for multiple objects (e.g. renewal dates of all contracts connected to suppliers);
- Zoom function from multi view to single view;
- Self-definable Information Browser templates as source for Timeline;
- Creation of a menu item to decide where to make Timeline available.

19. Data anonymization

19.1. General Description

The reason for implementing Data anonymization in Unit4 ERP has been the EU General Data Protection Regulation (GDPR). But protecting personal information is a topic that gets more and more attention overall.

Data anonymization is defined by a set of rules, used during the anonymization process to determine which items can be anonymized and how. The process starts with a proposal. Each anonymization proposal is based on a certain predefined setup code. Unit4 ERP includes four setups responsible for clearing master files known to hold personal information, and one setup responsible for clearing attributes maintained manually. Setup codes are part of the system configuration, delivered with the product, and cannot be modified from within Unit4 ERP. The master file setup codes available are :

- Employee related data
- Customer related data
- Supplier related data
- User data

19.2. Business Benefits

- Help make GDPR compliance less of an administrative burden
- Reduce the manual workload
- Mitigate the risks of forgetting to follow up on the data subject right
- Provide a generic framework to enable anonymization of any Unit4 ERP object

19.3. Most important functions

- Anonymization of a single data subject
- Anonymization of multiple data subjects
- 3 step anonymization process (select, maintain and confirm)
- Anonymization in one go
- Support partial anonymization and expire date on document/document types

20. Access Rights

20.1. General Description

Menu/functional access

The **first level of access** in Unit4 ERP determines the User access to **functions** like screens, processes, reports (NB: the second level of access in Unit4 ERP determines the access to data – see below under 'Data Control'). The most efficient way of managing this type of access is based on **Roles**. A User can combine multiple Roles within one legal entity. In that case the access rights will be the total of the different Roles.

Within this type of access, it is possible to define up to what extent access is granted. This is based on the 'CRUD' principle: Create, Read, Update, Delete. To maintain the access for each Role, screens are available that visualize the different menu items and functions in the same way as they are presented to the end Users.

The management of the access rights is done in a separate part of the application called 'System Administration', strictly reserved to users who have a very specific access setting within their User definition setting as shown below.

Data Control

A **second access level**, known as **data access**, controls that certain data elements like for instance certain GL Accounts, Cost centers, Projects or any other Attribute can only be selected by a limited number of Users. NB: the first access level controls the access to functions, see above under 'User access rights'.

To make this possible Unit4 ERP uses the flexible concept of 'Attributes and Relations' (Cfr. The ERP Functional Architecture). E.g. the Attribute 'Account' can be linked to the Attribute 'Role' to make 'investment Accounts' inaccessible for a User that is part of the sales Department, while somebody from the treasury Department can access it in the screen of general GL bookings.

This data access could also be used **differently in the different screens** of Unit4 ERP. Maybe the User of the sales Department Employee cannot use the investment Accounts in a sales invoice entry screen but he can see the Account in a P&L report (another function in the application).

Window options

Window options are the most granular level of defining access rights because they refer to fields and specific functions in the screens.

The system user can define Window options to configure the screens to the needs of User groups. Different versions of each screen (models) can be stored and distributed according to the Role.

Window options include a/o:

- Fields may be mandatory or optional;
- Fields may be hidden;
- Default values can be specified and fixed.

20.2. Business Benefits

- Good user experience by showing only those functions and fields that are needed;
- Protect data from being used or updated by unauthorized users;
- Being able to respect GDPR regulations;
- Efficient access management by applying roles;
- Data access easily maintained by connecting it to the Organizational Chart;
- Easy to retrieve the access of one user by doing user or role based search in the menu access settings screen.

20.3. Most important functions

- Menu access definition screen showing entire menu;
- Search function in definition screen to see all access of one specific user or role;
- Search function in definition screen to see which roles give access to a specific function;
- Access settings for menu items but also for APIs and mobile web apps;
- Data access definition based on roles;
- Data access definition based on structures (organizational chart)
- Window options to create different variants of access to screens linked to different roles.

21. Audit trail

21.1. General Description

Concerning the treatment and follow up of **transactions**, each entry is accompanied by a User and time stamp. When a transaction has gone through a Workflow, the system will store for each step in the flow the action taken, the time, the user involved and the comments entered.

The creation and amendments of **master data** can also be logged. To prevent that this logging would also be done for less important data elements (each logged modification makes the database grow), it is possible to exclude certain fields from being logged.

Via a dedicated screen in the system administration it is possible to do specific queries on an item like a supplier and a certain date interval but also to retrieve all changes applied by a specific user.

In combination with IntellAgent it is possible to generate alerts based on the logged changes.

