E-CARES Research Project: Understanding Complex Legacy Telecommunication Systems

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Abstract

There are many reasons for reverse engineering or re-engineering legacy systems. So far, many approaches concerning re-engineering of legacy systems have been made. The majority of these approaches are dealing with systems in the field of business applications. This paper describes the work performed for the E-CARES project so far. This project is concerned with understanding and re-structuring complex legacy telecommunication systems. In contrast to business applications embedded systems, e.g. telecommunication systems, have additional requirements regarding fault tolerance, reliability, availability, and response time. We found that these requirements have a significant impact on the software part of an embedded system. It has different characteristics concerning structuring, inter-program communication, etc. Therefore, an approach is presented that includes usage of "dynamic" information, multi-level abstraction/visualization, and user interaction to improve the understanding of telecommunication systems.