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Oriana Platform Capabilities

v 7.0



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1 Overview

The traditional application development process requires a lot of money and trade-offs from customers, and even more time and resources from developers. Our goal is to reduce these.

With technology built on the Oriana Platform and our unique development methodology, it's faster, cheaper and easier than ever to build custom business applications. Application development can follow the same steps as custom development, but thanks to our methodology, development can be completed in half the time and at 50% less cost.

The Oriana Platform is a feature-rich, continuously evolving no-code, low-code platform that has been proven in a variety of business environments:

- Easily integrates with any IT system
- Operating system and vendor independent
- Allows application consolidation
- Scalable, allowing flexibility to adapt to the needs of companies of different sizes
- has a user-friendly interface
- flexible
- event and process driven approach
- a tested and operational system

There are three building blocks for rapid application development. With Oriana Studio, you can build applications without programming knowledge and without separate development tools. Oriana Blocks contains pre-defined, importable application parts. Oriana Engine provides the basis for inserting and linking application blocks and running them as a full-fledged application.

2 Oriana Engine

The core of the Oriana Platform is the Oriana Engine. All the services that it provides can be used as building blocks for both Oriana Studio and Oriana Blocks. It provides the interface elements for the application to be developed, links them to business objects, runs the business processes, provides data validation and visibility by providing various rules, provides the background for secure system operation and data auditability and last but not least, enables connectivity to other systems.

2.1 Interface elements

The design of the Engine has placed significant emphasis on supporting the user interface design, providing a number of options to enhance the user experience. Its flexibility allows the user interface to be easily adapted to the needs of the user, allowing the developed software to guide the user intuitively, thus helping them in his daily work.

The design of the user interfaces that the Engine can produce can be summarised in three simple steps: creating menus, defining screens for them, and then dividing the screens into panels. A wide range of building blocks are provided, which are described in detail in this chapter.

2.1.1 Menu system



The Platform provides a clear application structure by allowing the creation of a two-level menu system. The Minor Menu (MM) is the upper level, under which the screen names created under its items form the lower level. It is also possible to have a complete overview of the menu system by using

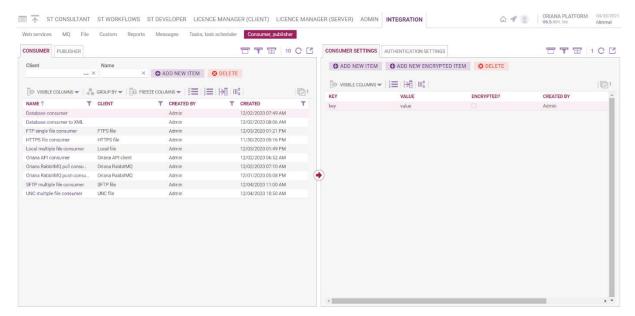
the Show all menus button on the left. Furthermore, the visibility of the menus and the screens they contain can be controlled. Of course, these menus can be configured according to different criteria, for example, based on the organisational structure or even on the tasks. The framework does not impose limits on different approaches.

2.1.2 Screens

Screens are the highest level display unit of the Platform, meaning that these component elements can be linked to menu items. They can be display pop-up windows and subcomponents representing data can be placed on them. The Platform thus ensures that additional screens can be opened from one screen without limiting their number.

The screens provide the possibility to:

- to divide the layout of the interface, to adjust its style and size, to control its visibility
- Link panels together



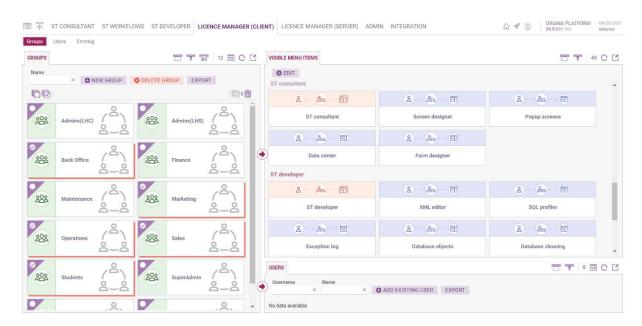
2.1.3 Panels

A screen can be divided into any number of panels. The panels contain, in effect, the display objects. Depending on the data you want to display, there are two ways of dividing the screen using panels.

Data-connected panels

Data-linked panels can be used to create master-detail screens. For the data item selected in the control panel, additional information and functions can be conveniently made available in the associated subpanel.

The sub-order of the data is indicated by an icon between the panels.



Independent panels

With independent panels, it is possible to organise data on the screen according to other criteria, for example to create Dashboards.



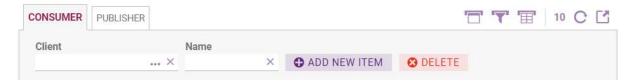
The following functions are available in the header of a panel and can also be customised:

- Close panel.
- Resize panel
- Refresh. Re-load data from the current screen.
- Change view (to card view, list view, etc..)
- Number of items currently displayed in the current view.
- Hide toolbar
- Hide filter panel
- Hide panel header

The initial, pre-set dimensions of panels can be easily changed during use by grabbing and dragging the line separating the panels.

They can also be parameterised to adjust the visibility and style of the displayed object, and to add help.

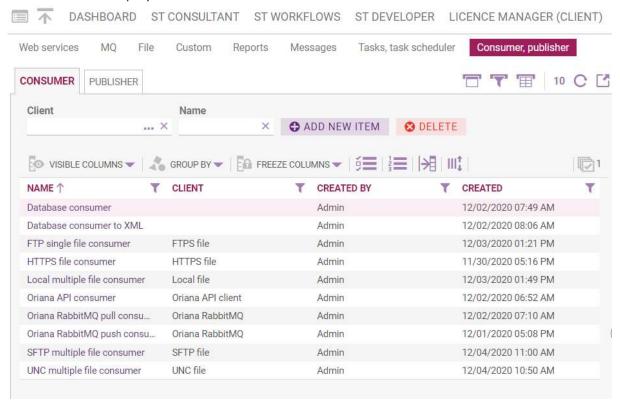
2.1.4 Tabs



Additional TABs can be added to panels, further extending the information display options on a screen.

If a panel contains multiple tabs, it is possible to switch between them using the tabs that appear at the top of the panel. The naming and ordering of the tabs is done at parameterisation time, as it is not practical to change them, so it is not provided at runtime.

2.1.5 Tabular display



The tabular viewer can be used to display reports or master data in bulk.

The following operation can be performed on the columns of the table:

- Sort (up to multi-level)
- Column hiding
- Column filtering
- Column visibility
- Grouping
- Fixing columns

- Reordering columns
- Resize columns
- Enable/Disable multiple selection
- Open merged columns

The view created with the above options can be saved by adding a quick link.

General table management operations:

- Export data
- Select multiple rows
- Keyboard navigation through rows,
- Edit cells, without validations
- Setting the number of rows to display
- Cell summary

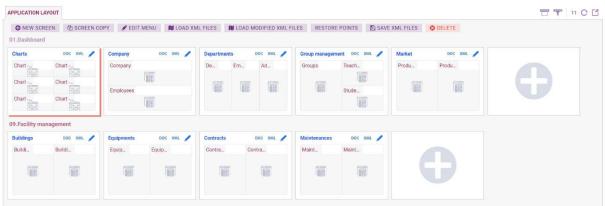
Advanced operations:

- Table with dynamic structure (number of columns equals number of days in the month)
- Assign a link to the contents of columns
- Bulk edit of several rows can be created
- Dynamic formatting of cells.

