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1 Introduction

1.1 About Be Informed

Be Informed is an independent software supplier specializing in solutions for complex and knowledge-intensive business processes. Using our software, organizations improve their interactions with customers and partners, streamline their working processes and achieve substantial gains in efficiency by delivering the appropriate knowledge in a direct and context-specific manner to business users and customers. Be Informed gives organizations the ability to quickly adapt to changes in legislation or their environment.

The background to the development of Be Informed is the observation that society is becoming increasingly knowledge-intensive. Routine processes are outsourced to countries where labor is cheap, or they are completely automated. What remains are complex and knowledge-intensive processes. The Be Informed product suite has been developed to support precisely these types of processes and to enable organizations to respond quickly to changes in the business environment ranging from changing customer wishes, to technological developments to the need to rapidly implement new legislation. To do this, Be Informed offers a suite of products that enable organizations to:

- design, manage and analyze all aspects of their business;
- straight through processing of complex cases;
- support manual handling of services (decision support and case management);
- context-specific delivery of information and knowledge;
- apply knowledge in e-forms, case files and applications.

1.2 Guide to the Document

This document is used as a starting point for our commercial documentation because it introduces most of the Be Informed concepts.

The architecture has the following chapters:

- Positioning Be Informed - gives an overview of the various aspects of a knowledge infrastructure. How it can be implemented by Business partners and used on an enterprise scale.
- Product model - gives a high level description of the product components. Further details are given in functional designs and the software architecture.
2  Positioning Be Informed

Be Informed is a software product to support complex and knowledge-intensive business processes. Using Be Informed software, organizations improve their service to customers and partners, streamline their working processes and achieve substantial gains in efficiency by delivering the appropriate knowledge in a direct and context-specific manner to business users and customers. Be Informed gives organizations the ability to quickly to adapt changes in legislation or their surroundings.

The Be Informed product is an integrated platform for all required services, processes and tasks. This enables business partners to implement knowledge infrastructures in (large) enterprises, that can be used to build multi-product, multi-label and multi-lingual knowledge intensive applications, to address the challenges of a modern organization.

2.1 Knowledge Infrastructures

To address the challenges of an organization that runs complex and knowledge-intensive business processes today, a knowledge infrastructure is required.

Using Be Informed, organizations can

- model all aspects of their business,
- run these models directly as an application and
- analyze the decisions and improve the models.

The next sections describe the various aspects of an Be Informed knowledge infrastructure.

2.1.1 Separate, Standardize and Govern

Effective utilization of knowledge requires not only that the knowledge is provided in an applicable and productive manner, but also that the knowledge is considered as a production factor and therefore managed independently throughout the entire knowledge life cycle.

With Be Informed organizations are capable of separating the process and the know from the
functions and the data. This allows the business to model the business knowledge and express how they will run their business and the IT department can provide the functions and manage the data that, together with the models, become the supportive applications.

As a result of the separation between the process/know and the function/data, the functions and data can be highly standardized. In fact, the Be Informed product has implemented a lot of the functions required in a knowledge-intensive application environment.

Separation and standardization itself is not enough. Organizations operate today in an increasingly complex and dynamic environment where more and more predictable and transparent behavior is demanded. It is crucial that organizations can guarantee that the appropriate knowledge is available to their staff and automated processes and that they apply it correctly. They are obliged from a compliance perspective to take responsibility for the decisions and the knowledge they should be based on. In other words, organizations must get the governance of their knowledge right.

An important aspect of the governance of knowledge is about ambiguity or better the absence of ambiguity. To guarantee that people apply the knowledge correctly, the knowledge has to be consistent, precise and communicable. The best way to prevent misinterpretation is to prevent translation of the knowledge into applications and instead directly run the models.

As the dependency on knowledge in the primary process increases, organizations must take the necessary measures to ensure the quality, availability, usability and validity of the knowledge used. The necessity for these measures is even stronger because the pace of changes increases all the time. In other words, they must implement a good policy management process that supports the full knowledge lifecycle.

