

Flexible Operating System Architecture

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The research and development in the domain of operating systems has been traditionally concentrated around specific design paradigms such as monolithic design, microkernel design, multikernel design, unikernel design, etc. There have been also cases of hybrid designs which tried to balance out some of the trade-offs of the designs located closer to the corners of the design space. However, in almost all cases choosing the design paradigm is the initial step of implementing an operating system and it is not easy to radically change the design later, given an already existing code base. In our work, we are focusing on changing this fundamentally rigid approach by creating a framework that would allow to achieve a flexible operating system design at deployment time while still providing all the benefits of the fixed design paradigms in individual cases.