Business Processes and Business Rules: Business Agility Becomes Real

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ABSTRACT

Agility is today's hottest buzzword; however, it is not a well-defined term. Most vendors today use agility as the key value proposition for their products. This introduces confusion in the market, because the products do not present a consistent definition of agility. This paper will define agility within the context of workflow, business processes and business rules engines. An in-depth study of how workflow and business process tools can integrate with business rules tools to achieve business agility will be presented. Several use cases and architectures will also be presented.

AGILITY

Agility Definition

Agility is one of today's widely used buzzwords. It is used to qualify the value proposition of products that solve different enterprise problems. To understand the need for agility in today's enterprises, we need to have a practical definition of agility, and we need to identify the functions that must remain agile in the enterprise.

We can start by understanding what this term evokes in its common usages. Think about an agile gymnast, an agile orator, an agile handicraft maker, an agile child, or an agile monkey. Agile conveys the idea of flexible, talented, fast, brilliant, easy, graceful in movement, mentally quick and resourceful. All these qualifiers are positive and show that an agile person is able to adapt to many situations rapidly and successfully. Agile entities are able to move quickly from an unstable and unsafe position to a robust and safe state.

In today's environment no business is safe and failure to adapt may mean going out of business. Agility on in business is nothing new, but with the acceleration of technology and business cycles, it is becoming extremely important for businesses to remain viable.

Information Technology (IT) brings solutions for more efficient businesses: more automation, more reuse of existing assets, better monitoring of execution, increased productivity, faster production and delivery; reduced malfunctions, and improved quality of services. But in the meantime, IT creates a risk of inability to adapt, in other words non-agility. Indeed, automating business always results in implementing business conditions and business procedures somewhere in the IT system, which can lead to hard-coded business policies. As soon as they are implemented, a certain level of rigidity is reached. This is partly what is expected from automation, and companies want to enforce procedures and policies as well as provide consistent interactions. But the rigidity and the time and energy re-

quired to move from one state to the other may prevent the company from rapidly adapting to environment changes.

When business agility depends on software developer skills, project life cycles, and programming code, the chances of survival in a rapidly changing world are seriously threatened. In many cases business managers are excluded from the project life cycles when they are the real experts in conducting company business. This is unfortunately the situation in most of today's applications used to conduct business.

Allowing the information system to evolve in an agile and reactive manner requires the intervention of a new category of software unifying the information system and allowing operators to take up the definition, setting-up, follow-up and evolution of applications or processes of the organization, regardless of its back-office applications and legacy systems. Some of the key characteristics are:

- Disintermediation: empowering experts, process owners and decision makers to directly define the new rules, processes or applications without intervention of the IT department.
- Integrability: the need to preserve the independence of the existing systems, with respect to new systems.
- Progressiveness: the ability to be modifiable in order to meet the rapid evolution of the organizational environment.
- Reusability: the ability of sharing best practices within the organization, thereby increasing its reactivity and efficiency.

Business Process Management (BPM), Workflow tools, and Business Rules Management (BRM) are complementary tools that, when combined, provide all of these key functionalities, especially disintermediation. Graphical process design tools and English-based rule editors provide process owners and business experts with a clear understanding of the underlying IT infrastructure running the business application and the right level of abstraction to develop, evaluate, tune and maintain the application, keeping IT experts off the design process.

Agile Processes and Policies

Processes and policies are first-class citizens in companies. Processes and policies implement the vision and strategy of the organization. Processes define ways for the company to interact with its internal entities (applications, people, and departments) as well as with its external partners and customers. They define the *HOW* to conduct business.

Once defined, processes are good candidates for automation, with the benefits and associated risks mentioned above. Agile processes are required because companies cannot survive if they are not able to adapt their behaviors. Everything can change, for example, the organization can change in the case of consolidation, the process can change in the face of new regulations, the applications, the flow of exchanges with partners when new ones enter the marketplace, and so on and so forth. But even without these external triggers, processes are not always perfectly defined at once; they have to be optimized, or simply fixed, and thus modified.

Policies, on the other hand, define the company values when running their business. Values are about risks, pricing and discounts, decisions, quality of services,

regulation compliance, and management of uncertainty. They do not define HOW, but *WHAT*.

Policies are the company differentiators, and as such, policies are terribly threatened by the market conditions. Competitors try to jeopardize them to capture the market, with attacks that are difficult to predict but that are always on the horizon. Fast action is vital to reestablish, reposition or to capture the market. Agile policies are therefore not a nice-to-have feature, but they are a must-have. The ability to quickly react to the market challenges is extremely important in today's environment.