2.1.6 Card display

In addition to/ instead of a tabular display, it is possible to use a card view. In this case a row of the table is displayed on a card. On the cards, it is possible to place text, icons, images, links, and custom formatting (formatting that can be written in any HTML-CSS language). The card size may vary depending on the data content.





Features:

- Grouping.
- Sorting
- Sort by: Specify sort direction
- Enable multiple selection
- Select all items when multiple selection is enabled

2.1.7 Filters on tabular and card displays

On table and card displays, it is possible to place filter fields above the table or cards. The following types of filters are available:

- Free text field
- Drop-down list
- Value Selector Filter
- Date filter
- Time period filter
- Check box
- Tag cloud filter

In the case of a drop-down list, it is possible to select multiple values. Then there is a OR relationship between the selected values, which means that if one of the selected values is already true for the item, it will be displayed. The check box can have three positions: yes, no, whatever.

For free text filters, you can set whether to search in the text, for a match at the beginning of the text or for a full match. The filters are case insensitive. There is an AND relationship between the filters, so if you set more than one filter value, the items that are listed are those for which all the set conditions are true.

It is possible to tag data (objects) and then filter on them. The tags created form a tag cloud. Tags can be defined by parameterisation or edited by the user.

2.1.8 Sectional view

A view similar to the card view, where data can only be displayed in the order in which they are sorted. Each row of data is displayed continuously on the screen, one below the other, without spacing. The sectional view can be used to generate an HTML-like page from the data.

2.1.9 Tree view

A tree view is a type of card view where data is displayed in a tree structure, an example is a flowchart.

2.1.10 Embedded HTML (embedded web-display) display

A display for displaying HTML-based content (emails or templates, external links to other websites).



2.1.11 Graphs, reports, dashboards

The graphs displayer allows the creation of graphs from data stored in the application, using the HighCharts plug-in. Multiple graphs can be displayed on one screen by creating multiple panels.

Graph types:

- Column
- Stacked column
- Bar
- Line
- Pie chart
- Spider web
- Ray chart
- Area diagram
- Gauge

It is also possible to create a graph with two value axes (Y axis), so you can create a combined graph.

The size of the graphs depends on the number of data to be displayed and the length of the explanatory text.

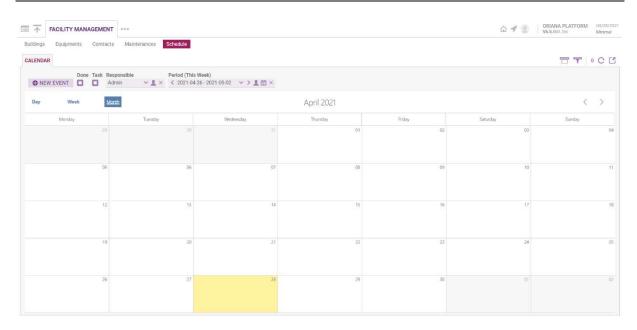
The displayed graph can be saved in JPEG, PNG, PDF and SVG formats.



Tables and graphs can be used to create dashboard screens where data can be filtered. Using the toolbar described so far, it is possible to display data in more detail by setting parameters. For example, clicking on an element of a bar chart will bring up a tabular display showing the source data for that element, which is the basis for the chart.

2.1.12 Calendar display

The calendar type viewer is used to manage the Events/Events in the application, i.e. it is possible to create a new event, move events and change their duration. Events can overlap, i.e. several events can run at the same time. Each event can be displayed with a bound colour scheme and event start, end and description data. You can choose between daily, weekly, monthly layouts.



2.1.13 Timeline display

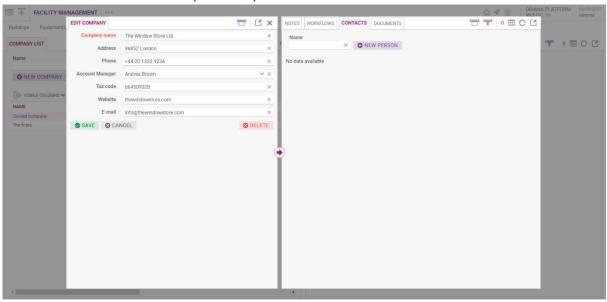
With the timeline display, events can be plotted on a timeline. In the timeline display, an instance of a particular object type can be displayed in a line, so it is used to compare the life cycle of the same objects. For example, projects can be displayed below each other according to their start and end dates. It is possible to colour the different entries according to the attribute of the record (e.g. status). Different texts can be displayed on the bars, which can even be attributes of the record.

The interface allows editing of each displayed item. For example, by clicking on an item, you can change its attribute or display a form, even delete it. It has all the features of a spreadsheet viewer.

It can be extended by adding a secondary axis, which does not change the position of the displayed records, but makes the displayed elements interpretable in another dimension. Colour coding can also be applied to values in the dimension of the timeline (e.g. certain days are highlighted in red because of holidays). With custom enhancements, it is possible to drag&drop items across the interface, change the length of intervals or move items to another row.

The time unit of the time interval can be specified by parameterisation, depending on the time interval overview required. The smaller the time unit displayed, the more detailed the data can be displayed.

2.1.14 Maintenance screens (Editform)



Maintenance screens are used to record data for a new element (object), view data for an existing element, or modify and delete data within a panel. The Oriana Platform provides the following predefined input fields and action buttons for editing forms:

- Text field
- Masked text field
- Drop-down list
- Multi-line text field
- Rich text editor (component capable of generating formatted text)
- Value selector field
- Date selector field
- File upload field
- Fieldset component
- Checkbox
- Save, Delete, Cancel action buttons

2.1.15 Inner Component

Data manipulation interfaces (Editform) can be completed with inner components. These subcomponents can contain everything that can be placed on a tab of a panel.

2.1.16 Action buttons

Action buttons can be used to perform the following functions: save, save again, delete, file export, any predefined database operation (call stored procedure), custom program code (call DLL e.g. webservice call).

Action buttons can be placed in the following places: in the control (filter) bar of the data viewer, on the edit form, on the card.

2.1.17 Button dropdown list

By grouping action buttons, screen space can be saved by having them in a drop-down list. As a result, the user can work with an optimised user interface with a clear layout.

2.1.18 Quick link

A built-in feature of the Oriana Platform is the management of quick links. Such quick links can be created by any user. Quick links are previously saved screens that can be accessed from the menu with a single click. It will also load the contents of the settings (filters, sorting, column visibility, size, order) associated with the saved screen, which were set before the moment of saving.

2.1.19 Notifications

The Oriana Platform provides the possibility to manage and display notifications. Notifications are retrieved by the system every minute. A number next to the notification icon indicates unread notifications. Clicking on this icon displays the Notifications window where you can view the notifications.

2.2 Elements serving the user interface

2.2.1 Business objects

Business objects are used to implement the functions listed below. In the Oriana Platform system, it is possible to perpetuate/derive objects according to the object-oriented approach. This means that it is possible to extend the properties and behaviour of a business object by inheritance.

Feasible features:

- Define data
- Setting inheritance
- Manage relationships/relationships
- Definition of virtual fields
- Defining states and state transitions of business processes.
- Data validation
- Set/enforce permissions
- Perform extra operations
- · Automatic task completion reporting
- Asynchronous execution for system tasks

2.2.2 Processes

Provides support for modelling business processes and their parameterisation.

