

## Preface

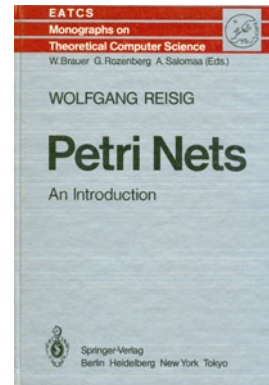
*Petri Nets – An Introduction* [63] is a slim book that was published almost 30 years ago and was quickly translated into six languages and sold several thousand copies. For a long time, it was considered the standard reference for Petri nets.

Now it is time for a new introduction. Petri nets have been further developed in unbelievably diverse directions. “First model, then program” is a principle that increasingly dominates software engineering, and Petri nets are a popular modeling technique.

The biggest problem in writing an introduction to a topic is the selection of the content. Today we have a better understanding of which modeling techniques and analysis methods are truly central than we had 30 years ago. Those techniques and methods are presented here. Their usefulness is illustrated with the help of several examples, particularly the case studies in the last part of this book. The software engineer can use these case studies as a guide. At the same time, the theorist will find the classic results of Petri net theory, complemented with a few new concepts and a new taxonomy.

The formal arguments in this book are reduced to a minimum. Examples often have enough detail to sufficiently demonstrate the characteristics of the content. Furthermore, individual chapters can often be read independently from one another. For instance, the basics introduced in the first three chapters of Part I are enough to understand the case studies in Part III. Only their analysis requires knowledge of the methods presented in Part II.

This book was not written for a specific audience such as students, teachers, theoretical computer scientists or software engineers. Instead, it addresses a broad audience by compiling the central developments of the last 50 years of net theory and



practice and presenting it in a comprehensible way. The selection of aspects presented here is, therefore, highly subjective.

As a substantial extension, the English version also includes a concise compilation of the formal framework that is used throughout this book. For easy navigation and cross-reference, the relevant terms are highlighted in the margin of each chapter as well as in the formal framework itself.

Understanding Petri Nets

Modeling Techniques, Analysis Methods, Case Studies

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