

Master's Thesis, Bachelor's Thesis, Forschungspraxis, Assistant (Student)

# Application Profiling for Near Memory Computing

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Source: [http://www.layer7.co.za/app\\_profiling.html](http://www.layer7.co.za/app_profiling.html)

## Description

Hitting a wall is not a pleasant thing. Computer systems faced many walls in the last decades. Being able to break the memory wall in the mid 90's and the power wall in 2004, it now faces the next crucial barrier for scalability. Although being able to scale systems to 100's or 1000's of cores through NoCs, performance doesn't scale due to data-to-task dislocality. We now face the locality wall.

The newest trend to tackle this issue is data-task migration and processing in or near memory.



## Goal

The goal of this project is to profile application in the context of Near Memory Computing and to identify useful functions or primitives that could be accelerated.

## Prerequisites

To successfully complete this project, you should already have the following skills and experiences.

- Very good programming skills in C/C++
- Good programming skills in SystemC
- Very good analytical thinking and understanding of complex problems
- Good knowledge about digital circuit design
- Very good knowledge in the field of Near Memory Computing

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