Each business process is usually a representation of a real business process, which can be used to control and monitor manual activities. Each step can also communicate with each other within the system, facilitating the flow of documents and data between workstations.

Each process has a start and an end state, where the process goes and where it reaches in its lifecycle, following a pre-programmed logic through the different stages.

In the Oriana Platform, the parameterisation and modelling of processes is based on state transitions and the start and end states of processes.

The object that connects the processes is called the Workflow object, which is a representation of the business process. Each state is managed by the Event object and its descendants. A process step (WorkflowStep) corresponds to an event in the system. The state transitions can be parameterized using the so-called Triggers configured in each business object.

Sub-processes can be defined, which can be used in another process in any number of places. Sub-processes have exit and entry points, which must be connected to the main process accordingly.

A process has its own type (which must be selected before the process is started and cannot be modified) and according to its type it is possible to define custom fields, attach additional participants, comments, documents or custom additional tables. The user-defined values of the fields associated with a task may determine the task(s) that will be created after that task. Additional participants, comments, documents or additional tables can be attached to the tasks. Any other data - stored in a linked table - can be displayed on the right side of the process step form. To deviate from this is a custom development.

The person in charge of a task can be a specific person, a person defined by some business logic (e.g. above a threshold the approval is done by the top manager, below it by the middle manager), a person defined by a succession method (e.g. the same person who did the previous task) or a group. In the case of a group, the persons in the group all see the task and one of them can take it on as his/her own.

There is no limitation in principle on the number of items, branches, cyclicity (reversal of the process to a given point) of task generation, however there are some features that require custom development/parameterisation. Examples of such features are automatic, timed advancement of tasks, or advancement under the influence of an external system. A process can be started manually. Automatic start requires custom development.

It is also possible to define a system task (i.e. a non-human task) during the execution of a process. This means that an operation/sequence of operations can be run without human intervention.

System task types:

- Send Email: Send Email message
- Database operation: run a stored procedure
- Code execution: running custom .NET code
- RPA task: run RPA (Robotic Process Automation)
- Web service: call an external web service

2.2.3 Document management

With the DocumentTextBox control, it is possible to insert files. After selection, the program uploads the file to a temporary directory on the server. Depending on the version tracking setting, a window will appear asking the user if the document just uploaded will be the new version of the previous one (this mechanism can be disabled). After pressing the Save button, the framework will rename and copy the file to its final location.

The method of naming the created document instances and their final location in the folder structure can be set per document type.

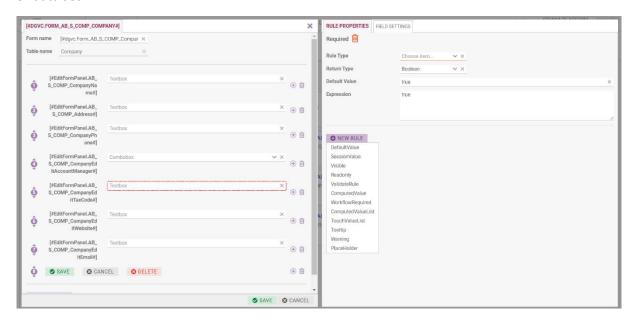
It is also possible to configure that multiple documents can be uploaded via one document upload field. In this case, the files to be uploaded will appear below each other under the input field. Inappropriate files (above size limit or inappropriate format) will not be uploaded with a warning.

You can also set the maximum size and type of file to upload.

2.2.4 Rules

Rules (RuleValueTypes) are actually mini algorithms for evaluating a variable expression. They are the value calculated from the data of an existing object in the appropriate way, which can be defined by specifying rules.

It is common, for example, to have to display or hide something in the system depending on the current user group, or to check the data fill in the workflow, or to decide whether it is allowed to modify a data or data set.



These tasks can be solved by defining a rule. The rules most often return a true or false value when they are evaluated, but it is also possible to calculate other data types depending on the application.

Three types of rules are handled:

- Constant: a fixed, constant value is specified
- Simple: an arbitrary JavaScript type of evaluation
- SQL: an arbitrary SQL statement

The return value of a rule can be one of the following:

- Logical (boolean)
- Integer (int)
- Floating point number (float)
- Text (string)
- Date (datetime)

Different references can be used in rules depending on the context, for example:

- · A form can refer to the value of another field
- You can use the unique identifier of the logged in user
- In a filter field, the value of the incoming filter

The following types of rules can be assigned to each object in the Platform system for editing data, visibility, controlling the operation of processes, displaying messages:

- Visible rule
- Readonly rule
- Required rule
- WorkflowRequired mandatory rule to move the process forward
- DefaultValue rule

- SessionValue rule
- ComputedValue rule
- ComputedValueList rule
- Placeholder rule for filling empty spaces
- ValidateRule rule
- Condition rule to continue processes
- Tootip rule
- Warning rule

2.2.5 ProcessResultSet (PRS)

Represents an arbitrary operation performed on data taken from a table, filters incoming and outgoing to and from the component, and the values of the filter `ControlPanel Controls` and the base `UserSession` data. The operations can be defined in a SQL stored procedure and can be triggered using controls with PRS settings.

2.2.6 DocumentTemplateHandler

The DocumentTemplateHandler - or DTH for short - is the document template filler module built into the system. It replaces the specified references in .doc or .docx files with specific values. Its use can be implemented by stored procedure development.

A document with the extension DOC, DOCX is based on a text file (template) created in MS Word and formatted as desired, containing placeholder tags. These placeholders are replaced by the Engine with the concrete values during the generation of the document. Active-X controls (e.g. checkboxes) in a Word template cannot be handled.

In addition to the insertion method, it is also possible to insert a dynamically generated table into the document. In this case the table consists of a header table and a content table. There is no possibility to change the number of columns of the generated tables or the number of tables dynamically depending on the amount of data.

These methods cannot be mixed, i.e. a placeholder can be replaced either by a table or by text data.

The dynamic addition of attachments, images, additional material to a document can only be solved by custom development.

Conditional insertion and dynamic (during generation) formatting of text sections, lists and bulleted lists is not possible.

The format of the generated document can be DOC, DOCX, RTF or PDF (PPTX and XLSX with custom development). The save location can be a location available to the Engine for file management and can be dynamically changed.

2.3 Virus detection

The system may use the ClamAV antivirus engine for detecting trojans, malware, viruses and other malicious threats. The function can be enabled and configured in the web.config file (antivirus server address, port).

2.4 Language settings

In the Oriana Platform it is possible to select the display languages on the login screen. Currently English and Hungarian are available, but these can be further extended by adding the appropriate language files and database. The system supports Unicode character encoding, so it can be implemented in any language environment.

In the system, all labels displayed on the screen can also be set from a database. All displayed labels are static values specified in the definition XML files or dynamic values from the database.

2.5 LicenseHandlerServer (LHS)

The License Handler Server (LHS) enables centralized unified management of licenses and users in an enterprise environment.