2.1.2 Support the Full Knowledge Lifecycle

The possibility to run the knowledge models directly has an huge effect on the agility of organizations. To benefit from this capability it’s necessary to implement an efficient policy management process. This process must deal with feedback from the runtime environment as well as new initiatives, for instance new legislation or organizational policies.
The knowledge lifecycle can be divided in three parts:
- the management of knowledge (model),
- the use of knowledge as services in the primary process (run), and
- the handling of runtime feedback as well as triggers coming from new initiatives (analyze, improve and simulate). Used to monitor the outcome, measure if the results are as good as expected and to simulate the effects of new changes.

To support the lifecycle we distinguish the following functions in a knowledge infrastructure:

- **Model**
  - edit, capture and express
  - verify and validate
  - manage and maintain

- **Run**
  - publish, apply and explain the use

- **Analyze**
  - analyze, simulate and learn

### 2.1.3 Semantic Models and Metamodels

Be Informed uses semantic models as the key building blocks in its knowledge infrastructure. In semantic models, knowledge is captured in terms of concepts (typed within the domain) and the relations that exist between these concepts. A concept has properties, labels, text fragments and annotations. Annotations are used to relate concepts to the documents in which they are defined, or to documents that contain related information such as examples, and explanations.

“How well and how fast you predict, foresee, adjust, adapt and exploit opportunities in this ever changing environment defines your strategic agility quotient. With that, strategic agility is not just a nice to have. It should be embedded into your culture, your business processes and organization, and you should make it a key core competency and capability to enable continuous value creation for your company.”

Binnur Al-Kazily
Concepts are defined in knowledge models and can reference each other. For every model, time versions can be defined to handle changes over time.

The meta model adds meaning to knowledge models. A meta model describes the types of concepts in a knowledge domain and the types of relations that can exist between these concepts. A meta model defines a language to express the knowledge in that domain.

Knowing the meta model, service implementations can be built to make the knowledge applicable and productive. For instance, Be Informed’s inferencer knows the Decision meta model and can interpret decision models to perform decisions. A meta model can refer to concept types in other meta models. This way services in one domain can use services in another.

A Be Informed knowledge domain contains one or more meta models and the associated service implementations, together with domain specific imports/templates and exports. Furthermore a knowledge domain can contain domain specific editors and can be packaged with re-usable models/content.

Every Be Informed model can be browsed as a catalog. Via the catalog users can browse through the knowledge stored in the knowledge repository, for example for always up-to-date documentation purposes.
2.1.4 **Model All Relevant Knowledge Domains**

Organizations have business knowledge in various domains. For example, organizations have rules about their products and the applicability for a specific customer group, but they also decide what level of service they provide to customers (“we always respond within 4 weeks to every question, but gold customers get next business day response”) and make choices how they offer their services to the various user groups.

For organizations to stay in control and to improve their operations, we believe organizations should:

- Focus on decisions
- Automate decisions were possible
- Support the decision makers

Making decisions is the primary activity of most knowledge-intensive organizations. By focusing upon the outcome and not upon the route / process, organizations ensure that they only do what is necessary to fulfill the request. Nothing more, nothing less. The rules underneath these decisions can be described in the decision domain.

Of course there are good reasons not to make all decisions automatically. If a decision cannot or may not be made automatically a process is necessary. Examples of this are: too high risk, incomplete requests, subjective / human interpretation of the case is required.

The case management domain introduces languages to define process rules, the people involved and the artifacts created.

Be Informed supports two other important domain business use to capture their knowledge: In the interaction domain they describe the rules about how they interact with their customers and employees. The registration domain is used to describe internal and external registrations and the ways to access them.

2.1.5 **Usage Scenario’s**

The knowledge modeled in Be Informed can run in many different scenarios, such as:

- Context-specific delivery of information and knowledge;
- Customer portals to treat customers on an individual basis;
- Smart e-forms and customer self service;
- Handling services (straight through processing and manual handling) with decision support and case management;
- Providing knowledge services to non Be Informed applications.
- Combinations of the above.

