

Understanding the Multi-Gen LRU

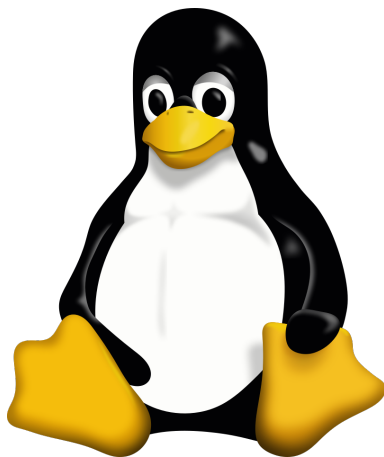
Advisor: **Sudheendra Raghav Neela**

Motivation

The multi-gen LRU implementation used by the Linux page cache organizes pages into age-based lists with many performance improvements. Your goal is to investigate and characterize its promotion, demotion, and eviction policies. You will determine how access patterns influence page movement between generations.

Goals and Tasks

-  Learn about the Multi-Gen LRU framework on the latest Linux kernels
-  Come up with ways to categorize the movement of pages
-  Write small programs demonstrating how access patterns influence movement



Literature

- > [M. Larabel](#)
"MGLRU" Code Updated For More Performant Linux Page Reclamation
<https://www.phoronix.com/news/Multigen-LRU-v5-2021>
- > [D. Gruss et al.](#)
Page Cache Attacks
CCS

Courses & Deliverables

- ☒ **Introduction to Scientific Working**
Short report on background
Short presentation
- ☒ **Bachelor Project**
Project code and documentation
- ☒ **Bachelor's Thesis**
Project code
Thesis
Final presentation

Recommended if you're studying

☒ CS ☒ ICE ☒ SEM

Prerequisites

- > Basic operating system knowledge (eviction policies)
- > Some programming experience (C preferred)
- > Interest in system security

Advisor Contact

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