

Subject-oriented approach to business process management

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Abstract¹

The article is devoted to the subject approach to business process management. In the beginning of this article, we are talking about traditional notation BPMN, and a description of the key problems of the notation. Then defines the subject approach (S - BPM), the key idea of this approach and the characteristics of the process in S - BPM. The second part is an example of using technology subject approach in the traditional business the procurement of goods. Finally, a comparison of approaches S - BPM and BPMS.

1. Introduction

Business processes are the fundamental basis of the enterprise as an organizational system, so the concept of "business management" and "business process management" today are closely linked. Have taken place in the global market changes require the revision of traditional views on business management and business processes. Getting the methodology of subject-oriented approach was initiated in 2004 by one jCOM AG (now Metasonic AG), and its purpose was in modeling, approval and immediate execution of business processes.

2. BPMN and S-BPM

BPMN notation was developed in 2001-2004, a specially created non-profit organization Business Process Management Initiative (BPMI), in order to address the standardization of approaches to business process management. InBPMI included organizations such as IBM, Hewlett - Packard, Sun Microsystems. BPMN - used to describe the low-level. The main objective pursued in the development of BPMN, was to get the notation is easily understood by all users: from business intelligence, which is the first outline description of the process to the technicians who are responsible for the implementation of these processes in the system. BPMN notation It includes about a hundred different characters, and Jim Sinur, a leading analyst at Gartner in the field of BPM, gave deciphering abbreviations notation «Business People May Not Understand », that is" business

people can not understand "this notation. It may be noted the following difficulties in the notation:

1. in line with the basic concept of "flow-through control" in BPMN-model in the description of the process is necessary to identify all possible scenarios and sequences of chains of action that leads to extreme "sprawl" and the complexity of the model. Models are very cumbersome and complicated for perception and analysis;
2. BPMN notation itself is complex: it contains more than a hundred different characters, the specification of which takes more than 500 pages;
3. BPMN-conversion model into an executable application does not give the desired effect, as business experts are not able to work with such models without special training. The barrier between business and IT is still in place.

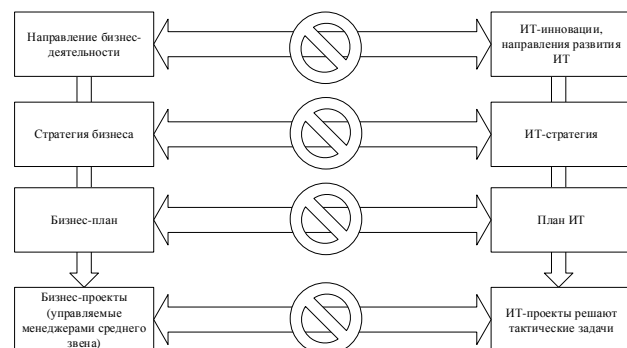


Fig. 1. The gap between IT and business

Therefore, on the basis of the above, the subjective approach has its place among all the approaches.

The reason for its popularity is growing significantly reduce the cost of automating business processes through the rapid transformation of subject models into executable applications, as well as through the participation of the subjects themselves in the harmonization of models and in turning them into executable applications. The terms "subject" and "subjectivity" in this case are defined as follows: "subject" - medium activity, consciousness, knowledge and reflection, and the "subjectivity" - characteristic of the subject (as the bearer of activity, consciousness, cognition and reflection), which reflects the completeness

of his actual and potential and the degree of their implementation in the present and future

S-BPM methodology involves a subject-oriented approach to business process management, and builds on a long time worked in the science of mathematical methods that allow immediate conversion process models into executable applications. This methodology was developed in Early in 2000, the founder of the company Metasonic AG Dr. Albert Fleischmann (Albert Fleischmann) and patented by Metasonic AG.

The basis of S-BPM is a number of key ideas:

1. Management complexity by using insulation, the reduction of complex business logic using the asynchronous focusing on small parts. This makes it easier to understand;
2. coordination of business participants using a structured communications, involving the distribution of the right information at the right time to the right people;
3. description of the models in natural language - intuitive language to the structure containing the subject (subject), verb (action or predicate) and complement (object);
4. code generation (process applications) and not just images. These process applications involve the creation of a joint environment in which the business participants create and modify their applications. At the heart of this collaborative environment are:
 - Anthony Hoare work on communicating sequential processes (Communicating Sequential Processes, CSP);
 - Robin Milner's work on the calculation of interacting systems (Calculus of Communicating systems, CCS);
 - Petri nets;
 - the concept of object-oriented programming (OOP).
5. availability of effective tools for the validation of created models of business processes;
6. minimize the cycle time of the model building process to the implementation of the executable process.

Works by Anthony Hoare and Robin Milner used to represent the interacting entities, and Petri nets and the concept of object-oriented programming used to represent actions and objects.

