

Abstract

A2B Electronics AB is a company that develops and manufactures products and technology for digital cable television. A2B's new EXM-product family translates digital television channels from multiple source networks into a single destination network. Multiple EXM-units are connected in a system to provide a custom set of TV channels. To minimize the administrative effort, the units in a system should be able to interact and collaborate without manual intervention. The purpose of this thesis is to propose an underlying system that supports seamless interaction and collaboration between units.

The autonomic system concept has served as a foundation for the proposed solution. The requirements for the EXM-system proved to be similar to many properties of an autonomic system. The proposed solution was elaborated by answering five research questions. The answers describe how an autonomic system can be implemented with the prerequisites of the EXM-system. Solutions for service availability, configuration preservation, system state changes and automatic addressing and communication are provided.

The project has resulted in a proposal of a general autonomic system. The solution has also been implemented as prototype that runs both in a simulator and on the EXM-hardware. The simulator was also developed in the scope of this project as a side-effect of the limited access to EXM-hardware.

The proposed solution together with the prototype can hopefully serve as a base for projects with prerequisites similar to the project described in this thesis.