- Loading, listing, automatic merging of licenses
- · Centralised registration of users
- Share licenses between multiple application instances
- Administration of application instances
- Interface to directory services
- License audit support
- Import licenses
- LHS level error log
- Audit log

The management of privileges is done as follows:

- licence-based user access
- user group membership
- user access to use application instance(s)

An authentication setting can be assigned to each application instance, which can be one of the following

- Basic
- BasicWithoutLongSession
- Guest
- GuestWithBasic
- GuestWithBasicWithoutLongSession
- GuestWithLDAP
- GuestWithLDAPWithoutLongSession
- LDAP
- LDAPWithoutLongSession
- SSO
- SSOWithSAML2
- AzureAD

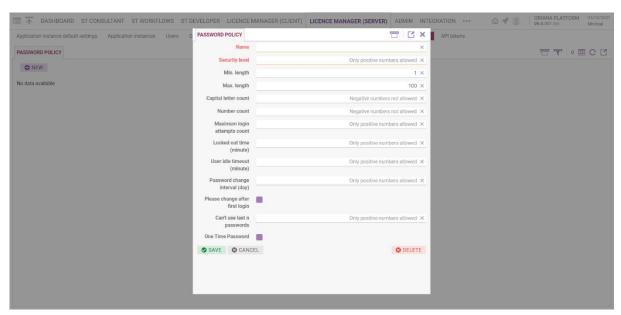
2.5.1 Password policy

An application instance or group-wide password policy profile can be created.

The following options define a profile:

- Security level: value is an integer, mandatory (for higher values, higher security level)
- Minimum password length: number (default: 1)
- Maximum password length
- Minimum number of capital letters
- Minimum number of digits
- Maximum number of attempts to enter
- Banning time (minutes)
- Inactive time (minutes)
- Password change interval (days)
- Whether password needs to be changed after first login
- Last n passwords cannot be re-entered

The Engine also provides a one-time password application, which can be set to enable or disable two-factor authentication; upon login, after entering the username and password, the system sends an email to the user's email address containing a code string. This code string must be entered in the second step. After entering the correct code, the user will be logged in.



Multiple password policy profiles can be created in the system. Accordingly, different profiles can be set for different groups or application instances.

In case a user is subject to more than one password policy profile (because he/she is in more than one group or has access to more than one application instance), he/she will be subject to the highest password policy profile security level.

2.6 EffectorServerToolService (ESTS)

The Windows service EffectorServerToolService is used to perform scheduled tasks. The service starts the jobs at the configured time and collects information about their running. A scheduled job can be:

logic written in code (DLL) (in this case the IEVIServerTool interface must be implemented)

SQL statement

Several ESTS services can run at the same time (load balance)

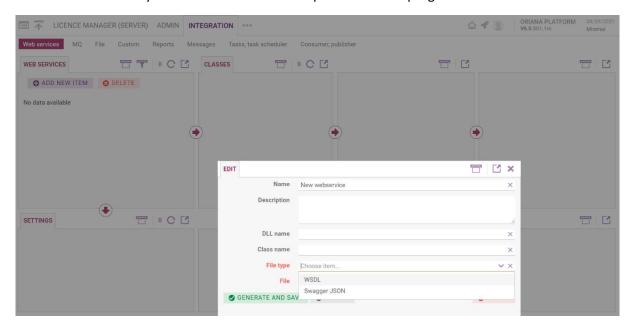
2.7 EffectorIntegrationService (EIS)

The Windows service EffectorIntegrationService manages the scheduling of integration tasks and handles message exchanges according to the settings. It enables the installed platform to communicate with other systems through different standards-based channels.

It can be deployed in multiple instances connected to the same database, so that task execution can be distributed. Each instance must be given a unique name, and the interface can use this information to assign a task group to a specific instance.

The program can be run as a standalone service without installation.

It is possible to receive and send messages of the types listed below, and in addition to exchanging data between the platform and external systems, it can also be used to transfer data between channels to different external systems. Parameterisation is provided in the program interface.



The available channel types are:

Web services (Integration\Web services)

- SOAP: Uploading a WSDL file is possible via the Platform interface
- REST: Swagger file uploading possible from the Platform interface

MQ (Integration\MQ)

rabbitmq

File (Integration\File)

- unc
- http
- https
- ftp
- sftp

local

Custom (Integration\Custom)

• The Oriana Platform also provides custom integration by inviting dll

2.7.1 Logging

Log messages generated during runtime are stored partly in the file system and partly in the database.

Logging settings can be specified in the EffectorIntegrationService.exe.config file as described in the NLog documentation (https://github.com/nlog/nlog/wiki).

2.8 WebAPI

The Oriana Engine provides the possibility to query, create, modify, delete business objects managed by the Oriana platform in a standard, controlled and logged way using almost any programming language. This includes, of course, the objects of the workflow engine, e.g. Event, Project, etc.) WebAPI is based on the state-of-the-art OData (Open Data Protocol) v4 standard. The OData endpoint of the application is accessible via the "/api" path of the installed web application.

The communication is done using JSON format requests specified in the URL and in the request body. The response, if any, is always in JSON format (with application/json Content-Type).

The OpenAPI 2.0 (Swagger), JSON descriptor document is available after logging into the application or WebAPI via the /swagger/docs/v1 path of the Oriana Platform installed web application.

To use WebAPI functions, authentication is required first. Subsequently, a session cookie and Bearer authentication token information in the header must be sent for operations. If the Bearer token expires during use, a new one can be requested (using RefreshAccessToken()).

The following services are available with WebAPI:

- Query business object structure: query fields to be populated with values on save
- Query BusinessObject by type and identifier: each record that has a corresponding BusinessObject XML file can be retrieved from the database by knowing the corresponding key.
- Each Business Object can be queried by entering the required data from any database.
- Insert new business object (HTTP POST)
- Delete a business object (HTTP DELETE)
- Search for business objects

2.9 Encryption

2.9.1 Password Encryption

When storing passwords, the Oriana Engine stores the hash sum of the original password using salt. To generate the hash, it uses the SHA-512 algorithm, the salt size varies between 4 and 8 bytes.

When setting up the database connection, some parameters of the connection can be encrypted. For encryption, the AES algorithm is used.

The Engine is able to store the value of certain fields in the database in encrypted form (data recorded on the interface), or it can be configured to store only the hash sum.

Encryption algorithms can be configured:

AES

- DES
- TripleDES

Configurable hash algorithms:

- SHA-512 + salt
- SHA-384 + salt
- SHA-256 + salt
- SHA-1 + salt
- MD5 + salt

Configurable hash iteration.

2.9.2 Parameterised data encryption

You can configure parameterization to store text data in encrypted form. Both encrypted and decrypted values can be viewed and edited in the user interface.

Its use may affect the performance of the system and may not be used in conjunction with other functions (custom SQL solutions, PRS, SQL based rules, Combobox).

2.10 Email sending

Oriana Engine provides an e-mail sending service via SMTP servers. The number of SMTP servers that can be configured is not limited. Which SMTP server sends the emails depends on the business logic.

Templates, template labels

Email templates are used to send emails that contain infrequently changing information. You can write the message, save it as a template, and then reuse this template when you need it.

Template tags allow you to insert variable values into the body and subject of the message.

Scheduling

You can set a timer to send emails to the specified recipients based on previously saved templates, at the set times, overwriting the template label fields with specific values.

3 Oriana Data Model

The Oriana Data Model (ODM) provides a general framework for storing basic data such as

- the basic data of the enterprise structure,
- partner data,
- addresses,
- invoices,
- and contract data.

The application built on the data model can be implemented in several ways, it is not necessary to use all the elements of the data set in a given Oriana application.

3.1 Unique identifier generation

In the development of an application, it may be necessary to generate unique identifiers for different entities in numerous cases. By unique identifier, we now mean a combination of a prefix or suffix of a

sequence number and a letter of a given length, used to identify an object according to business logic (e.g., an invoice number). Starting with version 7.00, the Oriana Platform provides a built-in solution for generating such identifiers.