Fortunately there is no reason for companies to remain rigid due to IT investment. However, IT investment should be carefully planned to extract processes and policies from the application code, managing them in repositories that ensure a consistent use along all applications.

BRM: A NEW PARADIGM FOR AGILE APPLICATIONS

BPM for Agile Processes

It is now largely recognized that BPM and Workflow solutions help companies manage the execution of their businesses while preserving their ability to change. With BPM tools, processes are no longer defined with classical programming languages. They are now considered as data that can be interpreted and executed by process engines. This data is extracted from the application code, and centrally stored and managed. Process and Workflow engines ensure the proper execution of procedures by brokering the activities involved to software, hardware, or human resources. BPM products provide support for managing the processes through their entire life cycle, with tools that support the collaboration between business experts and IT experts—one of the key requirements for business agility:

- Processes give control to business over IT. This is true for people, where business experts are now empowered and involved where they were not before. But it is also true for applications, where processes combine legacy applications and adapt them to business needs, whereas applications previously forced companies to apply their "best practices."
- Processes can be changed easily even by non-technical persons. The life cycle is largely reduced compared with applications developed with classical programming languages. This rapidity reduces the time required for adapting the company.

BPM Alone is Not Enough for Business Agility

Still, most BPM and Workflow tools are designed with the IT user in mind. Those tools allow for the definition of processes and most of them will allow the user to define basic business rules embedded in these processes. Unfortunately, this approach leaves the business user with little empowerment to manage and control the business rules. In addition, it forces the business user to use IT resources to change both processes and policies.

Some modern BPM and Workflow tools are simple enough to use that business users are able to create and manage their own processes. However, complex business processes, with integration requirements and the need to develop new applications, still require IT involvement.

BPM tools provide support with the decision capabilities included in the processes. But these decisions are implemented using scripting languages, or are hard-coded in programs associated with process activities and can be neither effectively maintained nor efficiently defined by business experts.

Therefore a user-centric solution is required to define, execute and manage policies: this is the goal of Business Rule Management Systems (BRMS) that are now part of the IT architecture as a service for implementing, managing and executing the company policies.

An environment including BPM and Workflow tools to develop and maintain processes and BRM tools to develop and maintain policies, allows for a separation of duties between the processes and the policies, and so IT can develop the business process and the business users can develop and maintain the business rules. This separation of duties provides the organization with an environment in which rapid changes in processes and policies can be effected by the right persons in the organization.

The remainder of section 2 describes what BRMS are and those benefits which can be expected from their usage. Section 3 discusses some of the common integration scenarios that business process tool vendors and business rules vendors use to integrate the two technologies.

From Rules to Business Rules

if [conditions] then [actions] is certainly the simplest expression of a rule. Applications are full of such statements that determine the many behaviors of programs. This is fine and appropriate as long as these statements are not connected to business rules. But as soon as the conditions and actions are relative to business events, business cases and conditions, these statements should be extracted from the application code in order to be more easily managed (defined, documented, versioned) and consistently executed.

This is where BRMS bring an elegant solution. Inherited from the early Artificial Intelligence domain where rules were used for chaining complex decisions and diagnoses, today's BRMS are much more pragmatic and usable by non-technical personnel.

Business Rules Examples

Business rules are precise statements that describe, constrain and control the structure, operations and strategies of a business. Most of them take the natural form of *if [conditions] then [actions]* that can be easily created and understood by anybody.

Business rules are found everywhere in the enterprise as they express its particularities, its originality and its values. Let's see some examples.

Business rules are found in customer care and billing applications to apply permanent or occasional discounts, or permanent pricing policies:

If destination phone number is preferred number
then give a 50% discount on call.
If customer is member of nickel night's plan and call time is after 5 p.m.
then the billing rate is .05 per minute.

Insurance and finance are also massive users of business rules created to offer more product options and to comply with external regulations. The samples below illustrate business rules for underwriting mortgage loans:

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If borrower is a first-time homebuyer
then offer the no down-payment option.
If the transaction is a cash-out refinance
then the loan-to-value ratio must be less than or equal to 85%.
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Some business rules express constraints, as in the following samples used to manage portfolios. Constraints can express the company's expertise, the customer choice or preference, or even the regulations in place.

The concentration of Equities must not exceed 70% of the entire portfolio.
No security should be purchased from the Tobacco sector.

The examples above should have clarified the notion of a business rule. We can find the following categories of rules in various businesses:

- Regulation and constraints: parts of laws can be implemented using rules (constraints, validation) and processes (mandatory procedures).
- Pricing and billing: rules describe pricing policies that depend on customer profiles or promotion campaigns.
- Quality of service: making sure the service level agreement is respected by the service provider. Rules check for performance, service defects, propose workarounds, etc.
- Events: rules describe how the company should react to events (coming from various sources), to the correlation of events, to the occurrences of events within time patterns.
- Process flow: rules describe routing decisions, participant assignment policies (such as if the process is late, then assign it to the most experienced person).

