

# Outline

- Resource Containers: A New Facility for Resource Management in Server Systems. Gaurav Banga, Peter Druschel, and Jeffrey C. Mogul
  - Summary: David Cieslak
  - Protagonist: Xiaolong Li
  - Antagonist: Alex Pawling



## Resource allocation boundaries

- Modern OS are networked OS
- OS notion of protection domain and resource principal coincide with process abstraction
  - All threads within a process get same priority,
  - Tasks that require cooperating CGI servers do not get same priority and
  - Processing within kernel does not respect this priority
- For example, low priority “denial-of-service” clients consume all kernel resources to receive and reject
  - When a new network packet reaches the system, the interrupt and lower level processing (IP, TCP/UDP) charged to kernel or currently running process



# Resource containers

- Resource containers separate this abstraction
  - Resource containers abstract resource allocation across process, kernel boundaries
  - Kernel schedules resources by resource containers
- Applicable for web services and other servers.



# Resource container

- Courtesy Sebastian Biemuller @ Karlsruhe