All these scenario’s use a case based decision approach with knowledge functions as classification, assessment and diagnosis. Optimizations on whole populations, such as planning issues, are not supported.
In all cases we see that organizations bring their knowledge from the traditional back-office applications to the front-office and to the internet (self-service). This helps the organizations with huge cost savings (customers now do what normally is done by expensive personnel), improved customer satisfaction (faster response, better advise, more individual treatment), simpler registrations and therefore more flexibility.

Organizations gain the most from a knowledge driven approach towards processes when they:

- Derive processes dynamically, let the rules decide the runtime order of the activities
- Become context and event driven
- Treat STP and manual processes the same

One of the key aspects of Be Informed is that organizations not have to choose between straight through processing (STP) or manual handling, but Be Informed supports both the scenarios at the same time. Organizations can implement a mixture of STP and manual handling. The Be Informed processing engine determines for every case based on the rules dynamically how this case will be processed: may this case be processed automatically or must the case pass the desk of an employee and selects the tasks that must be executed.

With respect to the use of the knowledge infrastructure another aspect is that business knowledge should be maintained only once and can be used everywhere (“one ontology for all”). This means that knowledge stored in the Be Informed repository not only can be used by Be Informed applications, but also by a wide variety of other systems. Directly by incorporating Be Informed services into other systems or via an export of knowledge in a standard format (like RDF/s, OWL, etc.) or via (custom) transformations in any other format.
2.2 Implemented by Business Partners

The implementation of a knowledge infrastructure typically has two major stages. In the first stage a Be Informed business partner supports the customer with the initial setup of the knowledge architecture, the services, the applications and the integration within the ICT environment. In the second stage the business user is in control of all phases for capturing and maintaining the knowledge and uses the infrastructure to adapt to changing circumstance.

Be Informed facilitates this in a number of ways.

2.2.1 Separation of Concerns

Be Informed offers separation of concerns between the different parties involved and their capabilities. Business users capture their knowledge and expertise inside knowledge models, information analysts define the services that are offered based on these models.

This matches their respective capabilities: Business users are experts in their fields and know by which rules decisions are taken, information analysts are able to translate these into services and applications.

2.2.2 Business User Friendly Editors

To involve business users in knowledge modeling, editors provided for this need to be business user friendly.

The representation used to present the models has to be understandable to business users. This means the business user must be able to read the models as represented, and must be able to evaluate correctness of the presented information. When actively modeling, the representation must help the business user select his modeling options when extending or changing the represented model. One aspect of this is the possibility to drill down from the model’s overview to specific details and back.

Graphical model representations, as used commonly in IT environments, do not necessarily match these requirements when used by business users. Often, graphical representations are perceived as very technical by business users and they are not inclined to read them, except in some specific situations.
Be Informed offers a number of alternative representations that are based on applications archetypes that are more familiar to business users. Form oriented and tabular representations better match the application interfaces that business users use in their daily work.

Another challenge when designing representations for business users is the fact that most representations used today communicate only the information that is expressed in the model and only reference the meta model terms used in doing so. The actual meaning of a model, however, is a combination of the model terms and the meta model terms. The formal meaning of a concept is mainly determined by the meaning of the type it is given. Business users, more than information professionals, need constant feedback on the meaning of the meta model in order to understand the meaning of the model.

Be Informed offers a structured language representation based on pattern sentences that offers this feature: The pattern sentences presented to the user contains the model terms as chosen by the business user, but also incorporates the meaning of the meta model in the sentence. This has good validation characteristics for business users: They are able to spot incorrect model fragments by the sentences that represent it.

In some domains, graphical editors are useful to business users if the graphical representation matches the domain well or uses commonly used visualization elements. Be Informed offers a graphical editor for the process aspects of case management for instance.
Great usability is a must, especially when targeting business users with editors. As modeling often is new for them, actively guiding them with options in modeling and offering assistance when errors occur is crucial to offer a satisfying experience to business users. This is important, as it is major factor in keeping business users involved. Furthermore, it is challenging to make the user interface easy enough for a quick start, but powerful enough for advanced use. This includes powerful refactoring options.