Business rules are essential in all facets of the enterprise, and so a consistent and robust mechanism for expressing, keeping and enforcing these rules becomes critical. How can they be managed efficiently? How can they be reused in various applications (that should all be consistent with the policies defined by the company)? How can they be maintained, changed, improved or suppressed in response to the time constraint brought on by the market pressure?

Description of BRMS

Business Rule Management Systems propose new categories of products that enter the enterprise infrastructure in order to support the company's business rules and policies.

With BRMS:

- Business rules are extracted from application code and stored in a repository. They can be changed without ever touching the application code in very short time. Rule modifications can be performed without stopping the application, enabling dynamic changes.
- Business rules are created by IT professionals, business analysts, and business users. Tools are adapted to each user profile so that business rules can be expressed naturally, with no language barrier. IT professionals get access to the full programming language and business users use a limited but familiar English-like language.
- Business rules are executed by rule engines that can be either embedded into applications or deployed in application servers as rule services. Rule engines are able to load rules, to execute them against real application objects.
- Business rules are managed with a comprehensive set of tools: rule editors, debuggers, profilers, and repositories. The repository is a particularly important piece that ensures that policies are centrally maintained, versioned and used consistently in various applications. For instance, it is possible to validate a series of rules for a given period (i.e., a promotion campaign period), or to invalidate all rules created before a given date (a law has been modified). A query language enables business users to get all the rules that refer to a given application object, or to understand the impact of rule modification.

Not all products available on the marketplace provide all of these services, and the maturity of the product should be carefully considered.

It is crucial that the tools provided with the BRMS address technical as well as non-technical personal needs. The agile enterprise cannot rely exclusively on IT to adapt its business. Business professionals must be highly integrated in the project life cycle. The mature BRMS offers tools and proposes methodologies that enable this necessary collaboration. Roles are clearly defined (developer, administrator, business analyst, business manager) and associated with tools that smoothly enable the interaction of all roles during the entire life cycle.

Taking Advantage of BRMS

A BRMS supports the company policies and keep them agile. When adopting a BRM approach, many applications—new and legacy—can be impacted to take advantage of the new paradigm:

- Existing applications that have embedded policies can be reviewed to extract the hard-coded policies and to interact with the business rules engine to evaluate the business rules.

- The architecture of new applications must be designed to take full advantage of BRM technology. All business-sensible policies are identified and developed with the BRMS.

Business processes (which are also new types of applications) should separate the business logic (conditions that depend on business decisions) from the process logic (conditions that depend on the organization) and should rely on BRM to support business logic. As with all applications, BPM users are sometimes tempted to "code" simple policies into the processes. For instance, there are many (too many?) decision trees (policies) implemented as process flows that should ideally be implemented as rules. Because BPM helps design such decisions with flows, it is tempting to cross the border and start implementing policies with processes. The cost can be high, and it often results in overcomplicated processes that are difficult to maintain.

The next section discusses some of the common integration scenarios that business process tool vendors and business rules vendors use to integrate the two technologies. The discussion will allow readers to differentiate between the integration scenarios and to evaluate the advantages and disadvantages of each scenario.

COMBINING BPM AND BRM

Combining BPM and BRM requires that IT and business users can access both processes and policies in tools that they can use to define, manage, and monitor their business. Today's BPM and BRM functionality are being provided by disjoint vendors, so we need to study the various scenarios of integration and their impact on usability.