As mentioned notation S - BPM unlike BPMN It is very simple and consists of only 5 characters:

1. subject (artist) in the process;
2. Message - information that performers share in the process;

3. 3 types of actions or conditions that may be the subject is used to describe the behavior of performers:

- functional state in which the employee performs some task;
- sending state;
- state information.

Despite its simplicity, the notation allows to describe patterns of any complexity and automatically receive executable application on the basis of the developed models.

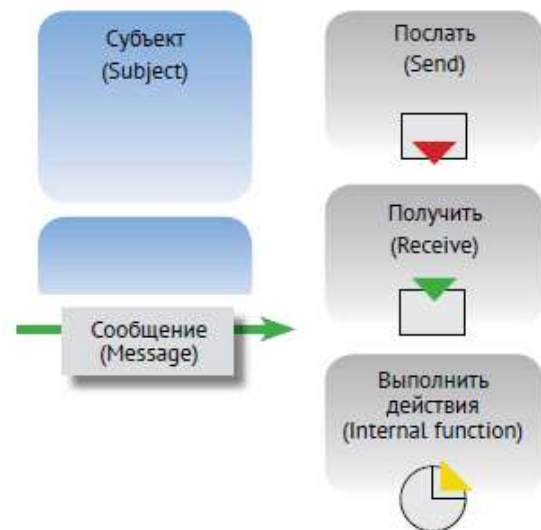


Fig. 2. The types of characters in the S - BPM

The process in S - BPM involves a transition from a complex finite state machine to a set of simple finite state machines (see. Fig. 1). Subjects thus always parallel, and workflow and message flows are clearly separated. The subject is determined by a set of tasks (actions) to be performed strictly in a predetermined manner clearly specified group of people in the organization. Different actors are coordinated through communication (messaging). Thus, a process is described fully and clearly only when the behavior (entities) all involved parties and all communications between them are described in detail.

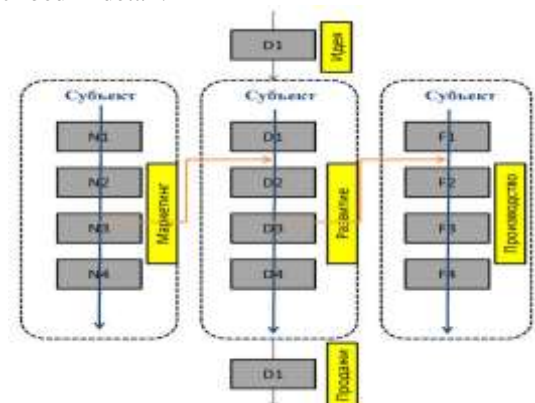


Fig. 3. The process in S-BPM

The focus of the subject-oriented approach are the people, that is a direct participant in the process, and the process is nothing but a set of structured communication between participants, each of which performs a specific set of actions in the workplace. Automation in this case is to create workstations for employees, which allow them to perform tasks. Consider the application of S - BPM approach on the example of the business process "Order". This process consists of the following sub-processes:

1. planning customer purchases;
2. filling out a customer order form;
3. sending form custom-fit person;
4. check the matching of the order form;
5. informing the client about the decision by the order (to confirm / deny);
6. order products in case of confirmation, and the change in the order in case of failure;
7. sending an order to the warehouse if the order is confirmed;
8. sending an order from a warehouse supplier;
9. delivery of the order from the supplier to the warehouse;
10. delivery of the order to the customer.

From different points of view, the process will look different, for example, from the viewpoint of the client:

1. The drawing up of the order;
2. ...
3. The receipt of confirmation / rejection;
4. The correction of the order in case of failure;
5. ...
6. The receipt of the order in the event of confirmation.

One could say that the remaining steps of the business process are hidden from the client, in turn, from the viewpoint of storage process is as follows:

1. ...
2. receipt of the order;
3. send purchase order;
4. obtain an order from the supplier;
5. delivery of customer orders.

In these examples, it is clear that some processes, hide from one subject, see the other actors, and vice versa. Thus, it is clear that the key elements of the S-BPM are employees, and the implementation process of the

methodology - is structured communication. Figure 4 shows an example built in the S - BPM of «order».

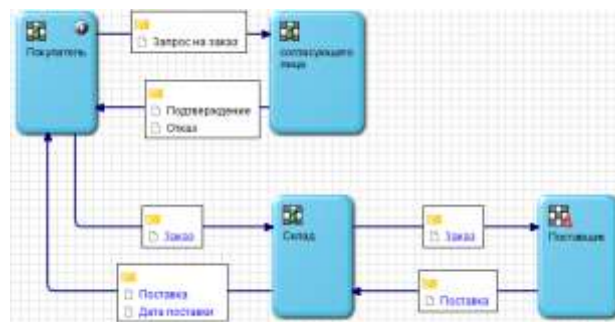


Fig. 4. The process of "order" in the S - BPM

For each subject builds his model of the process, called the communication diagram. An example of such a diagram for the subject of "matching face" is shown in Figure 5.