2.2.3 Integrated Method

The first steps are the hardest when implementing Be Informed. That goes for individual users, new to the software, as well as for implementations projects, that need to make many important choices early in the process.

When using the tool for the first time, samples and tutorials are offered. Samples come with all models and configurations and are available in the users workspace, so that the user can study them or use and change them to familiarize with the tools.

Tutorials are available to read, but are also available as interactive guided tours. The tutorial steps are presented alongside the tool and referenced functionality can be opened from the tutorial.
The help system is contextual, so help is available for the specific functionality being used. It contains both the typical help content about the tools features as the methodic information about how and where (specific functionality of) the tool is typically used.

Templates also facilitate typical/good use. Both frequent tasks and best practices are available as templates, only requiring the user to complete a wizard and generating models based on the details provided. Templates are available at project level, generating complete base projects, model level and fragment level to facilitate frequent tasks within a model.

All these assistance functions are available from a welcome screen that is shown to the user on startup. The user can specify his role and the phase in the implementation process. Base on these characteristics, relevant tasks, tutorials and samples are presented to the user.

2.2.4 Used internationally

Be Informed is used internationally. That means that clients use the product in their own language to develop models and services in their own language. It also means that clients can develop internationalized services and applications, that service users in multiple languages at the same time.
Be Informed supports the translation processes by storing translations and date/number formats in separate resources, which can have their own lifecycle for translation.

2.2.5 Extensible through the SDK

An important feature of Be Informed is the introduction of the SDK. These enable product extensions to be developed in an independent way by others.

The SDK offers a number of extension points so analysts and developers can plug in custom components. These are well documented and provide proper isolation to prevent custom components from interfering with each other or the main product. The SDK is not one monolithic API. Individual products add their own extension points to the SDK.

The SDK is available to third parties, but is also used internally for product development. This ensures both the usability of the SDK and the modularity of our product.

Be Informed also offers the Toolbox, which contains tools to enable developing extensions through configuration and scripting.

2.2.6 Be Informed Ecosystem

Be Informed is distributed as a combination of editions and add-ons. This way, the product can be offered to different clients to fit their different needs.
Editions facilitate typical use by combining the different base components in useful combinations. Our platform could maybe in the future be offered in alternative forms, such as appliances or as a hosted platforms/cloud.

Components that match more specific requirements are offered as add-on.

Add-ons can also be developed and offered by third parties. This way, our business partners can offer their specific expertise in the form of reusable solutions and domain specific business templates. This way, they can introduce Be Informed in market segments that require their expertise.

Add-ons can be offered both commercial and open source. Many clients in the public sector want to share generically useful extensions and content. Also, relevant standards in other segments are candidate for open sourcing as Be Informed models and templates.
This way, an ecosystem or community emerges around Be Informed, consisting of users, developers, partners and clients that both share and do business based on the Be Informed product stack.

2.3 Used at Enterprise Scale

The scale of Be Informed implementations has grown over the years. For Be Informed, enterprise scale implementations are considered mainstream use.

2.3.1 Scale Invariance

Be Informed Server environments can be installed to match the required implementation scale. Be Informed software scales well on any server size. Be Informed’s pluggable architecture enables adapting key infrastructural services for specific server sizes if required.

Be Informed Server can host more than one configuration simultaneously, where all configurations are isolated and can be managed independently. Be Informed Server can be deployed in a replicating configuration, across which workload can be shared if the workload is too large for a single server. Large configurations can be deployed in a partitioned way across multiple server instances, if configurations are too large for single server deployment.

These types of clustered setups require coordinated configuration and deployment, which is provided by the Cluster Manager product.

By the same plug-in mechanism, the Be Informed runtime can be scaled down to run on limited devices, such as handhelds or embedded scenario’s.

An important requirement is to shield almost all users from the technology and complexity of large-scale implementations. Both the services interface, as the deployment interfaces are uniform for all scales, so that infrastructure can be scaled up without the users having to change the way they use the infrastructure.