21.2. Business Benefits

- Solid audit trail of applied changes;
- A full history of an item and everything it went through;

- Keep a better control over the system's data.

21.3. Most important functions

- Granular activation of the logging by checking Insert, Update, Delete;
- Capability to exclude logging of unimportant fields;
- Specific screen to query on changes per Company, user, item, date interval;
- Changes available in IntellAgent as events for alerts.

22. Planner

22.1. General Description

For managing budgeting and forecasting processes the most advanced solution of Unit4 is Unit4 FP&A (Financial Planning and Analytics). This solution supports the total budgeting process in a well-structured way and provides a graphical, intuitive user interface needed when it is necessary to collect the budgets from the different areas in the organization (a lot of the operational persons may not think in pure amounts). Unit4 FP&A budgeting dashboards can be integrated in Unit4 ERP to bring them close to the users and make it part of their daily job.

The ERP module Planner is a module that can store the budgetary transactions as created and updated in Unit4 FP&A. That way the budget and forecast transactions are directly available for all budget reporting and dynamic funds check functions like in Procurement.

The Planner module is based on the different core concepts of the ERP and as such can use all dimensions defined in the data model. But on top of that the module has the typical aspects of budget follow up. As such it is possible to support different types of budgets (Purchase, Income, HR related, Projects,...).

On top of the common functions the Planner module also provides a specific integration with the Project module to dynamically use the income and cost rates of resources and resource profiles when planning effort on a project.

Budget figures can also be uploaded from an Excel sheet using the Excelerator Postback function (cfr. Report Engine).

The integrated reporting tools allow to follow up on the budget consumption and IntellAgent can be used to define pro-active alerts when a budget is almost totally consumed.

The budget transactions can be submitted to workflow. This is mainly interesting when changes to budgets occur during the year.

22.2. Business Benefits

- The budget situation is clearly visible from within the ERP;
- The budget figures can play an active role in the procurement process (funds check);
- Budget follow up can become pro-active because the budget situation is automatically up to date and can be alerted;
- Budget can be flexible but in a controlled manner by applying workflow to changes;

- Also, simulation versions can be used to do comparison reporting, this gives a good understanding of a budget before finally approving it;
- Combined with the Unit4 FP&A solution the ERP delivers state of the art budgeting capabilities making the life of the budget owners much easier.

22.3. Most important functions

- Timeframes for budgeting based on periods (e.g. to have clear distinction between annual budgets and multi-annual budgets);
- Versions to group the budget transactions;
- Predefined prices per attribute per period for volume budgeting;
- Definable grid-based transaction screens;
- Calculation fields based on formula's;
- Reuse of cost and income rates maintained in the Project module;
- Automatic update of balance tables to do comparison reporting (cfr. Balance Tables);
- Integrated with the Document Archive to add documents to budget transactions;
- Integrated with the ERP Workflow to get a formal approval on budget transactions;

23. Configuration Manager

23.1. General Description

The purpose of configuration management is to control the movement of an applications configuration setup (i.e. from Test to Production). Configuration Manager is a stand-alone Unit4 product that is being developed for this purpose.

It supports four main use cases:

1. Copy new company configuration from Test to Live on a new implementation
2. Setting up a new company based on a Master company
3. Promoting new piece of setup from Test to Live (i.e. after an upgrade)
4. Synchronizing configuration in a multi company environment

This solution is based on a modern architecture that uses Rest APIs to retrieve the configuration from a source environment and insert or update it in a destination environment. That way the configuration is validated against the other settings in the destination environment to guarantee a consistently functioning application.

The coverage and scope of the solution as such depends on the availability of the APIs in the underlying application. At this moment Unit4 ERP delivers a partial availability of APIs mainly focusing on the aspects that require most time to be configured. The number of APIs will continue to grow with as objective to deliver the configuration of the entire application.

23.2. Business Benefits

- Reduction of configuration lead time;

- Lower cost and effort of new implementation;
- Better quality of the setup by reducing the risk of manual mistakes;
- Having a solution that is more in line with the changing business requirements (less delay).

23.3. Most important functions

- URL based connection to source and destination environments;
- Using Identity Services to respect the access rights of the user on all environments;
- Creation of templates to define which information needs to be retrieved from the source environment (filter capabilities);
- Creation of packages based on the templates. These packages contain the data that is transferred;
- Option to do changes to certain data in the packages;
- Deployments can be actively monitored;
- Creation of new company/entity when using it for deployment of new company;
- A home dashboard giving an overview of generated packages, and deployments with a direct access to the details behind;
- Statistics on packages and deployments like duration, number of entries,...;
- Select multiple companies/entities for one deployment;