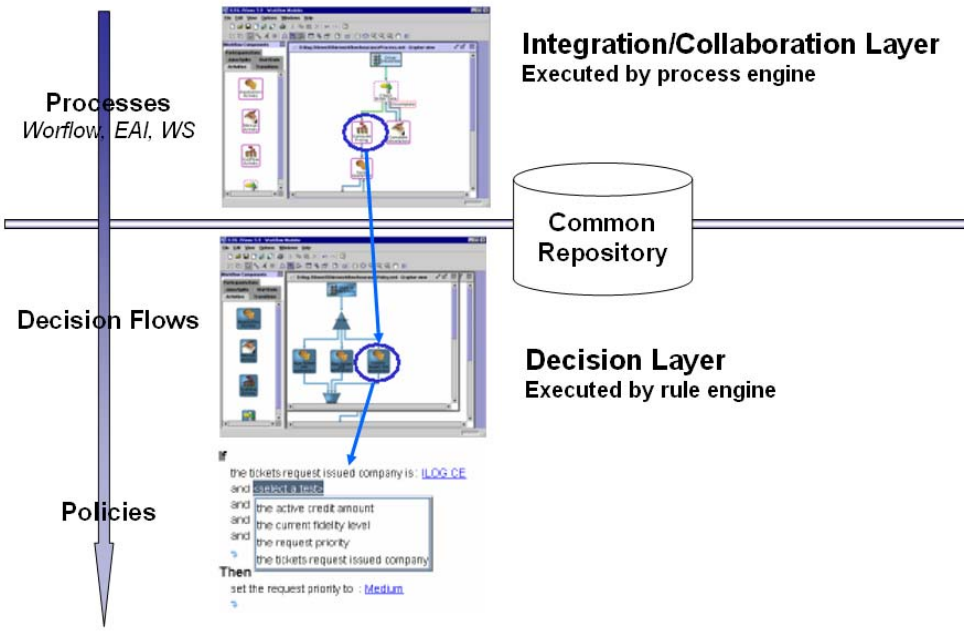


Figure 1 - Continuum of Integration between BPM and BRM

Disjoint Tools

The process engine is not aware of the BRMS. The process engine invokes applications among which some applications may embed rule engines. But there is no way for the user to know that an activity contains policies, and no way to jump to the policy description from the process tool.

In this configuration, processes and policies are designed and maintained in silos, which prevent taking full advantage of both technologies.

Integration at the IDE Level

This level of integration aims to offer IT and business users a set of tools that leverage the use of BPM and BRM. In this scenario, the process engine is still unaware of the rule engine. Rather than having two entirely distinct sets of tools to define and maintain process and policies, some bridges are created between the tools to ease the navigation between the process and the policy levels. The bridges can be created at various levels:

Bridges between definition tools

Automated activities that are embedding a rule engine are tagged in the process definition tool, and the set of rules used is mentioned. With this bridge, users can distinguish between rule-based activities and conventional programs. When selecting rule-based activities, the BRM definition tool is invoked with the proper set of rules loaded. With this bridge, business users can easily navigate from process definition tools to policy definition tools, and better take advantage of the two categories of tools. If this integration is better than the previous one, users may still face difficulties with the approaches taken by the vendors in terms of the user interface. If the tools are linked, they are still different and the user needs to learn them both with few reuses. This user experience issue can be particularly critical when the BRM offers the notion of rule flow (defines the decision process where activities are rule sets to be loaded), with notations that are similar to process flow notations. The final user can be puzzled by the lack of consistency between the BPM and BRM tool.

Bridges between repositories

The last level of integration before integrating the engines themselves relies on facilitating the management of processes and policies. Agility must be managed, and it is important to understand the impact of policy changes on processes. With BRMS, policies can be queried, modified and invalidated from the rule repository. The impact on other rules is easily determined from within the rule repository. But when the modified rules are shared between several applications, which are themselves invoked by several processes, it is crucial to understand the impact on the processes. Rules and processes could share the same repository. With such integration, the impact of invalidating a rule set after a given period (for instance, discount policy bound to a marketing campaign) would be displayed at the process level, showing all processes subject to having a behavior impacted by the change.

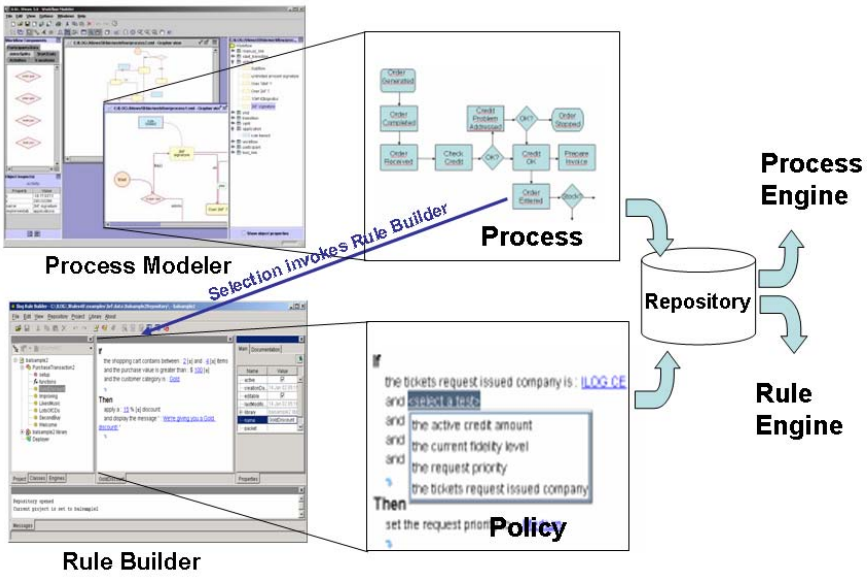


Figure 2—Integrated IDE for BPM and BRM

Integration at the Engine Level

The most elaborated level of integration consists in integrating the process and the rule engines.

