In this paper is presented a processor centric approach for the modeling and simulation of multi-processors platforms for SoC (MPSoC). It describes how the ArchC architecture description language has been extended to allow the description of multiprocessors platforms. It is shown that with minor eorts the designer can model the processors and the platform in a unied environment. Together with the language extensions, it is also presented the acsys tool. It generates executable simulators of the platform at dierent abstraction levels. The advantages of this approach are more exibility as designers can easily integrate and congure the processors and the platform in a single environment; and faster design space exploration as the simulation scheme for the platform is generated automatically.