3.2 Master Data Manager

As a basic functionality of the system, the management of corporate structure and people data is also available, based on the Oriana data model, which allows the hierarchical structure of a multi-company organisation to be mapped into the system.

The persons recorded in the company's organisational units can be converted into users of the system, even afterwards. This allows information about a user's job titles to be used in the development of applications.

3.3 Company Level Security support

The Oriana Platform version 7.00 allows the development of applications in which data sets can be segregated by company depending on user privileges. Typically, a useful feature for applications where the structure of the organization using the Oriana App is composed of several companies and these companies use the same functionality of the developed software.

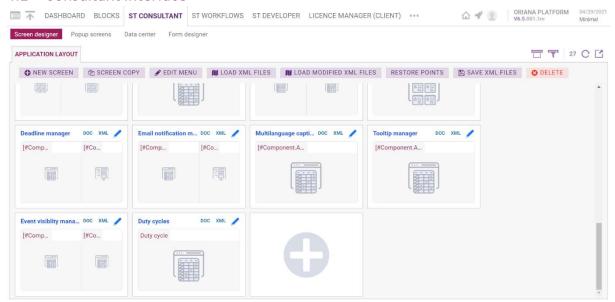
4 Oriana Studio

The Developer type license allows the use of Oriana Studio, which supports the efficient, rapid development of platform-based applications or even the prototyping of systems and processes without development knowledge.

Logged-in users have their own separate workspace when using the Studio. For each component created, XML files are generated and their contents are stored in the database. The screens generated can be tested immediately after writing the XML files to the file system. The Studio interface provides action buttons to perform the read and write operations on these files.

It is also possible to define reset points: if the current state is saved before a task is performed, it is possible to restore to a previous state after any erroneous changes have been made, as if the changes had never been made. The undo applies to changes made to XML files in the file system. The number of rollback points is not limited.

4.1 Consultant interface



In the consultancy interface, even with consultancy knowledge, a prototype application (mock-up) can be created and presented to customers. The prototype can then be used as a basis for the development of the final system.

The functions of the consultancy interface follow the steps of a typical application development:

- Decomposition of the application logic into (main) menu items and screens within them.
- Importing data from Excel files, with the possibility to set relationships between data sets.
- Setting up the internal information content of screens by reusing existing elements from Excel
 files, application blocks, taking advantage of the rich display options: graphs, tables,
 information cards, documents, processes.
- Insert complete application blocks to add complex interfaces and functions to the system with the click of a button.
- Editing forms with drag&drop support.
- Menu editing with drag&drop support.

By following the steps, prototype interfaces can be set up very quickly to finalise different application concepts with the customer, before the actual development work starts.

4.1.1 Screen design interface

The screen design interface is used to design the structural design of the application under development, i.e. the main menu items, their associated screens and the content on the screens.

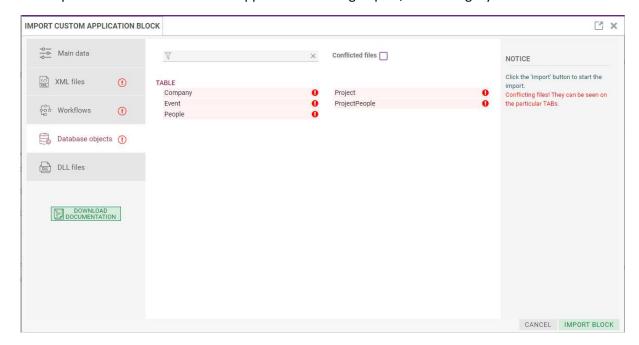
The following operations can be performed:

- creating a new screen, edit an existing screen
- screen and its all elements (application block) importing, exporting
- adding help to a tab on a panel of a screen
- copying a screen
- deleting a screen
- editing a menu
- importing XML files into database
- managing restore points

- saving XML files, publishing to file system
- moving screen to another main menu
- defining pop-up windows
- generating a specification sheet for the resulting screen

It is possible to select and create a new (blank) screen based on several predefined layouts, and it is also possible to import ready-made application blocks (Oriana Blocks), thus providing a pre-designed screen with ready-to-use functions.

A noteworthy feature of the software system is that application blocks created with the interface are portable between different Oriana Platform systems, as Studio provides the possibility to fully export and import the created screen-level applications. During import, block integrity is also checked.



When defining a new screen, you can specify the name of the desired screen, panel, tab, where it should be located in the menu system (under which main menu, what should be the order of the displayed screens).

There are several ways to create a display on a screen:

- based on an existing database table
- by defining a new database table (fields + their types)
- based on an existing stored procedure
- based on an arbitrary SQL query

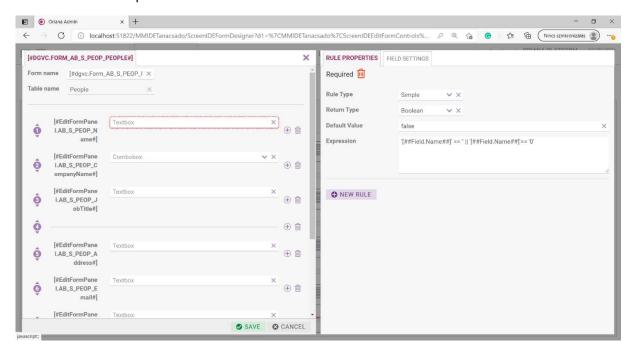
A screen can also be created based on an excel file. Each worksheet in the imported excel file can be mapped to a screen in the system. An edit form is automatically created for them, which can be used to modify, delete or add new values to existing data. When importing, the system tries to find out what type of data is in a particular column in excel and creates a corresponding type of data field for it in the database, and an edit screen is created for it. Each column can be converted into a list of items, in which case the values for that field can be selected from a drop-down list on the editor screen.

On the resulting display, it is possible to change the order of the displayed columns, display/hide them, define filter fields (to filter the data to be displayed, currently drop-down list and value picker list filters are not supported), action buttons (e.g. export, delete, bulk data processing).

4.1.2 Form Designer

Interface for designing editing and maintenance screens. The following types of input fields, controls can be added to a form:

- check box
- query list
- drop-down list
- horizontal line
- labels
- buttons: save, delete, cancel, other action button
- text box
- date
- date+time
- document upload box



Database fields of the type corresponding to the selected input field will be created. Different rules can be associated with each input field or field group:

- Mandatory (Required)
- Default (DefaultValue)
- a value that can be linked to the session, e.g. the logged in user ID (SessionValue)
- Visibility (Visible)
- editable (Readonly)
- Validate (ValidateRule)
- calculated value (ComputedValue)
- value before saving (ValueBeforeSave)
- mandatory for process to proceed (WorkflowRequired)
- optional items (TouchValueList)
- text bubble (Tooltip)
- warning (Warning)
- placeholder (Placeholder)

• drop-down list dynamic value set (ComputedValueList; used for SQL-based value sets lists, the rule can be used to specify a filter in the where part of an sql sentence)

Rules can be defined from completely simple to very complex (be it Javascript or SQL type evaluation).

Input fields can be added, deleted and their order can be changed by drag&drop.

4.2 Developer interface

In the developer interface it is possible to edit XML files using the built-in XML editor. The development is facilitated by XSD, so that context-dependent XML nodes are automatically offered by the editor, and XML validation is performed at the click of a button.

With the built-in SQL Profiler, it is possible to trace back when which database operation was executed through the system and how long it took to run.