There are several approaches to integrating business rule engines and business process engines. To evaluate those approaches, we must first understand how business rules can be used in the context of a business process. In general, business rules can be used within business processes for at least the following purposes:

- Routing or transition from one activity to another in a process could be controlled by business rules. For example, loans of a value greater than $300,000 may require routing it to extra activities.
- Data validation in a process could be based on business rules. Eg: in manual activities user input may be validated using rules.
- Pre- and post-conditions in activities can be evaluated using rules.
- Business or regulatory constraints can be enforced using rules.
- Legal compliance can be enforced using rules.
- Business calculations can be implemented using rules.
- Categorization or classification can be done using rules. For example, a loan greater than $300,000 may be classified as a jumbo loan.
- Resource allocation can be performed by business rules. This allows business users to define resource allocation policies that fit their business needs.

From these use cases, it is clear that in some cases rules are required at very specific points in a process, as in the case of a business calculation that must be done at a specific point of the process. In other cases, rule evaluation is required

in all the activities of a process, as in the case of some business or regulatory constraints that must be enforced in all the activities of a process. A good integration must support both of these use cases.

Types of Integrations

The integration of a business process engine and a business rules engine can be seen as a continuum, from a very tight integration in which there is only one engine providing both process and rules functionality, to a very loose integration in which the rules engine is seen as an activity in the process invoked by the software implementing the activity. A good integration is somewhere in between.

A very tight integration forgets that business rules must be applied to business processes and other applications. A very loose integration forgets that rules may be used in all the activities of a process. An ideal integration will preserve the strengths of both these technologies.

The following figure shows three integration possibilities. In the illustration, the software or application that implements an activity is labeled as the client.

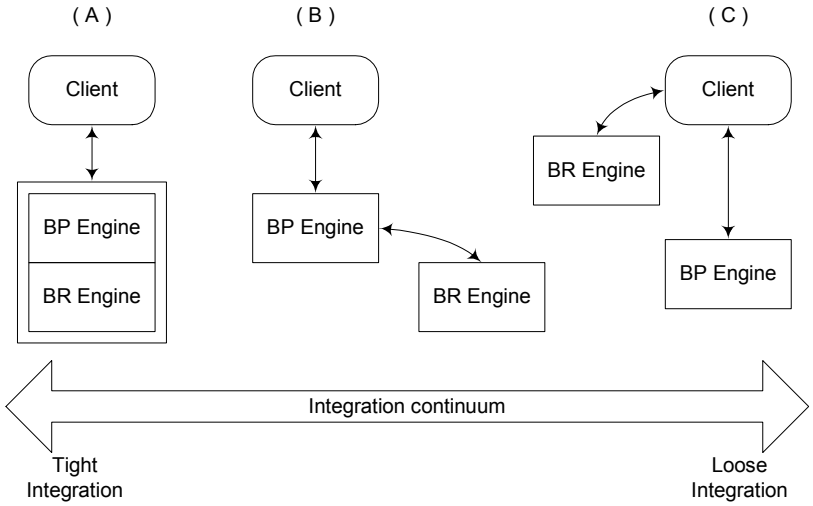


Figure 3—BP and BR Integration Continuum

A very tight integration (labeled A in the previous figure), in which the business process engine and the business rules engine are implemented into a single engine, may not be the best integration solution. It is important that other applications, including other BPM tools, have access to the BRM functionality without the need to interact with the business process engine. In general, you want to have multiple process engines and applications share the same policies managed by the business rules engine.

A less tight integration (labeled B in the previous figure), in which the business process engine interacts with a business rules engine, provides an ideal situation. An interaction at the engine-to-engine level provides the business process engine and the business rules engine the opportunity to optimize their interaction, without imposing extra constraints on its users or clients.

The very loose integration (labeled C in the figure) is done at the client level. The software that implements an activity is now in charge of invoking the business

rules engine. That level of integration does not require support by the business process engine, and so, customers of BPM or Workflow systems that do not provide business rules integration can adopt this approach. However, the fact that the BPM or Workflow tools are unaware of the rules engine, or treat the rules engine as an external application, imposes restrictions and compromises usability. For example, if rules evaluation is required in multiple activities then all the affected activities must be modified to invoke the rules engine.

Usability of the Integration

An important aspect of process and rules integration is that of usability and complexity for the person designing the business processes. The presentation and complexity of the business process should not suffer when using business rules.

