UML : EFFECTS

Effects on the Business System Model

Some changes made in performance modeling enhanced the possibilities for modeling business systems. First, we'll give examples of several of the changes and improvements.

Activity diagrams are no longer special cases of the statechart diagram. Initially, this fact was not relevant for the normal UML user. However, in addition to the new autonomy in the meta-model, several other changes and improvements were made:

Until now, the separate steps in the activity diagram were referred to as activities. Now the entire diagram is called an *activity*, whereas the steps previously called activities are now referred to as*actions*. An action can call a primary operation as well as another activity. This enables flexible modulation in the top-down view of models.

A division does not necessarily have to be re-synchronized.

An activity can have more than one initial state. With this, several events can be started at the same time.

Input and output parameters can be added to an activity.

One of the improvements made in the sequence diagram is the addition of so-called *operators*. These operators make it possible to package several actions/activities within a sequence diagram. For instance, operators can be used to refer to other sequence diagrams or individual sequences. Appropriate operators can also represent iterations. With the newly introduced operators, sequence diagrams now support a top-down view.

OCL is now an inherent part of UML. It can be used to describe agreements, invariants, preconditions, and post conditions within UML models, which enables more precise modeling of business systems and business processes.

Effects on the IT System Model

The diagrams that we have used in this book in the different views of the IT system did not undergo any significant changes.

The biggest change occurred in the notation of the sequence diagram. Here, among other things, the interaction reference is available as a construct for modularization. However, nothing changed concerning the meaning and functionality of sequence diagrams at the level of detail used in this book. The same holds true for the class diagram and the case diagram.

Statechart diagrams underwent the most interesting changes for the modeling of IT systems: connection points allow, for example, better modulation of statechart diagrams. However, we decided not to use this language element in our simplified approach to UML.

Effects on the Systems Integration Model

Of course, the improvements in behavioral modeling also had an effect on the process view in the systems integration model. A significant improvement is the ability to add input and output parameters to activities.

Hardly any changes were made in the area of static views, meaning the design of business objects with class diagrams.

In addition to the changes that were made within the framework of UML 2.0, the UML profile for*Enterprise Application Integration* (EAI) is of increasing importance in the field of system integration. Besides the basic operations needed in the field of system integration, it shows the data meta-models of various programming languages that are not object-oriented. However, this occurs at a more detailed level, which has no influence upon this text.

Source : http://sourcemaking.com/uml/basic-principles-and-background/uml2