In order to explain what a configuration problem is, and why it matters, we will consider the example of building a personal computer from parts. A PC usually consists of a processor and memory which are put on the motherboard, ...

Now, for each part you get to choose between a large assortment of different models and manufactures, and the hard part is: some combinations will work, and others won’t. How do you go about choosing your own personalized computer?

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Currently, the Verification, Configuration and Scheduling group (VeCoS) at the IT University of Copenhagen is working with two topics: Configuration, and Runtime Verification of Temporal Logic. The configuration team is addressing the complex problem of calculating which choices are still available and which are not when being in the process of configuring a device such as a computer, bike etc. Fundamentally this demands an efficient solution to the SAT problem and the configuration team has found such a solution where the burden of the computation can be carried out prior to runtime. This research effort has resulted in the spin off company ConfigIt Software.

The verification team is focussing on runtime verification of real time temporal logic. The goal is to develop a framework for efficiently checking real time properties for a large set of objects, e.g. a database containing data together with timing information. The work is carried out in the context of ERP systems in the project named NEXT, which is a joint effort between the IT University and Microsoft Business Solutions in Vedbæk.