That way, Be Informed infrastructures can offer cloud or utility computing. Users have a URL to deploy their models, and a URL that provides the services from their configuration. Providing and scaling the environment is done by others, possibly in a hosted setting.
2.3.2 Running in Heterogeneous Environments

Be Informed can be integrated in typical enterprise information architectures.

Be Informed runs on a number of platforms, including the major application servers. It has a platform support policy based on standard support for a number of (versions of) major operating system/middleware/database combinations and extended support by special request for other components/versions combinations.

Be Informed offers the runtime services as online web based application components, system-to-system web services and it processes batches based on its services. This way, Be Informed can be integrated with most (standards based) products that are typically in use in enterprise infrastructures. Custom integration can be realized through Be Informed’s Toolbox. Be Informed services have a seamless integration with other Be Informed services coming from the same Knowledge Repository, so modelling the knowledge can be done without knowledge of the landscape, the administrator will decide where which service will run and how they interact.

Another aspect of running in heterogeneous environments is the ability to integrate the user interface in the corporate website by having the right connectors to the web channel (html, portlets and RIA) and the ability to customize the look-and-feel according to corporate branding.

The primary modeling environment is Be Informed Studio (fat client), but simple tasks can be made available via a web interface.

2.3.3 Management Interfaces

Be Informed Servers offer a range of management interfaces, facilitating configuration and deployment, daily operation and trouble shooting by IT staff.

Configurations can be deployed to the server directly from Studio or through the web interface.

All relevant settings of the server can be configured remotely through a web interface or JMX interface.
Be Informed Server offers an advanced statistics feature, where individual service usage monitoring (timers, counters and tracers) can be enabled and disabled in runtime from the management interface.

Status and events are available through JMX, SNMP or a messaging channel based on mail and RSS. Additional channels can be developed with the Toolbox.

### 2.3.4 Container Oriented Software Architecture

Be Informed’s runtime is an empty container, which can be turned on and off. Configurations are deployed to it with an independent lifecycle. Installing applications on a server is much easier this way and does no longer involve packaging war files with both configuration and runtime included.

The container turns these files into active components inside the container. The possible types of components are specified by a list of core interfaces, which specify which behavior a component must implement for a given file type.

The container offers facilities to these components, such as indexes and caches, internationalization and monitoring. These services are also defined as part of the core interfaces, so custom implementations can be supplied.
The Toolbox is developed by exposing some of the core interfaces to a public API. Custom components have their own implementation, but implement one of the API interfaces so that other (standard) components can interact with them.

Everything is deployed into the container in this model: Not just configurations, also Toolbox extensions, test suites and even batch compute jobs can be deployed.
3 **Product Model**

The Be Informed product model makes a distinction between products and knowledge domains. The products provide the generic functions of the knowledge infrastructure. The knowledge domains provide the specific meta model and the associated service implementations for every supported domain.

![Diagram of Be Informed product model](image)

Both products and domains are based on the Be Informed Core that provides the infrastructure to make models and profiles and to run the model driven services.

Finally, the Be Informed product model includes an Toolbox, this shields the Be Informed Core by offering extension points. All Be Informed knowledge domains are developed against the Toolbox. The Toolbox can be used to extend the Be Informed default domains or implement a new domain.

The product doesn’t consist of software alone but the suite also has integrated support content; samples, tutorials, guided tours and templates assist Studio users to learn and find their way in the software. In addition contextual help is available for reference purposes during modeling.

3.1 **Products**

The Be Informed Product Suite contains a number of separate products and product extensions that provide the generic functions of the knowledge infrastructure.
<table>
<thead>
<tr>
<th>Phase</th>
<th>Product</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Studio</td>
<td>• edit, capture and express</td>
</tr>
<tr>
<td></td>
<td>Test</td>
<td>• verify and validate</td>
</tr>
<tr>
<td>Work</td>
<td>Team</td>
<td>• manage and maintain</td>
</tr>
<tr>
<td>Place</td>
<td>Server</td>
<td>• publish, apply and explain the use</td>
</tr>
<tr>
<td></td>
<td>Analysis</td>
<td>• analyze, simulate and learn</td>
</tr>
</tbody>
</table>

These products, together with the facilitating extensions (cluster, provisioning and Toolbox) are described in this section.

