

Isolating Functions in the System Under Test

Al Morton

17 June 2015

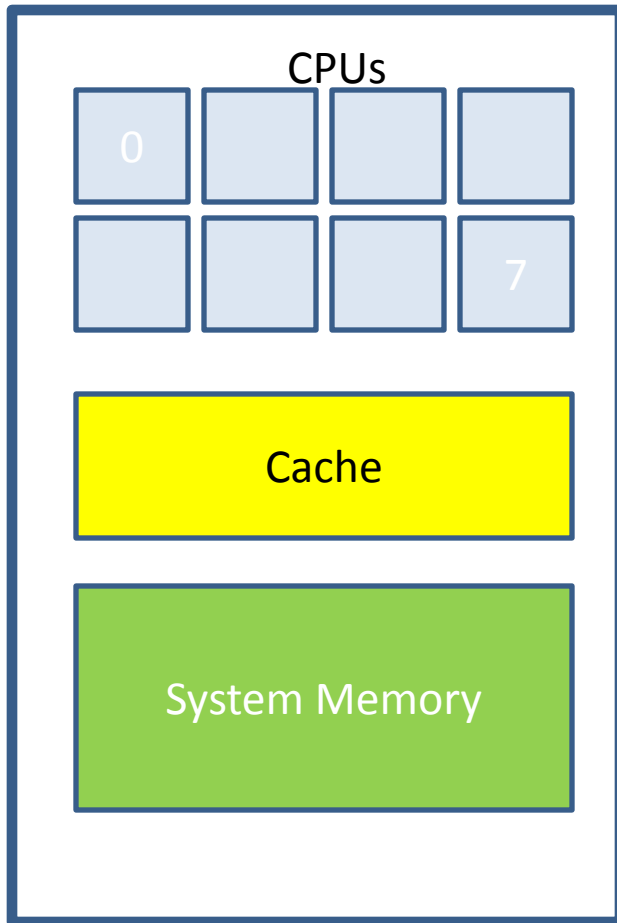
vswitchperf

Proposed Approach

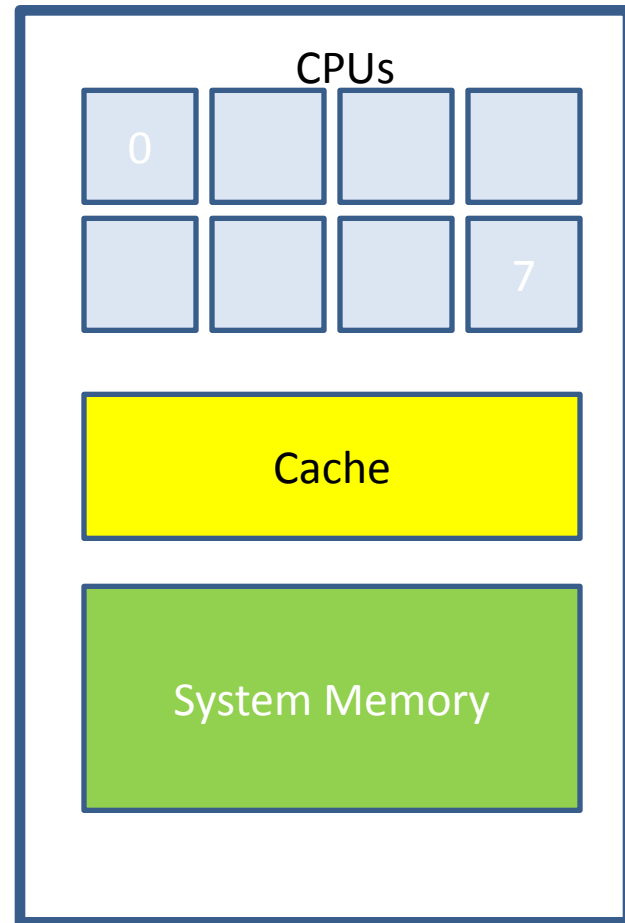
- **Baseline:**
 - benchmarking with isolated resources alone, leaving some resources unused
 - Isolated resources and all resources occupied
- **Next Steps:**
 - Limited sharing
 - Production scenarios
 - Stressful scenarios