To illustrate how the usability of a process tool can be affected by the rules integration, figure 4 presents a simple process with five activities (1, 2.a, 2.b, 3, and 4). Let's assume that we want to use rules for this process as follows:

- Some validation rules must be applied to the resulting data of activity 2.a.
- Some pre-condition and post-condition rules should be applied to activity 2.b.
- Activity 4 is a classification activity that can be fully implemented by using rules.

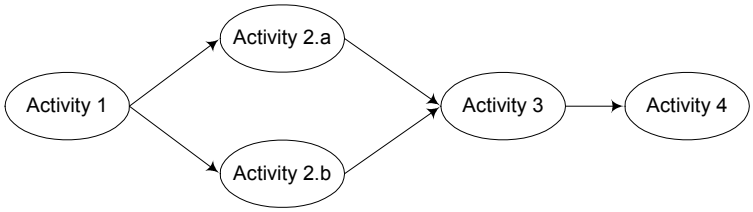


Figure 4—Simple Process

Figure 5 presents the same process using activities to implement rules. Three extra activities are required to implement the rules functionality. This solution clutters the process definition graph with extra activities that add little value to the understanding of the process, and so increases the complexity of the graph.

For example, a process that requires rules at each step to maintain a business constraint needs to double the number of activities on the process definition graph. A process that requires rules for pre- and post-conditions for all the activities will triple the number of activities. This use of rules as activities increases the complexity of the process definition graph, and adds very little to the understanding of the process as a whole.

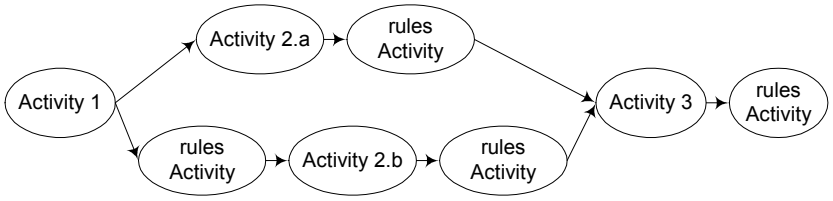


Figure 5—Simple Process with Rules as Activities

An alternative, shown in figure 6, allows the person defining the process to include pre- and post-rules evaluation as part of an activity. This allows all the activities in the process to contain rules without increasing the complexity of the process definition graph.

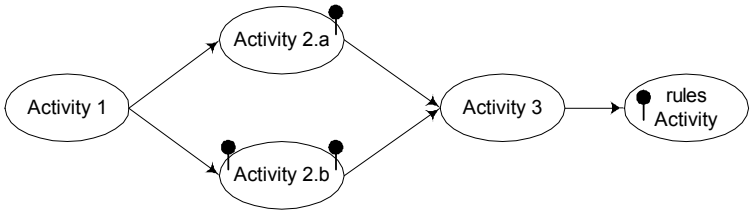


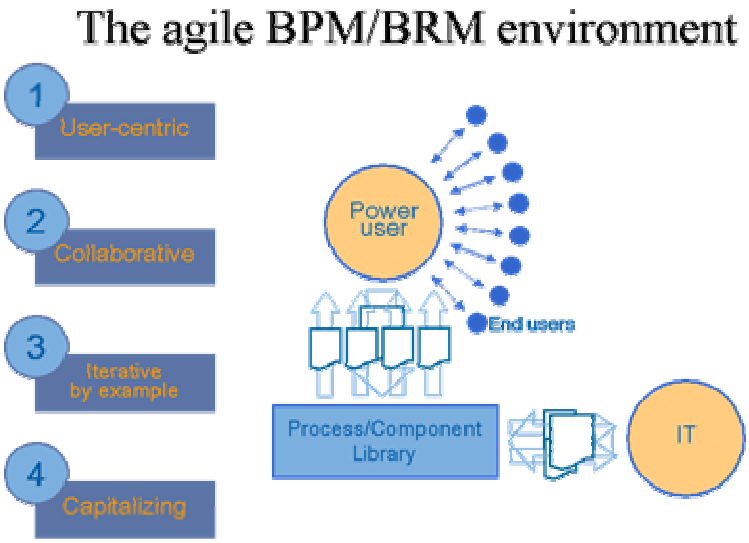
Figure 6—Simple Process with Rules as Part of the Activities

Usability is well served by an integration in which the BPM or Workflow tool provides the ability to include business rules invocation across all the potential activities of a process, as well as those activities that can be fully implemented using the rules engine. This approach allows the process designer to decide when to embed the rules invocation as part of an activity, or to provide an activity to invoke the rules. Therefore, the process designer can manage the complexity of the process definition graph.

