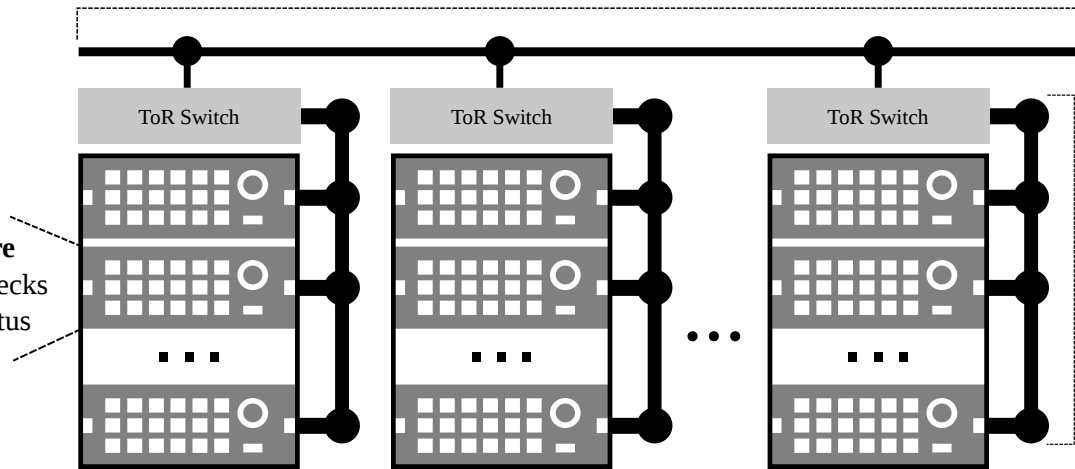


## R2: Causal Profiling for Scale-out Architecture

Finding Performance Bottlenecks

by Profiling Events Causality (§D.4)

**R1: Idle Profiling  
for Scale-up Architecture**  
Analyzing Scalability Bottlenecks  
by Profiling System's Idle Status  
(§D.3)



**R3: Fabric Profiling  
for Rack-scale Architecture**  
Finding Memory Bottlenecks  
by Tracking in Data Accesses  
(§D.5)