3.1.1 Server

The Server product is the runtime environment of Be Informed. The server delivers the knowledge services interactively via a web channel, as a service to other applications or via batches.

Examples of knowledge services are

- customers can be advised using decision domain services;
- employees are supported in manual decision making using case management domain services;
- the navigation service allows organizations to set up a catalog of the knowledge services. Via this catalog users can browse the knowledge stored in the knowledge repository for reference.

The server can best be described as a container, in which models, profiles and other resources are deployed. Other resources include Toolbox extensions, such as code, layouts and templates, and also runtime components such as test suites and batches.

The Server product is delivered in four configurations:

- Preview: embedded in Studio as preview server, limited to two users
- Development: an unzip-and-run server for development environments
- Reference implementation: a ready-to-run server installable. The customer cannot choose the application server used.
- Application Server Packages: an application package to run in an J2EE application server

The Reference implementation is available on Windows, RedHat and SuSe Linux.

The Application Server Packages are available for: JBoss AS, IBM WebSphere AS, Oracle WebLogic Server.
3.1.2 Studio

Be Informed Studio is the tool for business users and domain experts to capture their knowledge, for application modelers to create and configure the services and for administrators to deploy the knowledge applications. Each task is supported by the studio.

Perspectives are task oriented interfaces that match the capabilities of the users and match the development phase in the process. For example by filtering unnecessary information. Be Informed Studio has three default perspectives: a modeling, services and deployment perspective.

Be Informed Studio includes a number of different model editors. Every model editor uses its own metaphor to represent the knowledge models. These editors can be used interchangeably and users can choose the editor they prefer for the task they must perform.

Be Informed Studio includes the following domain independent editors:
- Graphical, taxonomy, language based and tabular model editors
- Meta model editor
- Profile editors for deployment- & behavior profiles

3.1.3 Team

The Team extension provides a team environment, consisting of a Repository and Studio integration, to share and manage knowledge, content and rules.

In most situations the knowledge that is needed in the primary process is distributed throughout the entire organization and to capture and to maintain the knowledge several disciplines are involved.

The Team extension offers users the functionality to share models and configurations and to communicate the changes.

The Team extension also provides the functions to define releases for controlled distribution to the various systems.

3.1.4 Workplace

The Workplace extension is the integrated work environment where business users and knowledge professionals do all the tasks needed in the policy management process.
Examples of these tasks are:

- preparing a change as a result of a number of successful appeals against decisions;
- analyzing the effects of new intended policy;
- implementing new / changed regulations;
- rewriting a piece of content caused by reported misunderstanding.

The workplace covers the orchestrating and monitoring of all tasks in the process from policy making to implementing that policy. Besides the process management of the individual tasks, the Workplace provides change managers with the tools for: assignment and monitoring of the tasks and the registration of external signals and feedback from the operational process.

Activities/tasks in a policy management process are very divers. Some tasks have an unstructured collaborative nature, others follow a strict process. To support all types of activities, it’s possible to link tasks to a variety of information sources; externally and to cases/results from the Be Informed runtime environment.

### 3.1.5 Test

Testing is an important part of Be Informed’s validation and quality assurance strategy.

Be Informed Server by default supports the deployment and running of Test Suites. Studio contains basic functionality for creating test suites, and on the server, failed tests are logged as events in the management interface.

The Test extension provides far more advanced functionality for continuous validation and regression testing.
Test results are collected over time, from multiple servers in a cluster if necessary, and are aggregated into advanced test reports and drill-downs. Test results can be compared over time and between servers.

With the Test extension, users can also create complex populations in Studio, including populations generated using statistical rules.

For test automation, the test suites can be executed on a schedule.