BUSINESS AGILITY => BPM + BRM

The separation of duties between the process and the policies is a major step towards an agile environment, in which rapid changes in processes or policies may be effected by the right persons of the organization. Nevertheless, to be fully successful the BPM/BRM environment has to observe the following principles:

A "user-centric" approach:



The BPM/BRM environment must be a universe entirely oriented towards the staff in charge of the definition and follow-up of processes and policies. Thanks to its ergonomics, this simple and accessible universe has to allow business users without technical knowledge to model their environment and define processes, policies and/or applications graphically and without the assistance of IT. It must include a powerful RAD (Rapid Application Development) tool for business users. Thus, the staff has the option of overcoming the control of IT in order to develop their own applications, which leads to a more efficient use of tools by the staff.

A collaborative and iterative approach by example:

The environment has to be opened to a collaborative approach. In order to better model knowledge and functioning of a company within processes, it is necessary for many staff members to participate. The environment has to offer the option of constructing complex processes and policies in collaboration. This functionality allows each staff member to concentrate on the part of the process/policy that is directly involved with his field. This allows disintermediation between the person who knows and the representation of his expertise within the process, allowing faster and distributed developments, increased reactivity and greater precision.

There must also exist an iterative approach that allows the involvement of the end-users during modeling, updating specific parts of the application with the RAD mechanisms while preserving the option of modifying the overall structure of the application and regenerating without losing the changes.

A capitalization approach:

An agile environment will insist on the reusability of all elements: from simplest components (i.e., a basic element of a business rule such as getting the balance of an account, a simple validation process or the mechanics of sending a document by fax) to more complex ones (complex business rules ready to be combined, business applications, web services, ...) or technical modules (graphical chart, single sign on, connectors, etc.). This allows for the creation of a real catalog of business and technical components that will be combined by business users when developing new processes and policies. The environment will be progressively enriched by IT, which will focus on technical components and architecture, and will not be bothered by the development of processes and policies.

An approach of strong integrability:

Whether it concerns mainframe, database, ERP, directories, application servers or legacy applications, BPM and BRM have to integrate easily and quickly.

USE CASES

Use case in administration: National Assembly for Wales

In the previous section, we described the integration of BPM and BRM. The increasing need for agility is now becoming a key differentiator between the various workflow and BPM solutions on the market. The question is now "Can I adapt my process and keep it up to date with permanently changing business conditions?" Today, changing business conditions are the BPM manager's nightmare, especially when the process is driven by National or Community legislation-derived

rules that are subject to frequent changes, updates or exceptions. In this chapter you will see how the National Assembly for Wales has benefited from their decision to use BPM and BRM technologies to answer the key equation: **BPM+BRM=Agility.**

From the highest government or parliament to the smallest municipality, jurisdictions are turning from manual records or file processing to automated systems. In such a digital revolution, the main challenge for administrations is to provide people with equal and easy access to services, and the ability to manage processes and content in high volume transactions such as subsidy computation processes. Managing a process also requires that it is kept consistent with the authority's regulations. It is essential that these new systems allow rapid change, good visibility of processing performance, consistency in a controlled and cost-effective way.

Aware of these requirements, the National Assembly for Wales opted for an agile solution that combines Content Management and business rule-driven business process management. They wanted a new system that would look ahead to the probable and fundamental reform like in the Common Agricultural Policy (CAP), and needed a highly flexible system and business model that would allow easy implementation of changes. They also wanted to increase the efficiency and level of customer service, while improving the working environment of their staff. Thus, the use of a common business process, which dynamically loads case specific rules, is the key issue for working with an agile BPM platform. The use of a BPM system enhances the claim management level by moving to a system that can be independent of application submission format for example; a paper based application may in the future be via the web or third party software. The use of BRM allows the standard business process to be easily mapped to other application areas.

One application example in the spectrum of the possible ones is to automate the processing of subsidy requests accordingly to the CAP. There are a number of different schemes which involve complex legislation and calculations. The previous process management was based on paper-based applications and a bespoke legacy computer system based on 3rd generation code. The legacy system was slow to change, difficult to use and each scheme was implemented separately, based on a different unautomated process. The new system captures data from the application forms and handles the submissions within a standardized business process. The standard business process offers many advantages to the client, such as consistency, visibility of KPIs across schemes, auditability, ease of use and training and only one set of business processes to change.

