

Memory management unit (MMU) is a hardware component providing above all the translation of virtual addresses to physical addresses and thus providing secure isolation of kernel and processes. HelenOS is a research operating system which is being developed at MFF UK. The kernel of HelenOS uses hardware MMU of the processor for virtual to physical memory translation using paging. The goal of this work is to provide an overview of the techniques which can be used to (partially) substitute the functionality of MMU by other means. A proposed design, analysis and prototype implementation of an extension to HelenOS is also part of this work. This extension enables functionality of HelenOS on processors without MMU.