This thesis analyses the implementation of the Linux cgroups subsystems responsible for limiting CPU time and disk I/O throughput. Apart from the Linux cgroups approach, an overview and short analysis of other possible approaches to the problem of limiting CPU time and disk I/O throughput is presented.

Based on the analysis, the thesis proposes an extension to the resource limiting and accounting framework racct/rctl in the FreeBSD kernel. Our prototype implementation of this extension provides features that enable the administrators and privileged users to define disk I/O throughput limits and relative CPU time limits for a particular process, user or FreeBSD jail.