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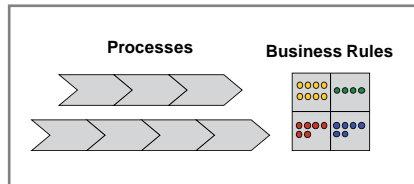
Business Rules

Flexible Operation with Modeled Business Rules

Business rules are the words on everyone's lips in the hype of service-oriented architectures (SOA). Why are companies concerned with business rules and how are they linked with describing business processes? Because business processes and business rules are stringently separated and changes to business rules can be successfully dealt with.

The basic principles for "Business Process Modeling as a Basis for an SOA" were described in the last edition of the Modeling Magazine. The modeling of business rules was only briefly discussed and will be discussed in more detail in this article. Employees need to adhere to guidelines for many business processes. Various rules govern how the business process is executed. IT applications are increasingly adjusted to suit processes and rules within companies so that a higher level of process quality can be achieved.

and are then immediately available in all relevant places.



Describing Business Rules

The process flow variant is modeled in detail in a process; the flow is controlled by a rule. i.e. various paths possible which should run through the process are described. Our example has two paths, one for adding VAT and one for if no VAT is incurred. The condition is only modeled abstractly at the decision. The condition is called

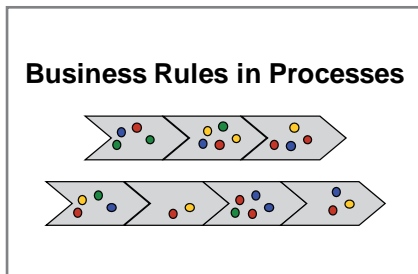
"Liable to VAT" (Umsatz ist mehrwertsteuerpflichtig) in this case. The decision logic as to when VAT needs to be added is defined in the "VAT at Net Price" (Mehrwertsteuer zu Nettopreis) rule. The rule is only referenced in the process. Your own rule can also describe how the amount of VAT is calculated.

This makes the process description simpler and easier to understand as the complex logic is contained in the rule.

The rules themselves are structured in the if...then form:

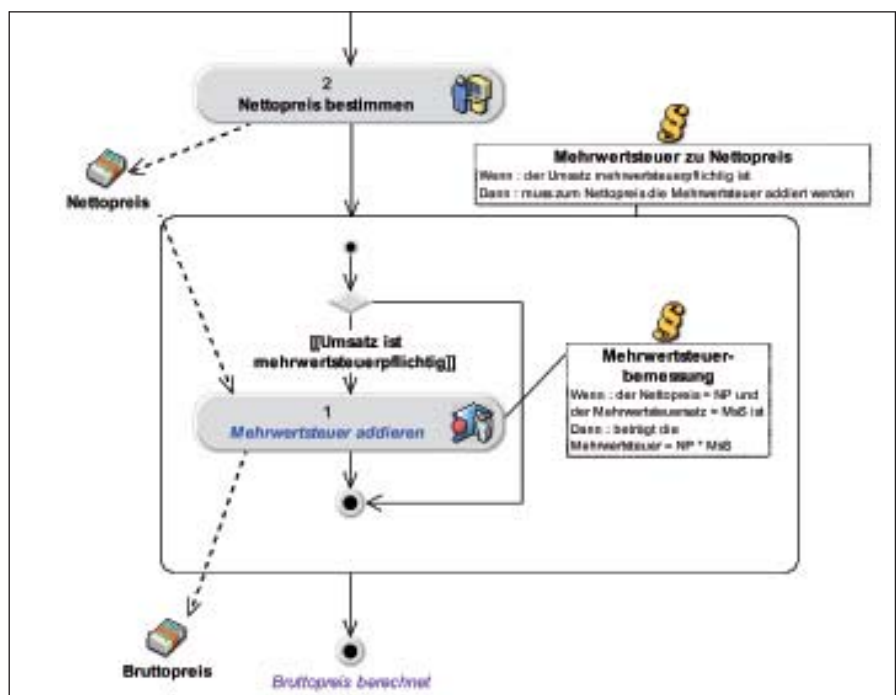
- IF the net price = NP and the VAT rate = VATR
- THEN the VAT=NP*VATR

The IF part of the rule is a rule premise and the THEN part is a conclusion. This example deals with a structural rule. The rules cannot be bent and are there-



If a business rule is modified – whether by the management or the legislative body – there is often a panicked hunt in the company to find out which processes and applications are affected by the changes. Seemingly small amendments to the law can have a huge impact: What does the implementation look like and can it be implemented in good time? Example: The legislative body governs who needs to pay VAT, when they pay it and how much they need to pay.

The process logic (if VAT is liable, then ...) needs to be kept stringently separate from the decision logic (what is liable to VAT and how much is VAT?). In other words, business rules are modeled separately in the business process model and only rules are referred to in the process. The advantage of this procedure: Changes only need to be made in one single place



fore sometimes called "necessities".

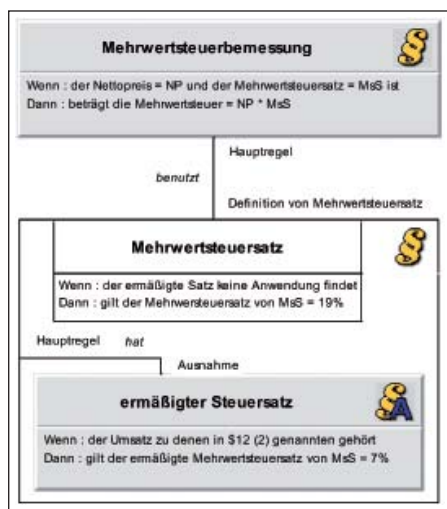
Operative rules, on the other hand, directly control the flow of the process.

The THEN part is an action:

- IF VAT is liable
- THEN VAT must be added to the net price

Operative rules are not fixed, i.e. they can be ignored.

Operative rules can mean various different things. This example deals with an obligation ("must"). Permissibilities ("may") or Possibilities ("can") can also be described.



Implementation in SOA

Business rules and processes are separated in both the architecture and realization in a service-oriented architecture (SOA). The rules are considered a further service which can be used if needed. Implementation is carried out using a rule engine; this is responsible for evaluating the rules for concrete business situations. The process logic accesses the rule service, i.e. the rules are orchestrated by the process engine.

Rules are only modeled and implemented once centrally and are then available in various processes and applications to be used.

Conclusion

If you model business rules explicitly separate from the process logic and keep this separation in the implementation as well when modeling business processes, changes made to business rules are obvious and can be controlled.

This applies for analysis and estimation of existing modifications, as well as for implementing and testing modifications.

Changes made to processes in the business process model can be modeled independently from changes made to rules; this significantly reduces the complexity of the model. This gives the operating department planning reliability and implementation times are improved.

However, the decisive advantage is the fact that business rules exist transparently for the operating department which makes them easy to control. This means you are no longer reliant on individual IT experts who know what interacts where and how.

