Technische Universität München
Lehrstuhl für Netzarchitekturen und Netzdienste
Prof. Dr. Georg Carle

01.09.2008

**Diplomarbeit /Bachelorarbeit**

# Comparing Commercial Static Analysis Bugfinding tools for C

## Introduction

Various companies (Coverity, Klocwork, Grammatech) offer modern static analysis tools that attempt to automatically find bugs in C/C++ applications. These tools provide both build-in checkers for common coding errors as well as the ability for developers to extend them with new application-specific invariants to check.

## The Challenge

There are only few comparisons of these tools, and those that exist have focused on the number of bugs found (and false-positives) by the build-in checkers. For this thesis, we're interested in comparing how easy it is to extend these tools with simple application-specific checkers and to find specific, minimal examples that highlight the sources of false-positives for the build-in checkers.

## Expectations

For the thesis, we expect to see four major milestones:

1) Analysis of several projects using all available static analysis tools
2) Destillation of examples causing false positives based on these results
3) Implementation of extensions to find additional errors
4) Documentation of the work in the style of a publishable research paper

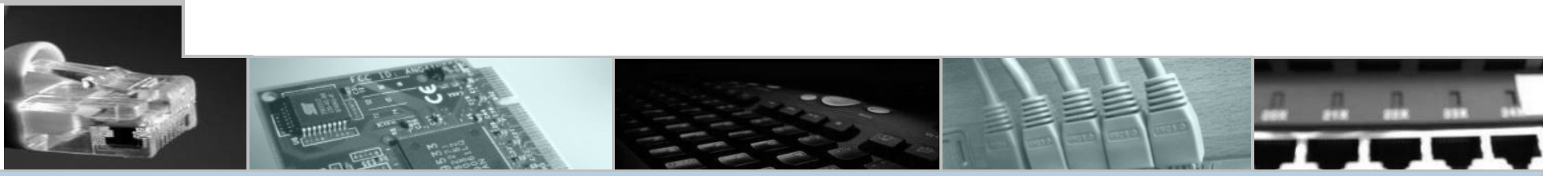
## Benefits

First of all, we expect that there will be frequent (at least weekly) interactions between the student and the mentor. We will provide access to the static analysis tools and make suggestions for extensions to try. It should be noted that the research group communicates primarily in English. In addition to the thesis itself, this work should result in a scientific publication.

## Prerequisites

In order to start this project, you need to:

- Be able to program in C/C++
- Be familar with GNU/Linux
- Have a good background in programming languages / compilers
- be willing to write a thesis in English
- be interested in science and scientific publishing



Mehr Informationen am Lehrstuhl für Netzarchitekturen und Netzdienste

Kontakt: grothoff@net.in.tum.de x18040 http://grothoff.org/christian/