3.1.6 Analysis

The Be Informed Analysis extension offers what-if analysis of the knowledge services. The analysis can, for example, be used to evaluate regulations under changing circumstances or to predict the outcome of new, intended policies.

With the Analysis extension, users can create populations in Studio, manually or based on existing data, run the services against these populations and analyze the results generated.

For large or complex runs, the execution of the analysis can be offloaded to available servers or clusters and the results can be analyzed again in the workbench.

3.1.7 Cluster

The Cluster extension offers a Cluster Manager node, to manage transparently a number of Server instances.
To (most) users, a Cluster Manager looks exactly like a single instance, offering the same management functionality a Server does.

The management interface of the cluster offers a consolidated view of the cluster, and settings can be configured for the entire cluster.

The cluster manager handles deployment of configurations, Toolbox extensions and test suites, by transparently deploying the files to all nodes.

Batch jobs on the other hand can be deployed to the cluster, where the cluster manager decides which single cluster member handles the job.

3.1.8 Be Informed Toolbox

Using the Toolbox, knowledge professionals can extend the default domains. Developers can add new functionality on top of the Be Informed product and integrate Be Informed with other systems. Examples of such extensions are: generic library content, templates, meta models, imports, exports, engines and services.

The Toolbox can be used to realize:
- Be Informed solutions in new knowledge domains
- Generic solutions targeted for markets and branches
- Functional extensions to Be Informed
- Integration of Be Informed in heterogeneous environments

With the Toolbox extensions can be created by scripting or coding. If extension points support both, scripting and coding might have a various degree of support in extension possibilities. These will be well documented, so that architects can make a well founded decision about the technique used to develop the desired extension.

3.2 Knowledge Domains

The knowledge domains provide the specific meta model and the associated service implementations for every supported domain. These domains are described in this section.
3.2.1 Decision Domain

The Decision domain provides the language to describe the rules and information about the products the organization offers. Examples of these are product definitions and the terms and conditions of the products.

The main language elements of the decision meta model are:
- causal relation types (requires, implied by, excluded by)
- hierarchical relation types (subclass of, instance of, part of)
- numeric contribution types (depends on)

Based on decision models services can be configured for:
- classifications “What are the best products for me?”
- decisions “Do I need to have a permit?”
- calculations “How much allowance do I get when I retire?”

The Decision domain also provides exports for OWL and RDF/s.

3.2.2 Case Management Domain

The Case management domain provides the language to describes the rules and information about the case-driven processes in an organization and the information that is part of it. As these type of processes require a high degree of flexibility and the ability to react in every circumstance appropriately, Be Informed has chosen the paradigm of event-driven case management to support and describe these processes.

The main language elements of the case management meta model are:
- Process: case types, states, events and case handling times
- Artifacts: records, documents, appointments and notes
- Collaboration: assignees and inbox

In the Case Management domain a separation is made between the substantive (products, services, information logistics etc) and the procedural rules in the processes. By using less procedural rules more cases can be handled automatically (Straight Through Process) while exceptions can be dealt with manually. Be Informed supports both the scenarios at the same time and organizations can implement a mixture of STP and manual handling.

Based on case management models services can be configured for:
- Case handling (event registration, accessing case information)
- Term / deadline monitoring
- Document service (create new and access stored documents)
- Notification service

The Case Management domain provides also a graphical process editor and a template to create an initial case model.
3.2.3 Interaction Domain

The Interaction domain provides the language to describe the rules about how organizations want to interact with the various user groups. For example: “Customers have web-access to their own case file and can modify the request details. Gold customers can also view ...”.

The main language elements of the interaction meta model are:
- User groups, service contact points and skill level
- Accessible services and composite services
- Applications, tabs and page types

The interaction domain can be used to define the grouping and order in which certain question are to be asked. This provides the possibility to form the dialogue more to the likings of the endusers.

The Interaction domain provides connectors (= external interfaces) for web, services and batch jobs.