An error log in the interface allows you to view errors generated in the system, by searching by interval and reference number.

The database objects screen shows the definition of each database object, and in the case of a table, its contents.

The database can be cleaned through the interface, which is used to delete database objects that are not in use. These can be placed in the repository and, after proper checking, can be deleted permanently. The XML cleaner works in a similar way, but only XML files are checked. If there are no references to them, they can also be placed in the repository and then permanently deleted after appropriate checks.

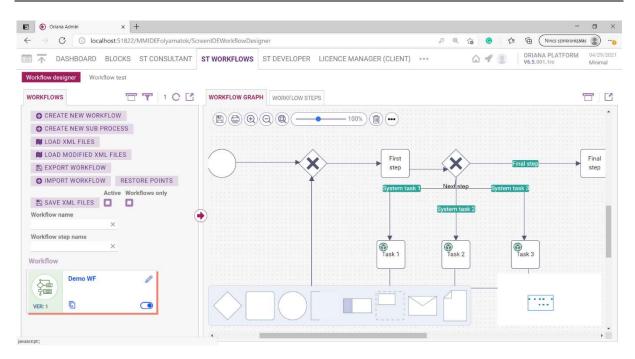
The skin designer allows you to modify the displayed user interface, export/import, activate/deactivate existing skins.

The Oriana Platform icon set can be freely used on card displays and action buttons, which are also listed in the developer interface.

The description of the Oriana WebAPI is also available in this menu, and you can also try out the functionality and download the OpenAPI (Swagger) documentation. (For more information on the API, see the WebAPI section of this document.)

4.3 Process designer interface

An interface for creating, modifying and managing workflows and sub-workflows, providing the possibility to visualise and edit them. The process designer, based on the BPMN standard, allows you to create processes and sub-processes efficiently and quickly. Metadata can be added to the created processes, by default the technical name, version number, creator and creation date of the process are added, these cannot be deleted, but metadata added later can be modified or deleted.



4.3.1 Overview of functions

- Process, sub-process creation
- Process, sub-process copy
- Delete process, sub-process
- Process version tracking
- Update subprocess instances based on the subprocess template in all occurrences (if the subprocess has been included in a (sub)process by instantiation)
- Process export: XML files and database scripts for the process are included in an encrypted export file
- Process import (the same process cannot be imported into the same system)

4.3.2 Editing elements of the process

- Event (start, end): process start, end
- Activity: process steps
- Gateway: gateway, decision point
- Annotation: annotation for the given object
- Pool (swimlanes): grouping of tasks (e.g. by roles)
- Group: logical grouping (graphical element, e.g. phases)
- Message: graphical element, without functionality
- Data object: graphical element, without functionality

A process step can be a simple step, a sub-process, or a system task.

A simple step is the definition of a form. On this form, different input fields can be placed (quite similar to the way described in the editing the form section), rules can be defined, database table name, field name can be specified. It is possible to specify who should be the person(s) responsible for a given step, to which role user the task should be assigned.

In the preconditions of the process step, you can specify the conditions under which the current step is to be created from the initiating step.

In the case of a sub-process, you can specify which process it should be part of, and how it should be included in the process: by instantiation or by reference. In the case of copying, a copy of each step of the indented sub-process is created and this copy is incorporated into the indenting process. In this case, if a step in the inlined sub-process is modified, it has no effect on the original sub-process template or any other sub-process that is copied. Likewise, if the original subprocess template is modified after the instantiation, it will have no effect on the already instantiated subprocesses. In the case of incorporation by reference, the steps of the original sub-process are not instantiated, i.e. if a change is made to the original sub-process template, it will affect all instances to which it was added by reference.

Sub-processes can also be started ad-hoc (e.g. in a pre-parameterised "Process Overview" screen) without being incorporated into any process.

For a system task, the following types are supported:

- Email sending: sends an email message
- Database operation: runs a stored procedure
- Code execution: runs custom .NET code
- RPA task: runs RPA (robotic process automation)
- Web service: calls an external web service

The email is sent based on a specified email profile. This template contains the messages and the recipient (+ copy recipient, secret copy recipient); for the process step, this can be the person or role responsible for the previous step or the creator of the process. The subject of the email can be specified, and the message body itself, which can use the process name, recipient name, recipient email address, process step name and current date as template parameters.

If a database operation is selected, the specified stored procedure will be executed. It is possible to pass additional data to the stored procedure in the form of key-value pairs.

When choosing code execution, a path to a DLL implementing the ISystemTask Engine interface is expected.

In the case of an RPA task (similar to code execution), the parameters of a DLL must be specified: path, class name. Additional parameters can be passed to the class to be run in the form of key-value pairs.

In case of web service selection, WSDL (+ XSD) or client code generated from Swagger JSON source can be used to set the appropriate parameters for the external web service call: method name, parameters, authentication settings, post-success/failure operations. For each parameter, different parameter templates can be used: current date, logged in user ID, system task ID, type, previous step ID, type, previous step result (if it was a webservice call).

4.3.3 Gateways, decision points

Decision points can be created in a process by adding gateways. The fields that can be assigned to a gateway (fields that display filtered values from the selector fields defined in the step) are selected from a drop-down list. Selecting one of them will display as many outputs of the gateway as the number of possible values of the selected field. When another item is selected, the previous outputs are cleared.

Exclude or and parallel branching may be implemented. It is also possible to make each branch run in turn.

4.3.4 Rules for process organisation

The following process organization rules are tested by the Platform and a warning message is displayed if they are not fulfilled.

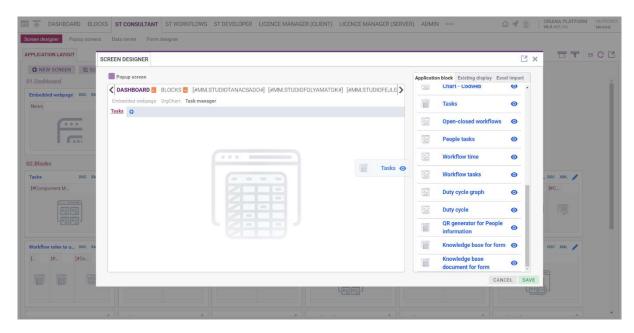
- Start must not have an incoming branch
- Stop must not have an outgoing branch
- No direct connection from gateway to stop
- Only 1 path is possible between two gateways
- Maximum 1 Pool can be assigned to a process
- Only one arrow can be drawn from an Activity (unless it is a subprocess)
- Only one arrow can be drawn into an Activity
- Activity name cannot be empty
- A technical step between a convergent branch and a step addressed to a group or several persons is mandatory
- Subprocess can only be connected to the same gateway via 1 route
- When selecting a sub-process, it is mandatory to select one
- In the case of an instantiated sub-process (dragged into a process), its entry and exit points cannot be changed, i.e. when editing an instance of a sub-process, the start and end points cannot be reassigned to other step(s)
- If a sub-process, which is incorporated by reference, closes the process, a technical step must be inserted between the sub-process and the end state

5 Oriana blocks

Application development can be further simplified by using Oriana Blocks prefabricated elements, which can be used to create either a final software or to add extra functionality to an existing Oriana Platform application. Depending on the integration of existing blocks, a distinction is made between blocks that can be integrated at panel level and blocks that can be integrated at screen level. These are described in the following chapter.

5.1 Panel level blocks

Panel-level blocks can be imported under existing screens in the Oriana Studio advisor interface. Importing is done with a simple Drog&Drop gesture.



