

SOFA 2 is a component system employing hierarchically composed components. It provides ADL-based design, behavior specification using behavior protocols, dynamic reconfiguration of the components, and modeling of the component communication by software connectors. This allows seamless and transparent distribution of component applications. The connectors can be automatically generated, SOFA 2 contains Java connector generator allowing to connect components with Java interfaces. The aim of this thesis is to implement C code generator and integrate it into the current SOFA 2 connector generator framework, so that C connectors can be automatically generated and thus components written in C language can be transparently connected in distributed environment.

The proposed C code generator is based on the concept of template transformation, where templates containing mixture of C code and a scripting Domain Specific Language are transformed to a pure C code. Strategic term rewriting method provided by Stratego/XT framework is used for evaluation of the scripts within the templates.