

# Technical background of the Be Informed Platform

In this whitepaper we define and explore the characteristics of  
the Be Informed Platform as an intelligent automation and orchestration platform



Be Informed was established in 2006 as an answer to the rising need of organizations to support their knowledge workers. Simple tasks and workflows had been successfully tackled by IT solutions, but many organizations had (and still have) difficulties with the standardization of processes and the appropriation of time and resources for complex, knowledge intensive work.

Our solution, though vast in scope, was pretty straightforward: *why don't we automate your knowledge work?*

We defined knowledge as a complex system of rules, that stem from different, structured sources and are subject to continuous changes. Knowledge in organizations is thus inherently complex and in motion. We needed a way to capture and structure these complex systems. A way able to deal with exceptions and to handle variations, adaptable enough to quickly respond to changes and in a language the business understands.

We concluded that the solution could not be found in typical, traditional programming languages, but had to be found in the use of models. Models allow abstraction along relevant dimensions and can be used to understand, explain and design the intelligent business process.

We set out to design a model-based platform, aimed at capturing the whole of a client's business processes. It should be cognizant of goals and constraints, to support dynamic case management, compliance with business and government rules and facilitate collaboration. All in all quite an innovative, intellectual challenge and, as it turns out, a worthwhile investment.

Today Be Informed has successfully evolved into a digital accelerator, valued by our clients and respected in our field. Our platform supports agile development involving automation, (complex) data and multiple (legacy) systems for many high-profile organizations. By reducing redundant or repetitive complexity, employees can use their valuable time, energy and intellect to improve, innovate and seek ways to add value.

All this leads to the following definition of our Platform:

*An intelligent automation and orchestration platform based on cognitive reasoning that enables complex processes, automates knowledge-based work and handles contextual data.*

### Modeling characteristics

We knew our model-based platform had to meet certain requirements to effectively meet the challenges of complex knowledge automation. The challenge for example that in contrast to mere information, knowledge is often accumulated in people's minds, not their systems. This is why our modeled approach utilizes:

- **Ownership.** The owners of the knowledge (policy makers, subject matter experts) should be able to create the model, understand it, verify it, etc. In other words, they should be able to take ownership of the model.
- **Clarity.** Since the knowledge stems from a complex system of sources (where the terms may be used ambiguously) the models should clearly capture the meaning of terms, in a human-readable language.
- **Single point of definition.** Since the system of rules is prone to changes, the terms and rules captured in the models need to be a single point of definition and need to allow for reusability, so the models can respond to change quickly.
- **Executable models.** The models need to be able to be applied directly by stakeholders, without intermediate translation or interpretation, to ensure that the captured knowledge is applied correctly.
- **Declarative models.** The owners of the knowledge should describe what the rules of the process are, not the process itself. The relevant process will be automatically deduced by applying these rules to the actual state of the case and knowledge base (the context).

- **Period of validity.** The models need to allow for changes in the rules over time, without having to copy all of the rules that do not change. Also, more versions of the same rule need to be captured, to enable users to apply rules that were valid on a specific date in the past.

With our modeling approach and its base characteristics decided, we further defined and developed our process. We took particular care to support and enable integration, since we knew we would have to work with(in) the existing business landscape of our clients, including its data sources, structures and systems. Integration was key. Today, our working method can be summarized as follows:

*Our applications are developed with, and function through, declarative semantic models in the client's own business language. The business rules and relations herein are executed in context by our smart inference engine, enabling context sensitive, goal oriented case- and decision management. By capturing all relevant (external) systems, applications and user roles in these models, our platform functionally orchestrates the entire business process.*

This approach leads to the fast, flexible and robust results our clients are looking for. Below is a more detailed description of the basic principles underlying our working method and the value they help realize.



### 1) Context driven and goal oriented decision making

We use declarative models and advanced goal-oriented, backward chaining inferencers to automate decisions, support decision makers and generate contextual processes according to the rules specific to the situation.

**Result:** Our software provides a real-time, context-aware, process handling platform with a personalized, customer centric user experience.



### 2) Direct model-driven development

Our models (and the processes they represent) are instantly operable, without additional programming or conversion into code. Business rules are semantically captured and modeled and can be tested and adjusted at any time.

**Result:** Highly reduced development time (typically three to ten times faster) and thus costs.

The same benefits apply to time-to-change.



### 3) One business language

A client's existing business language is used in describing and modeling the products, services, processes and policies of the knowledge process that must be captured.

**Result:** Expert's knowledge is actively involved and still recognizable, hereby ensuring clarity, compliant operations and increasing ownership.



### 4) One open platform

All relevant or desired (exterior) relations, dependencies and deliverables are captured within our models. The platform thus connects, wraps and orchestrates the entire end-to-end business process, each step, role and system accounted for.

**Result:** A platform with high scalability and capable of handling all levels of complexity while leveraging existing IT infrastructure and welcoming future innovations.

## Expertise

Even though our platform is inherently suited to the broad spectrum of knowledge automation, our clients often ask for (and receive) a specific focus on the following domain challenges:

### Dynamic Case Management for complex processes.

We are particularly strong in complex, dynamic and intelligent processes, and are proud to be considered best in class by industry analysts. Our solution treats each case or customer according to their specific needs and context, activating, asking or providing only what is relevant to their unique journey.

### Decision management to automate knowledge-based work.

We capture business knowledge in models, automate decisions and support knowledge workers. Control & compliance is ensured by mapping a client's business ontology and rules in our engine.