5.1.1 Postal codes

The names of the municipalities of Hungary and their postal codes are imported into the system.

The application block provides the following options:

- Filter by the fields displayed (name, postal code)
- Enter the details of the municipality (name, postal code)
- Delete municipality
- Edit settlement

Postal codes are unique values, so they can only be entered once in the system, the field is mandatory. The other data are not restricted.

5.1.2 Counties

The module allows the management of counties.

The application block provides the following options:

- Add county
- Modify or delete existing county data

5.1.3 Cycle time

The block shows statistics about the processes in the application.

It displays the average time taken to complete each process step in a tabular format.

It can be filtered by process as well as by period.

5.1.4 Cycle time graph

This block shows statistics about the processes in the application.

It displays the average time taken to complete each process step in graphical form.

It can be filtered by process and by time period.

5.1.5 User data

The application block provides the following options

- Modify users' data
- Filter users by name

5.1.6 Responsible

The module allows the assignment of individuals to processes. It can only be used after importing the Assign process roles to users screen level block, or implemented next to a screen that provides the project object type.

The application block provides the following options:

- Assign new people and roles to a new or existing process.
- Edit existing assignments.

5.1.7 QR generator for People data

The module generates a QR code containing the data of the selected person.

5.1.8 Documents

Displays the uploaded documents according to the project, person, event or company to which the document is assigned. The group will be selected by the panel to which the block is assigned.

The application block provides the following options:

- Search and filter documents
- Find and search documents
- To add a new document
- Add new document New document
- Edit a document
- Download a document

5.1.9 Notifications

This module allows you to manage notifications.

The application block provides the following options:

- Create new notification
- View existing notifications

The IsNotificationEnabled option can be used to enable this feature, in the Profile XML file.

5.1.10 Notification types

The module allows you to manage notification types.

The application block provides the following options:

- Create a new notification type
- Create new notification types.

5.1.11 Knowledge base for document form

A block can be inserted next to a process step editing form to show the document from the knowledge base that has been recorded for that step.

5.1.12 For knowledge base document form

A block that can be inserted next to the process step editor form to show the information from the knowledge base recorded for the given step.

5.1.13 Open/Closed processes

This block shows statistics about the processes in the application on a chart.

A process is considered closed if it has no open steps. The creation time of a process is the time when the Project was created, and the completion time is the completion time of its last completed step (DoneDate).

It shows, on a weekly basis, how many processes have been started and finished in a given week. It is possible to filter by process or by different predefined (day, week, month, quarter, year) and arbitrary periods.

5.1.14 Tasks

The module displays on a card view the events and tasks associated with the data on the other side of the screen. The block requires one of the following incoming filters: Project_ID, People_ID, Company_ID

The application block provides the following options:

- Filter events by Responsible, Description and Period or Status.
- Event creation, editing.
- Filtering by event status, by event type, by description, by time, by description, by type, by description, by type, by type, by time or by description, by type of event.

When editing, you can attach comments or upload documents to the event.

5.1.15 Process time

This block shows statistics about the processes in the application on a chart.

A process is considered closed if it has no open steps. The creation time of a process is the time when the Project was created, and the completion time is the time when the last completed step of the process was finished (DoneDate).

It shows, on a weekly basis, the average time elapsed between the creation and completion of the process. It can be filtered by different predefined (day, week, month, quarter, year) and arbitrary time periods.

5.1.16 Workflow tasks

This block shows statistics about the processes in the application on a chart.

It shows the number of open processes for each process step. It is possible to filter by processes.

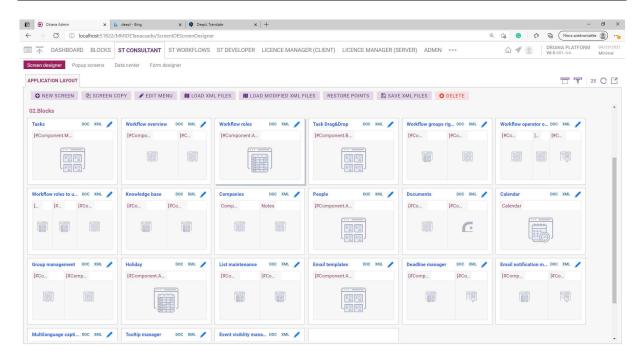
5.1.17 Tasks per person

The block shows statistics about the processes in the application on a chart.

It shows the number of open process steps per person. It is possible to filter by process or, by deactivating the filter, the total number of open steps is displayed.

5.2 Blocks that can be installed at screen level

Screen-level blocks can be imported directly under menus.



5.2.1 Tasks

The module displays events and tasks on a card view. The first tab shows the tasks. By default, events are displayed here for which the logged in user is responsible. The second tab contains events that have been issued by the logged in user and that are the responsibility of another person.

The application block provides the following options:

- Filter events by Responsible, Description, Type and Period or Status.
- Create, edit or delete an event.
- Grouping by different criteria.
- Filtering by the status of the event.

5.2.2 Process overview

Block to be used to keep track of processes. The process cards are larger than usual so that more information can be displayed about the transaction.

- The application block provides the following options:
- Start, edit, delete transactions.
- Filter cases by name, responsibility, probability and status.
- Add a comment to a process.
- Add a document to a process.
- Edit a task
- Review and print a flowchart.

5.2.3 Process operator view

A 3-panel block can be used to keep track of processes. The process cards are larger than usual so that more information can be displayed about the transaction.

The application block provides the following options:

- Start, edit, delete cases.
- Filter cases by name, responsible, probability and status.
- Add a comment to a process.

- Add a document to a process.
- Edit a task
- Review a flowchart.

The middle panel shows the completed and current events for the process, the details of which can be edited in this interface.

5.2.4 Process roles

In the application block it is possible to edit the roles that can be assigned to a process.

The application block provides the following options:

- Overview of roles
- Add a new role
- Edit and delete roles.

5.2.5 Assigning process roles to users

In the three-panel screen, you can see the processes on the left, the roles associated with the selected process in the middle and the users associated with the roles on the right. To set roles, you need the ROLE block.

The block allows you to

- Add a new role to a process
- Add a new user to a role.

Clicking the Add buttons opens the following screens.

A role can only be assigned to a process once and a user can only be assigned to a process once.

5.2.6 Drag&Drop Tasks

The module displays each event and task in a card view.

The application block provides the following options:

- Filter events by responsibility, description, type, period or status.
- Create, edit or delete an event
- Grouping by different criteria.
- Filtering by event status.
- Drag&Drop to assign tasks to a new responsible person.

The screen shows the grouping of tasks by Responsible Person.

When editing, you can attach comments or upload documents to the event.

5.2.7 Process group eligibility

This module can be used to assign groups of persons and processes.

The block allows the following activities:

- Assign a group to a process.
- Assign a group to a process.

Click on the Add group button to open the following edit screen. A group can be added to a process only once.

5.2.8 Knowledge base

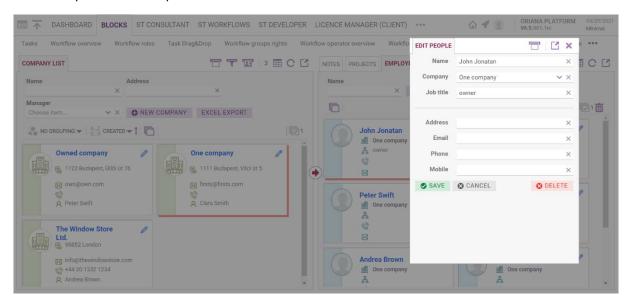
With the knowledge base block, you can create a description, a completion guide for each process step, which will be displayed next to the step editor form after applying the corresponding panel level block.

