Process Modeling

The *Process Modeling* pattern creates BPMN elements and diagrams from level zero down to level two. Drill down is possible from the top level down to any activity in the level two diagram. A diagram legend has been applied to assist readers not familiar with the BPMN notation.

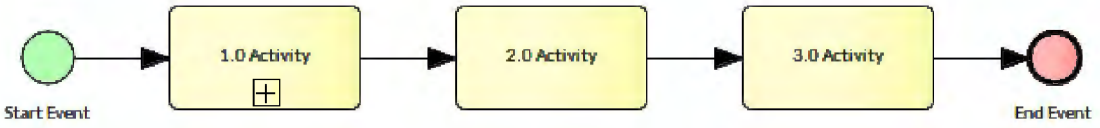

Figure 1. Shows a level zero BPMN diagram that allows drill-down to two further levels.

Figure 2. Shows the Project Browser and the hierarchical structure of elements and diagrams.

Discussion

The purpose of the pattern is to allow a Process Modeler, Business Analyst or other stakeholder to create business process models of an organization or one of its parts. The pattern allow for drill down from level zero elements to level two elements and can be extended horizontally or vertically.

The pattern is typically used during enterprise modeling when current state models are being devised but is also commonly used during an initiative or a process improvement effort to model the future (target) state processes.

The following is a list of some things you may want to do when working with this pattern.

- Change the name of the diagram to suit the initiative.
- Change the names of the Activities and Tasks to suit the initiative.
- Change the names of the Start and End Events adding others where necessary.
- Change the order of the Sequence Flows to suit the initiative.
- Create additional Activities and other Flow Objects to model the Processes.

The following is a list of some of the next steps available when applying the pattern.

- Restructure the hierarchy to suit the initiative adding additional elements at various levels to suite the processes being described.
- Create simulations using the build-in simulation engine.
- Create sophisticated simulations using BPSim for the purpose of analyzing the processes for efficiencies and opportunities.
- Create Traces to other elements including the Information elements that are consumed or created by Activities in the process, Business Rules.

Reference

The following help topics will assist you learn about how to work with this pattern.

Process Modeling

Modeling with BPMN 2.0

Model Simulation

Simulation Windows

Business Process Simulation (BPSim)

Business Analysis Body of Knowledge (BABOK)

Traceability Tools

Documentation

The following are some of the tools that will be helpful when working with this pattern.

BPMN Business Process Diagram

Business Process Diagrams are part of the Business Process Model and Notation (BPMN) standard and allow a modeler to document a business process, including the way the process starts, what work is performed and how it ends. Gateways and connecting lines determine the sequence of activities. Current state and Future state process models can be created and managed in Enterprise Architect. The diagrams can be organized into a process hierarchy allowing drill down from high level to lower level diagrams. BPMN is emerging as an important standard for modeling business processes and has gained much traction with business and technical communities. It can be automatically generated to the Business Process Execution Language (BPEL), which is an XML based language that can be ingested by a number of orchestration engines. For more details see the BPMN Business Process Diagram help topic.

UML Activity Diagram

Activity diagrams are one of the Behavioral Unified Modeling Language diagrams and allow a modeler to describe the sequence of behaviors including how they start, what work is performed and decisions that change the flow and the way the process ends. They are a useful alternative to using other diagrams such as flow charts and business process diagrams. The syntax of activity diagrams when Actions and Pins are used can be drawn at the execution level and express detailed system semantics. For more details see the Activity Diagram help topic.

Model Simulator

Model Simulation brings your behavioral models to life with instant, real-time behavioral model execution. Coupled with tools to manage triggers, events, guards, effects, breakpoints and simulation variables, plus the ability to visually track execution

at run-time, the Simulator is a powerful means of 'watching your behavioral models in action' and verifying their correctness. With Simulation you can explore and test the dynamic behavior of models. For more details see the Model Simulation help topic.

Business Process Simulation (BPSim)

The BPSim facility provides a way of simulating processes written in Business Process Model and Notation (BPMN), providing valuable results that can be used in process analysis. The BPMN models are augmented with extra data as parameters to the simulation. It allows structural and capacity analysis to be performed, providing for pre and post execution optimization. Enterprise Architect allows you to construct the Process models and enter the appropriate data, which is then sent to an internal or external BPSim Simulation engine. For more details see the Business Process Simulation (BPSim) help topic.

Diagram Layout

The Diagram Layout tool allows you to layout an entire diagram, selected elements or sections of a diagram to make it more visually appealing or meaningful to a particular audience. There are a wide range of layout types to choose from and some types have filters that can be applied. For more details see the Diagram Layout help topic.

Pan and Zoom

The Pan and Zoom facility is one of the tools that can be used to navigate around a large diagram. Often the resolution of a diagram must be reduced to ensure it is wholly visible but by using the Pan and Zoom window you can leave the diagram at a readable resolution and pan around to areas of interest zooming in when necessary. For more details see the Pan and Zoom help topic.

Diagram Legends

The Diagram Legend facility is useful for manually or automatically changing the appearance of elements and connectors on a diagram. A legend can be added from the Common Toolbox and configured to codify the fill and line color and line thickness. This is a powerful way to add meaning and expression to a diagram and is particularly expressive when applied automatically based on element or connector properties. It can be used with a number of specialized diagrams such as roadmaps to create a powerful visualization. For more details see the Diagram Legends help topic.

Specification View

The Specification View can be used as a way of working with any element type in a spreadsheet or word process view. It is particularly useful when there are a large

number of elements as is typically the case when describing a system of any appreciable size. For more details see the Specification View help topic.

Document Generator

The Document Generator is a powerful facility in Enterprise Architect that allows a Database Engineer or other stakeholder to create high quality corporate or technical documentation directly from the model, suitable for internal or external audiences. For more details see the Documentation help topic or the more general topic on Model Publishing.

Element Discussions

The Element Discussion facility is a fully featured collaboration tool allowing modelers and model viewers and reviewers to communicate with each other directly inside the repository. Modelers using the full client or occasional viewers using WebEA can both post and reply to discussions and communicate and engage in chat. For more details see the Element Discussions help topic.

Relationship Matrix

The Relationship Matrix provides a spreadsheet like view of two groups of elements and the relationships that exist between them. It can be a used as a powerful analysis mechanism to visually indicate how elements are related to each other and to discover which elements are missing relationships. For more details see the Relationship Matrix help topic.

Traceability Window

The Traceability Window automatically displays the relationships that exist between Use Cases and other model elements including up-process and down-process elements. The traceability tree view can be conveniently expanded to see deeper relationships and elements displayed in the window can be located in all diagrams in which they appear. For more details see the Traceability Window help topic.