3.2.4 Registration Domain

The Registration domain provides the language to describe internal and external data registrations and the ways to access them. Examples of this are customer and insurance policy registrations and (the interface to) a municipal registration.

The main language elements of the Registration meta model are:
- Entity and attribute
- Message (the notification of a change)
- Cardinality

Based on registration models services can be configured for:
- Creating, changing, correcting, deleting and viewing entities
- Without history, datahistory without eventhistory, datahistory with eventhistory
- in local and remote registrations.

3.3 Product documentation and training

The product doesn’t consist of software alone but also contains proper documentation and training. In the product documentation, in the training courses and in the integrated product support content, samples, guidelines, patterns and explanations are consistent and (preferably) single-source.
Besides the integrated support in the product suite, product documentation is also available as (e-)books and papers. The full set of product documentation is divided in the following categories:

- **Product sheets** - product sheets give a high level overview (purpose & feature set) of each product / domain of the Be Informed product.
- **Reference cards and manuals** - reference manuals give a full description of every function, including configuration options, in the various products. The reference cards are one-page summaries for quick reference.
- **Installation and technical manuals** - installation and technical manuals are targeted for IT-staff to integrate Be Informed in the corporate IT environment. This category includes also the Toolbox documentation.
- **Expert books and guidelines** - expert books describe the implementation method, best practices and practical statements & conventions regarding the implementation of Be Informed.

The product documentation is also available as a Be Informed application (BI Insight).

To get familiar with the Be Informed product and to gain in-depth knowledge how to implement Be Informed Knowledge Infrastructures, the Be Informed Academy offers all kinds of (classical) courses for each level and role:

- **Levels** - introduction, basic, advanced/master classes
- **Roles** - business users, analysts, architects, sales, managers, IT staff
- **Areas** - knowledge modeling, applications, integration, implementation method, deployment and application management.

### 3.4 Packaging

Some projects only have a few modelers, but other projects have many more and express the need for a larger infrastructure. Therefore, a feature in one situation can be overkill in another.

To provide our customers with the right package to the right price and allow customers to let the Be Informed installation grow depend on the needs, Be Informed is available in tailored packages.
The Be Informed Product Suite comes in four editions¹:
- Community Edition: Studio, All Domains, Preview Server, Toolbox
- Professional Edition: Studio, Team, All Domains, Preview Server, Toolbox
- Enterprise Edition: Studio, Server (Development + Standard), Team, All Domains, Toolbox
- OEM Edition: Studio, Server, Toolbox (ready to embed or to re-brand)

The Server is also available in a restricted capability version. This version can only be used to service Be Informed models as a catalog.

Besides the editions, the Be Informed product has a number of extensions. Extensions are part of the Be Informed product, but are packaged/sold separately.

The extensions identified so far are:
- Workplace
- Test
- Analysis
- Cluster
- Provisioning

By nature the number of extensions will grow over time.

On top of the Be Informed Product Suite we distinguish, commercial and community, Solutions and Add-ons made by Be Informed (the company) or partners.

¹ For the architecture all products are independent components and can be combined in many combinations. However, not all combinations are useful ones.
About Be Informed

Be Informed is an independent software supplier specializing in solutions to complex and knowledge intensive processes. With the help of software, organizations are improving the interaction with customers and partners, streamlining their business processes and are making significant efficiency gains by immediately providing the right context-specific knowledge.

Be Informed in a short time has developed a broad customer base within the Government including the Dutch Tax Authority, the Ministry of Justice, the Immigration and Naturalization Department, and the Ministry of Housing, Spatial Development and The Environment, as well as within the profit sector, such as Achmea, Interpolis and Kluwer. Be Informed is working on extensive contracts in collaboration with well-known partners such as Accenture, Capgemini, Ordina, Oracle, Autonomy, Fast and Amsterdam University.

The background to the development of Be Informed is the observation that society is becoming increasingly knowledge-intensive. Routine processes are outsourced to low-income countries or are completely automated. What then remains are the knowledge-intensive processes. Be Informed was developed to support these complex and knowledge-intensive processes.