NUMA Nodes

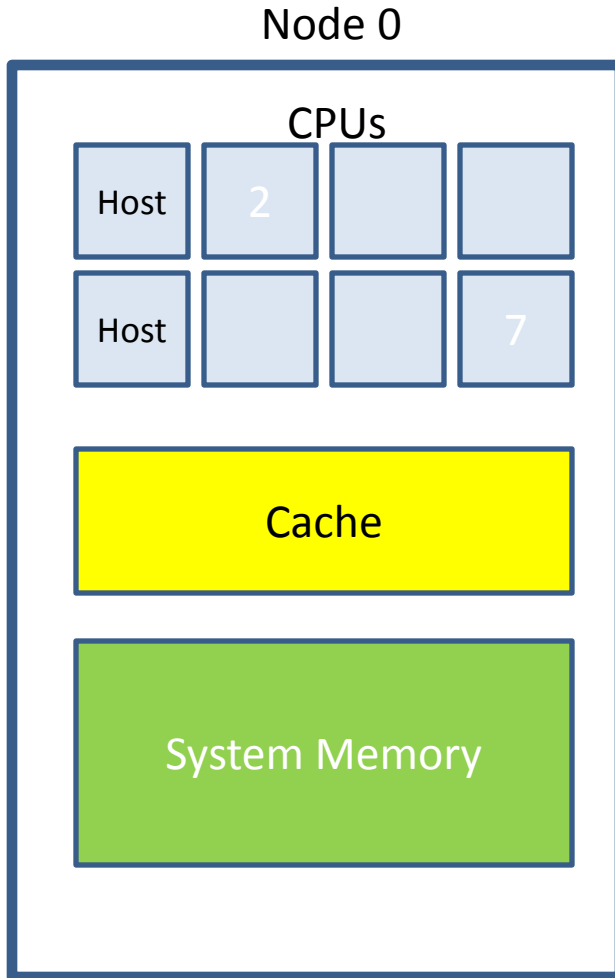
Node 0



Node 1

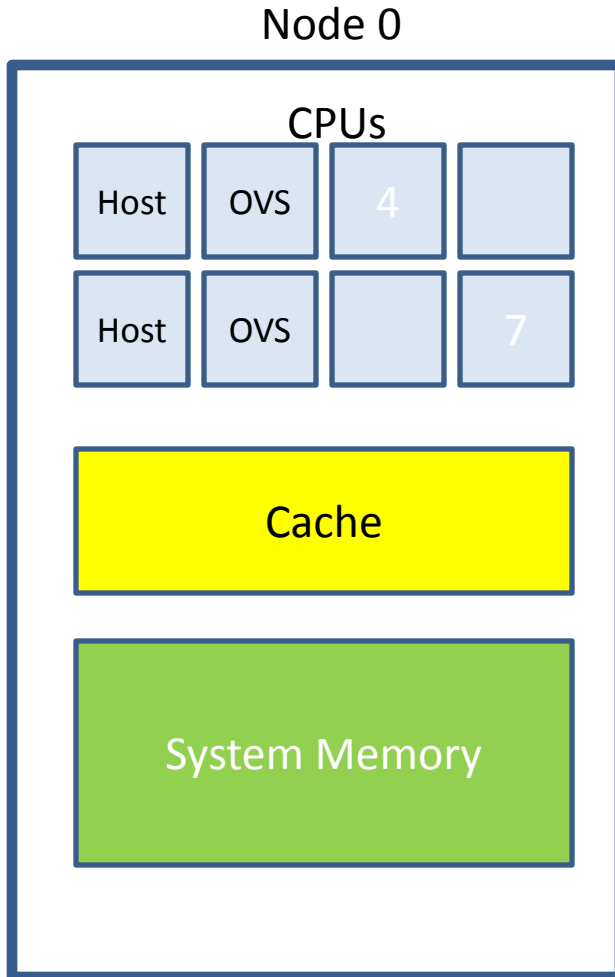


CPU Pinning



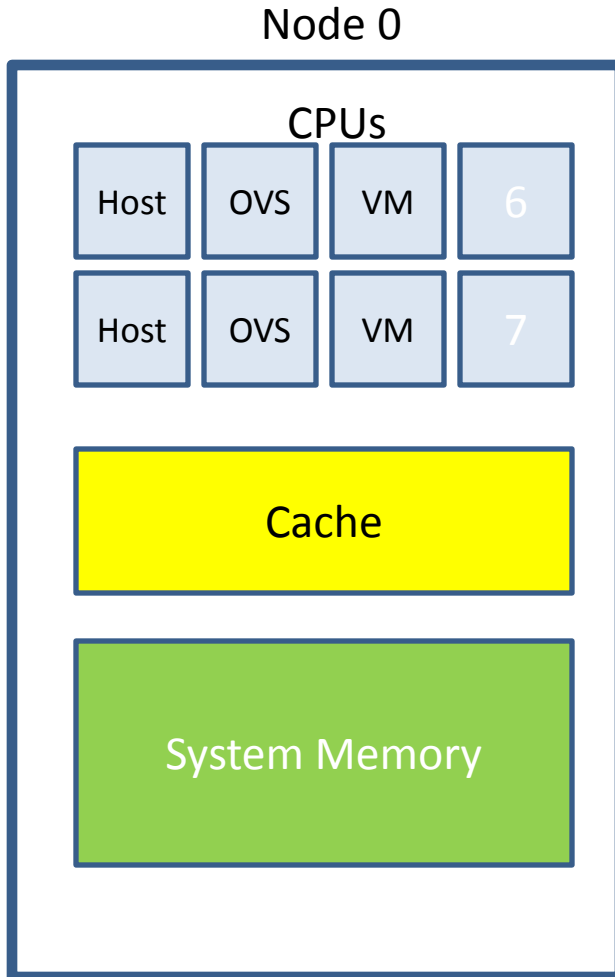
- Isolcpus = 2-7
- OpenStack Compute Scheduler

CPU Pinning



- Isolcpus = 2-7
- OpenStack Compute Scheduler
- `taskset <COREMASK> <EXECUTABLE>`
- `taskset 0x0C ovs-vsitchd`
- (limit NIC interrupt to cores)

CPU Pinning



- `Isolcpus = 2-7`
- OpenStack Compute Scheduler
- `taskset <COREMASK> <EXECUTABLE>`
- `taskset 0x0C ovs-vsitchd`
- (limit NIC interrupt to cores)
- `nova aggregate create/set`
- `nova flavor-create <sizes>`
- `nova aggregate-add-host`

What Else can we Isolate?

- PMD (ovs config)
- Threads
- PCIe Lanes
- Verification methods (show that isolation configs worked)