To allow the individual schemes and applications to be handled according to specific requirements, business rules are dynamically loaded at run-time. Enabling this decoupling of business process from business logic is fundamental to enabling process agility. It allows an organization to focus on optimizing their business processes and to better cope with handling new application types (i.e. new business logic) without affecting their business process or corporate organization. This other use of business rules makes it possible for the business users to compose and manage the business rules directly reducing the business process updating cycle. Integrated content management means that application forms and

customer correspondence are easily accessible and it is also used to maintain auditable business process and business logic change control.

This ILOG and FileNET integration managed by Cap Gemini Ernst & Young is a meaningful illustration of the benefit in integrating BPM and BRM systems. The following table summarizes how the tasks are shared between the two technologies:

BPM	BRM
• Application Integration • Document Digitalization • Global Process Support • Process standardization • Process reuse	• General (cross-application) rules • Case/application specific rules • Global Process Specialization • Direct business control • Better business knowledge of rules

This solution provides added value in several ways. Previously the requests were managed by a combination of manual methods and computer systems. Paperwork from and to the customer was held as hardcopy in a filing system and there was no integration between different systems for handling the process schemas. Since the request processing time is dictated by a European Union calendar, the main added value is the flexibility and accuracy gained rather than a response time reduction. The more significant gains made by this application are in customer service and in the greater flexibility, improved integration and business process traceability. The agility here is highlighted by the fact that the business rules managing the CAP can be changed or added in hours rather than weeks, and in a controlled an auditable manner.

USE CASE IN FINANCE

The following application concerns an overdraft approval in a bank.

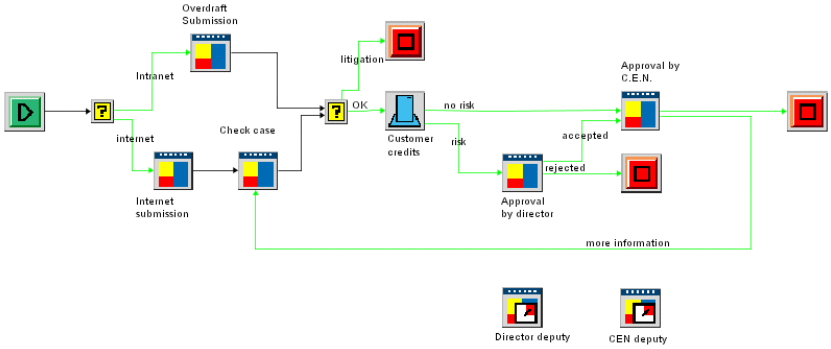


Figure 9—Complex Decision Node Called from a Process

The customer goes to his branch office and asks for an overdraft for a given account. This opens a new work case for managing the overdraft submission. After entering the data, the contract is edited, and then the work case is transferred to the BPM engine.

The next task "Customer Credits" is in fact a call to rather complex Business rules for computing the customer's "score." Scoring involves average bank balance, loans, and refers to the bank policy to decide if there is a risk or no risk. At

the end, the business rule compares the score with the requested overdraft amount, and stores the result in the work case in a simple way: "risk" or "no risk."

Once this computation is done, and in case the bank's management rules show that some risk is involved, the case is transferred to the Branch office Manager. The Manager must then make an estimation to see if he agrees that the branch office takes this risk. If he does, the work case is transferred to the National commitment center. If there is no risk or if the branch office manager has accepted the risk, then it is the National commitment center's turn to check the work case. The center can require further information from the customer representative, or accept the overdraft submission. In the last case, as a post condition of the activity, a business rule introducing the overdraft approval in the bank information system is triggered

In this case, the BPM tool takes care of routing the flow of activities and transmitting the case to the persons and applications. The BRM engine is invoked by the BPM engine to score the risk and to qualify the case as risk or no risk. The decision defined in the BPM tool is limited to a basic choice: Is there a risk or not; and we can see a clear separation of process and policy decision. With this separation, not only is the user provided with the right tools for defining processes and policies, but also the BPM engine is kept available while complex decisions are being made.

BPM	BRM
• Data flow based on simple decisions (checking a variable status).	• Rule-based activity for scoring customer risk and assigning a risk/no-risk qualifier according to the bank policies.

CONCLUSION

BPM users have recognized similarities between BPM and BRM: the approach is similar, but the scope is radically different. Processes are not policies, and policies are not processes. For those who have understood the benefits for BPM, it is straightforward to understand those of BRM, and to understand the value of using both BPM and BRM.

The combination of both technologies allows businesses to:

- Extract process logic from application code.
- Extract business logic from application code and process code.
- Bring together the methods and tools for collaboration between IT and business personnel.
- Empower business users so that their expertise in business and organization of work may be rapidly implemented into an automated system.

The combination of both technologies is a major step towards an agile environment, provided it observes a "user-centric" approach, and includes collaboration, as well as iteration by example and capitalization approaches.