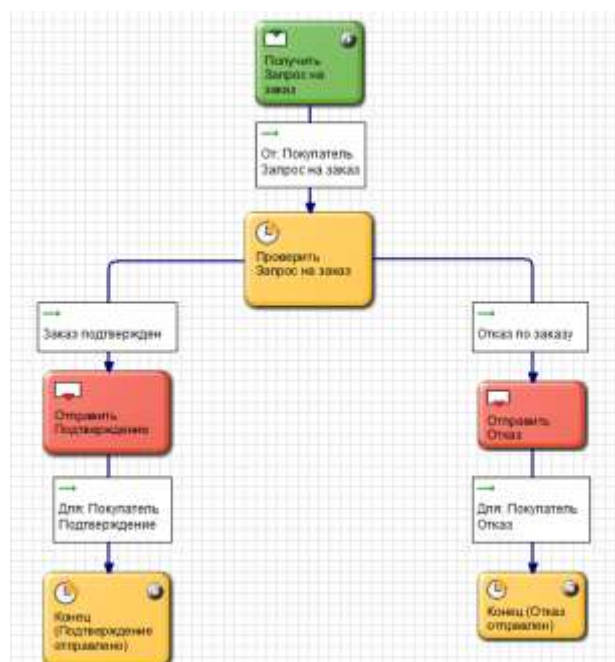


Fig. 5. Chart communications

Unlike traditional BPMS, offering everything first build, optimize, and integrate with all the quality to implement in S - BPM quite the opposite idea as quickly as possible to automate, execute and start, due to the possibility of controlling of process parameters, beginning and manage business processes. The ease of making changes to the model S-BPM and immediate reflection of the changes in process applications run in practice allow a cycle of continuous improvement of business processes (Plan-Do-Check-Act, PDCA-cycle). At the initial stage of change management in the S-BPM provides a small but clear and, most importantly, measurable effects. Then you can gradually increase the integration and automation of business processes. This technology is not suitable for all processes, but for many - it is quite an acceptable solution.

Company Metasonic AG, founded The approach to develop a platform for dynamic process applications

Metasonic Suite, which is based on the methodology of S - BPM and includes various modules that support the entire cycle of business process management, including:

1. Metasonic Build - design environment used to design processes and IT development;
2. Metasonic Proof - Wednesday verification of business processes;
3. Metasonic Flow - runtime and controlling percent of applications;
4. Metasonic Base - Wednesday Administration Server and applications.

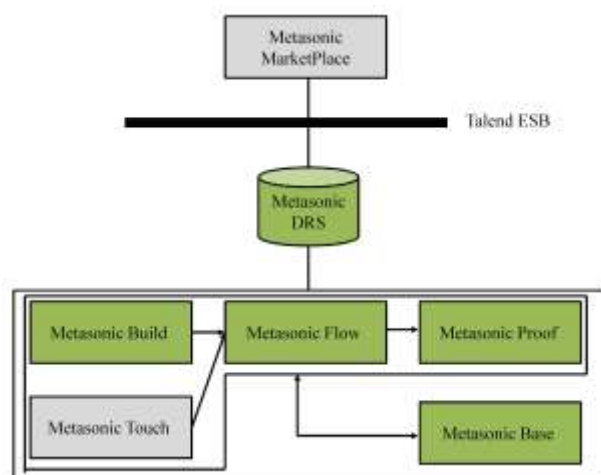


Fig. 6. Components Metasonic Suite

Metasonic Suite It offers the following features and capabilities:

1. dynamic processor rules (rules, asked the editor, no programming required). Rules can create the employees themselves, whose specialized knowledge define the rules of the process. This saves time and money and prevents errors. For example, depending on the creditworthiness of the client, its status and the amount of the order, the customer receives the order (in the usual way or express) or receives a message that the reservation is not possible;
2. navigation in the process of forms-based data. Based on these forms of navigation in the process provides a quick and easy way to include all employees in the process. This is a simple alternative to Metasonic Flow for employees who perform only a few operations in the process and do not need, therefore, to use a full-fledged management tool;
3. The cloud architecture. All components Metasonic Suite can be initiated from the cloud;

4. The joint modeling suggests:

- parallelization. Several business members can work on a model at the same time, creating an effective team work, does not require that all business participants in one place;
- informing participants. Changes made by other contributors, are immediately displayed. Constant status updates works faster effective cooperation;
- involvement of the participants. Each Party shall establish a business model, from their perspective as a subject. Intuitively structured task assignments bring clarity and speed;
- a different focus of attention. Business participants with a different focus of attention (business and IT) work together, creating effective interaction of all departments.

3. Conclusion

Subject-oriented approach to business process management (S-BPM) is a relatively new approach that takes time to test its effectiveness in practice. Using the methodology of the subject-oriented approach to business process management can significantly reduce the cost of automation, but requires answers to a number of practical issues that can be obtained by further research and study of the experience of real projects.

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