Linux Plumbers Conference
Vienna, Austria
September 18-20, 2024

Contribution ID: **237**   Type: **not specified**

Product practices of large folios on millions of OPPO Android phones

Friday 20 September 2024 13:00 (30 minutes)

OPPO has deployed ARM64 CONT-PTE-based large folios (mTHP) on millions of real phones and is committed to contributing the code to Linus' tree, GKI, and the open-source community.

This topic will primarily discuss the opportunities and challenges encountered by OPPO in memory allocation, memory reclamation, LRU, and mTHP compression/decompression in zsmalloc/zRAM during the deployment of mTHP. We will introduce the mTHP software architecture and components deployed in OPPO products, explaining why we ultimately chose this architecture.
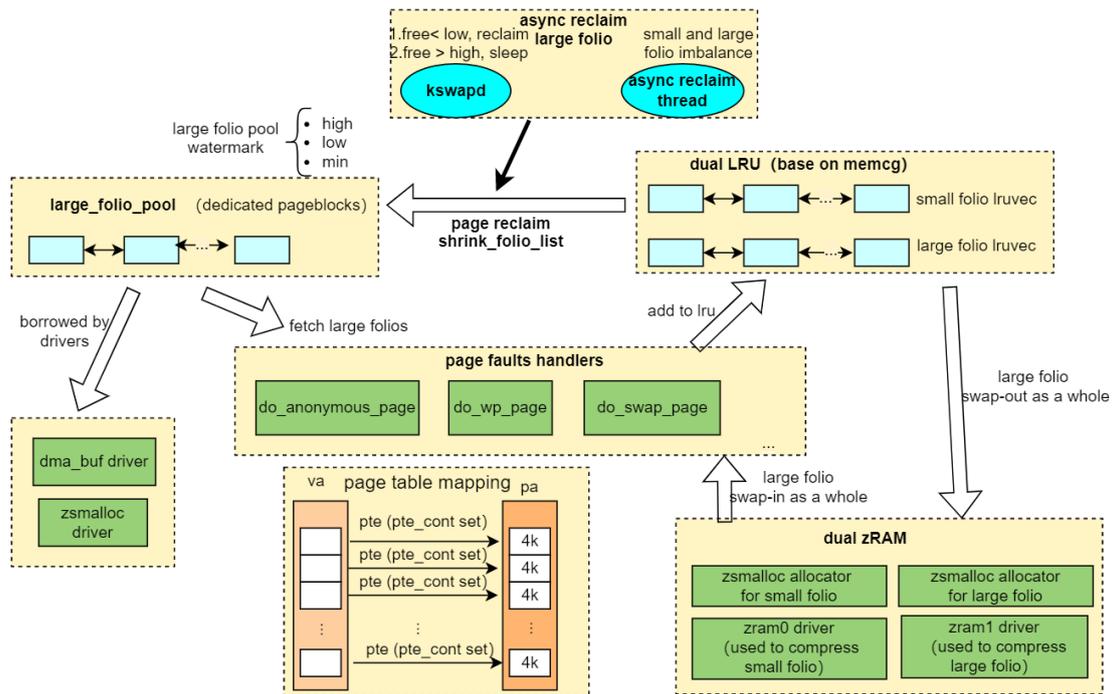

Figure 1: OPPO Large Folios Software Architecture

The topic will also highlight the performance gains achieved by leveraging large folios on Android phones.

Additionally, it will introduce several ongoing projects in the mm community that could replace OPPO's out-of-tree code and offer more general solutions that might eventually be merged into Linus' tree.

Primary author: Mr HAN, Chuanhua

Co-authors: SONG, Barry; Mr LIU, Hailong; SINGH, Kalesh (Google); ZHAO, Yu (Google)

Presenters: SONG, Barry; Mr HAN, Chuanhua; Mr LIU, Hailong; SINGH, Kalesh (Google); ZHAO, Yu (Google)

Session Classification: Android MC

Track Classification: Android MC