

Preface

Thermal performance is the new bottleneck in embedded systems design. As processing requirements increase, and physical device sizes continue to decrease, it is becoming more and more difficult to efficiently get heat out of embedded systems efficiently.

This book focuses on the root cause of heat in an embedded system: power. And since software has an enormous impact on power consumption in an embedded system, if we are to manage heat effectively, we need to therefore understand, categorize, and develop new ways to aggressively reduce power.

The Art of Software Thermal Management (STM) explores both the science and the art of reducing power consumption in a computing system as a means to manage heat, improve component reliability, and increase system safety. This book is a pragmatic guide to the field of STM for embedded systems, a catalog of software thermal management techniques, and a call to action for future areas of research and development.

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