

Project Report

A Middlebox Specialized Hypervisor

Author:
Mihir J. Vegad

Guide:
**Prof. Purushottam
Kulkarni**

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

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Abstract

Mypervisor is a middlebox specialised hypervisor to virtualize middleboxes in an efficient way. There are many techniques to host middleboxes on the physical machines in data centre networks. We compared various popular techniques to conclude that middlebox performance in data centres can still be optimized. Main idea of the Mypervisor is to reduce the communication between the middleboxes and the hypervisor by off loading a set of middlebox functionalities to the hypervisor. We proposed a Mypervisor design and discussed its potential gains like improved processor utilization and throughput. We also implemented the Mypervisor for the modified Wire middlebox. Modified Wire middlebox has a functionality of filtering the incoming packets in addition to trivial Wire functionalities. We strongly hope that Wire Mypervisor will prove to be a stepping stone for implementation of a more complete Mypervisor.

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