5.2.9 Companies

The application block allows to edit on one screen the data of companies, their associated notes, processes or events, employees and documents.

The application block provides the following options:

- Grouping and sorting by different criteria.
- Grouping by categories and grouping according to different criteria.
- Add or remove selected company by different criteria.
- Add new company, select new company, select new company. Click on the company name to display the editing screen.
- Add a comment to a company.
- Attach a document to a company.
- Assign a person to a company.
- Add process/event to company.
- View company data in table or card view.
- Export list of companies to excel file.



5.2.10 Persons

This module allows you to manage the data of persons.

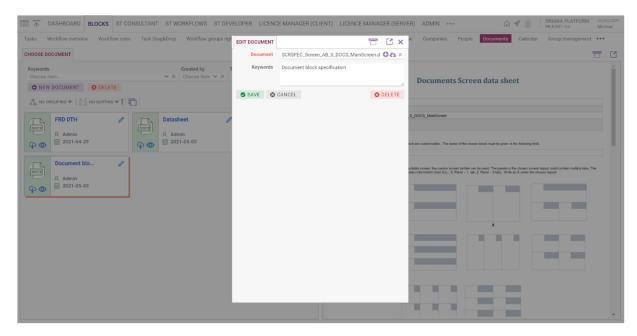
The application block provides the following options:

- Add, edit, delete person.
- Filter persons by Name, Company or Group.

On the screen, it is possible to switch between table and card view.

5.2.11 Documents

Block for managing documents. The left side of the screen shows the uploaded documents. The right side shows the preview of the selected document and its versions.



The application block provides the following options:

- Search and Filter documents
- Find and search for documents
- Search for a new document
- Add new document New document
- Edit a document
- Download a document

5.2.12 Calendar

Events can be tracked and managed on one screen in a calendar view. The application block consists of several screens.

The application block provides the following options:

- Launch events.
- Manage events by clicking on a card in the calendar
- Creating a new event within the calendar (drag&drop method)

By clicking on the new event, the following functions are available:

- To create a new event.
- To upload a document related to the event.
- Add a comment to the event.

Click on the card in the calendar to edit the following details of the event:

- To edit the event.
- To edit the person responsible for the event.
- Upload the document for the event.
- Add a comment for the event.
- View the process for the event.

5.2.13 Groups

The module allows you to organise users into groups.

The application block provides the following options:

- Create, modify or delete a group.
- Add a user to a group.
- Add or delete a user, add a new user, add a new user, add or delete a user.
- Add a user, delete a group.

5.2.14 Public holidays

The application block provides the management of public holidays:

- Add new public holiday and Saturday working day.
- Add new public holidays and Saturdays.
- Filtering by date.
- Useful functions to query days.

5.2.15 Lists

Constant lists can be managed with the block. The list groups are displayed in the left panel, the items in the selected group are displayed in the right panel.

The application block provides the following options:

- Filter by list group.
- Filter by list item.
- Add list item.
- Select a list item for a list.
- Add a list item to a list.
- Add a group.
- Delete a group.

The group number is required to link groups and their associated list items.

5.2.16 E-mail templates

The application block allows you to manage e-mail templates with the following functions:

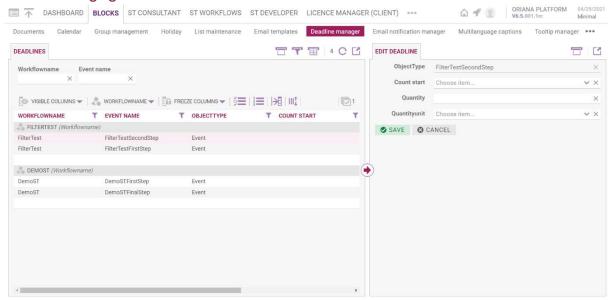
- Create new template, edit, delete.
- Creation, creation, editing, creation, new creation, creation of new templates.
- Sending e-mails. This button is only available to the person with developer privileges.
- Log sent messages.

The application block will replace the tags specified in the template with the result of the query.

After sending an email, the contents of the email will be displayed on the screen.

After pressing the send email button, a window will pop up where you can choose which template you want to use. Here you can enter the e-mail address of the recipient.

5.2.17 Managing deadlines

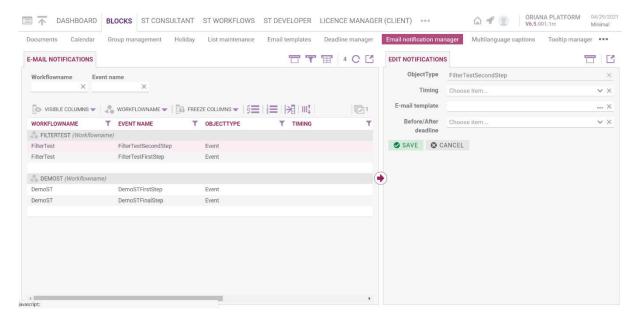


Block for managing deadlines for events and tasks. With the following functions:

- Filter events by responsibility, description, type and period or status.
- Create, edit or delete an event.
- · Grouping by different criteria.
- Filtering by event status.
- Drag&Drop to assign tasks to a new responsible person.

5.2.18 Management of e-mail notifications

E-mail notifications can be assigned to events and tasks in the block.



The sending of e-mail notifications can be parameterized using the following settings:

- E-mail templates can be assigned to each task
- To which event the e-mail should be sent

• The emails can be set to be sent before or after the event (the number of hours can be specified).

5.2.19 Multilingual labels

Block to be used to add language elements.

The application block provides the following options:

- Add, edit, delete language items.
- Filtering language items by type, field name, language and displayed value

5.2.20 Tooltip manager

The module allows quick editing of messages displayed in text bubbles.

The application block provides the following options:

- Add new text bubble
- Add new text bubble

5.2.21 Process step visibility block

The block allows you to set which steps should be visible on the overview screen.

The block provides the following options.

• It is possible to set which steps should be visible for each step by means of a checkbox.

5.2.22 Process Dashboard

The block shows statistics about the processes in the application in four charts.

- People's Tasks: Shows the number of open process steps per person. It is possible to filter by process, or by unchecking the filter, the total number of open steps is displayed
- Project Time/Process Time: Shows the average time between the creation and completion of a process, broken down by week. You can filter by different predefined (day, week, month, quarter, year) and arbitrary periods.
- Projects' Tasks: Shows how many of each process step there are open processes. Can be filtered by process.
- Open/Close Projects: Shows, by week, how many processes have been started and closed in a given week. It is possible to filter by process or by different predefined periods (day, week, month, quarter, year) and for any period.

5.2.23 User logins

This block shows statistics on the usage of the application in four charts.

• The first panel shows the number of user activities between two dates.

The number of activities indicates the total number of times a user has changed field values in a given time interval. It is possible to choose the time interval.

You can also see the data in tabular view on the second tab.

- The second panel is a daily statistic of the usage. It shows how the usage is distributed over the days in a given period, the number of changes per user per day. You can also specify the time interval.
- The third panel shows the number of logins between the specified dates.

• The chart in the fourth panel counts the days since the last login. The table in the second tab shows when each user last logged in. It is possible to filter by user name. You can also filter by the number of days since the last login.