UKL: A Unikernel based on Linux

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Abstract

Unikernels have been shown to improve application performance and provide stronger security guarantees but have mostly been research endeavours, limited in use and real world deployments. This is because different unikernel projects, unlike Linux or glibc, have little or no community around them for maintenance and improvement. With functions-as-a-service gaining popularity, unikernels are becoming extremely relevant for cloud today, and the need for a community supported, functional and easy to deploy unikernel is paramount.

This collaboration between Boston University and Red Hat aims to create just that; a unikernel out of Linux and glibc with minimal code changes for a greater chance of being accepted upstream, while over time providing the benefits of research unikernels.

Presenters:

Ali Raza is a second year PhD student working with Prof. Orran Krieger at the Dept. of Computer Science at Boston University. Ali is interested in operating systems, especially unikernels and he is working closely with Red Hat to develop a unikernel based on Linux.
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