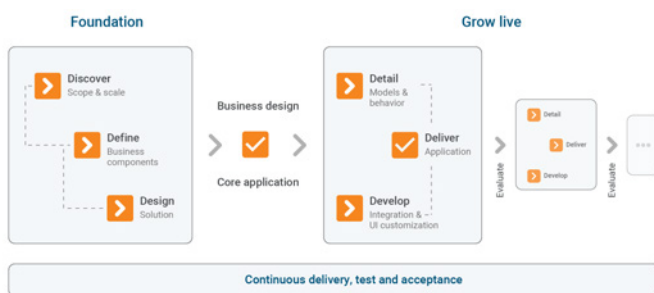
### Information integration through contextualized data.

Our information integration framework enables agile overlay of applications on top of existing IT infrastructures. Thus, systems and processes are connected for an automated, frictionless flow.

In playing to our strengths, our approach to projects:

- supports an agile, **iterative** and incremental development cycle;
- enables continuous **validation** of requirements and policies through a working application;
- leverages and involves co-creation by business and IT stakeholder in multidisciplinary teams.

The steps in a typical project can be roughly described as follows:



**In Phase 1 the foundation is laid.** In this phase we:

- **Discover** a single, shared vision with your customer about the solution and its critical qualities, scope and scale. The most important products, cases, registers (collectively called business components) and target groups are identified to help structure the problem. Having a shared language with your customer helps to identify these business components and target groups.
- **Define** the relevant components. A level of detail is added to the discovered components to increase understanding and to verify the results of the discover phase. The product constraints, the most important results of the cases, the registration objects and the portals and services are identified, as well as the initial relations between the components.
- **Design** a solution. The high level business design is transformed into an executable end-to-end solution design. The most important input for the product constraints are identified and the next level of detail is added to the cases and registers. Models are annotated with detailed and prioritized requirements.

In Phase 1 rapid business prototyping is used to capture and validate your design. Our model-driven development platform, allows for the creation of a business design which is immediately, at every incremental step, translated into an executable preview. This way you are able to immediately experience a working prototype based on the models, rules and relations you have defined. This allows for direct and fast validation of the business design by knowledge experts and business owners. Each component - roughly - performs the task it was designed for. However, the application behavior details are still missing.

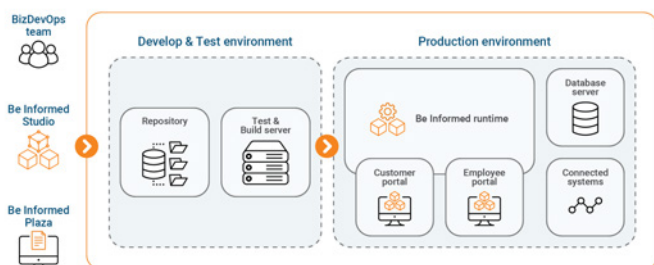
**In Phase 2 the application behavior is added,** following an outward spiral of iterative, incrementally added complexity and usability.

- **Details** are added to the rules captured in the models and application behavior (authorization constraints, events, case lists and tasks, etc.)
- **Development** of integration components and UI customization.
- **Delivering** the application into the live environment. Evaluate, and define how to further enrich the application in the next version.

The design is translated into a core application by applying patterns which describe behavior. Our Pattern Engine allows the reuse of existing model configurations to further accelerate the development through a quick start or by leveraging existing best practices.

Throughout both phases, the semantic and executable nature of the design and models enables continuous testing, acceptance and further integration of the application, both by IT and the business stakeholders.

Although our development process is highly iterative, from an IT perspective it does have several distinct phases employing both our own and open source tools. The end-to-end process can be described as follows:



**The BizDevOps team**, consisting of both developers and business representatives, aimed at agile co-creation, validation and realization of the relevant requirements, modeled business rules and expected business value.

**In the Be Informed Studio** business rules are semantically captured in executable models and further developed into a working application. First, the business design is created in the Business Modeling Studio (BMS). This model can be continuously tested and validated in the form of an executable preview. Next, the details, behaviors and front-end interfaces are added in the Application Modeling Studio (AMS). Large swatches of best-practice or otherwise reusable behavior patterns and configurations can be applied immediately through our Pattern Engine, further decreasing development time.

**Be Informed Plaza**, is important as a central communication hub for guidance and information on how to achieve what you want. Apart from reference documentation it offers tutorials, how-to's, best practices and guidelines.

**As repository** we use an open source, centralized version control system. It contains all relevant files and directories, allows file locking while working and records a complete history of all the changes that have been made.

**The test & build server** supports continuous integration and testing through both proprietary and open source automation tools, like Jenkins.

It allows for the smooth operation, automation and monitoring of every resource and interaction during development. Testing is supported by both our own specific testing methods and tools and open source methods and tools. Our immediately executable models specifically allow and encourage continuous testing.

**Be Informed runtime**, Java based, running in an Java application server. We recommend Apache Tomcat.

**Customer & employee portals.** By design, Be Informed applications are capable of supporting multi-user, multi-portal working environments, allowing users with different roles to work (together) on diverse business processes, cases or tasks.

**As database server** we use relational databases, like Oracle, MS SQL server, MySQL server and PostgreSQL. The platform specific database tables can be combined with client specific tables to deliver the application behavior.

**Connected systems.** We offer a collection of tools which can be used to connect and integrate a Be Informed solution or application in a customer's IT- and business landscape. We use Apache Camel as an important component of our integration offering. It can be used as a flexible basis for integration capabilities for both the service provider and consumer side.

### Brains of Be Informed

Our developers are born with the talent to transform complex processes into digital solutions. Context driven outcomes, automated decision making, rule management, and integration of information is their second nature. That's why we proudly call them our engineers. And they are ready to meet you!



You can reach us during working hours (CET) at +31 (0) 55 368 1420 or send us an e-mail at [contact@beinformed.com](mailto:contact@beinformed.com). Would you like to be called back? Please leave a message on our website.

### Try the platform

Request a demo to explore the Be Informed platform yourself! Visit [www.beinformed.com](http://www.beinformed.com).