



SNS COLLEGE OF TECHNOLOGY

Coimbatore-35



DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

23CST202- OPERATING SYSTEMS

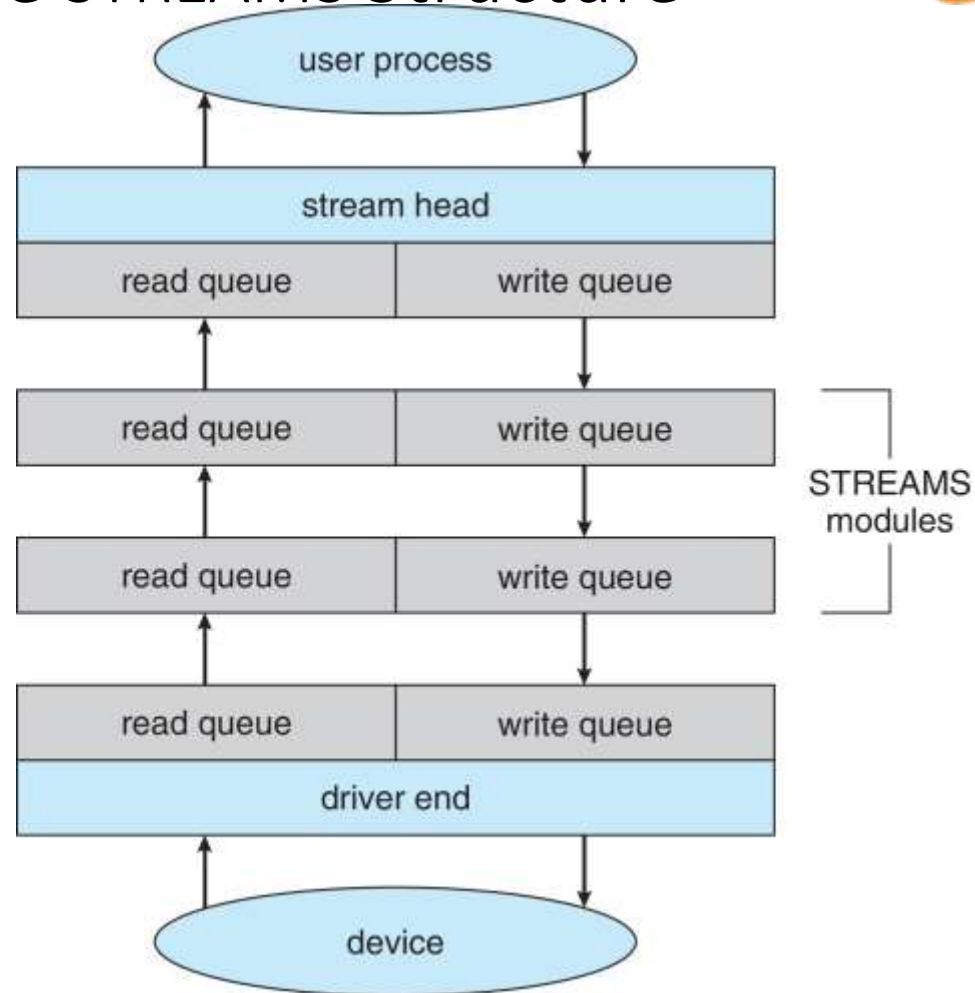
II YEAR IV SEM

UNIT 5-I/O SYSTEMS

TOPIC – STREAMS,PERFORMANCE



The STREAMS Structure



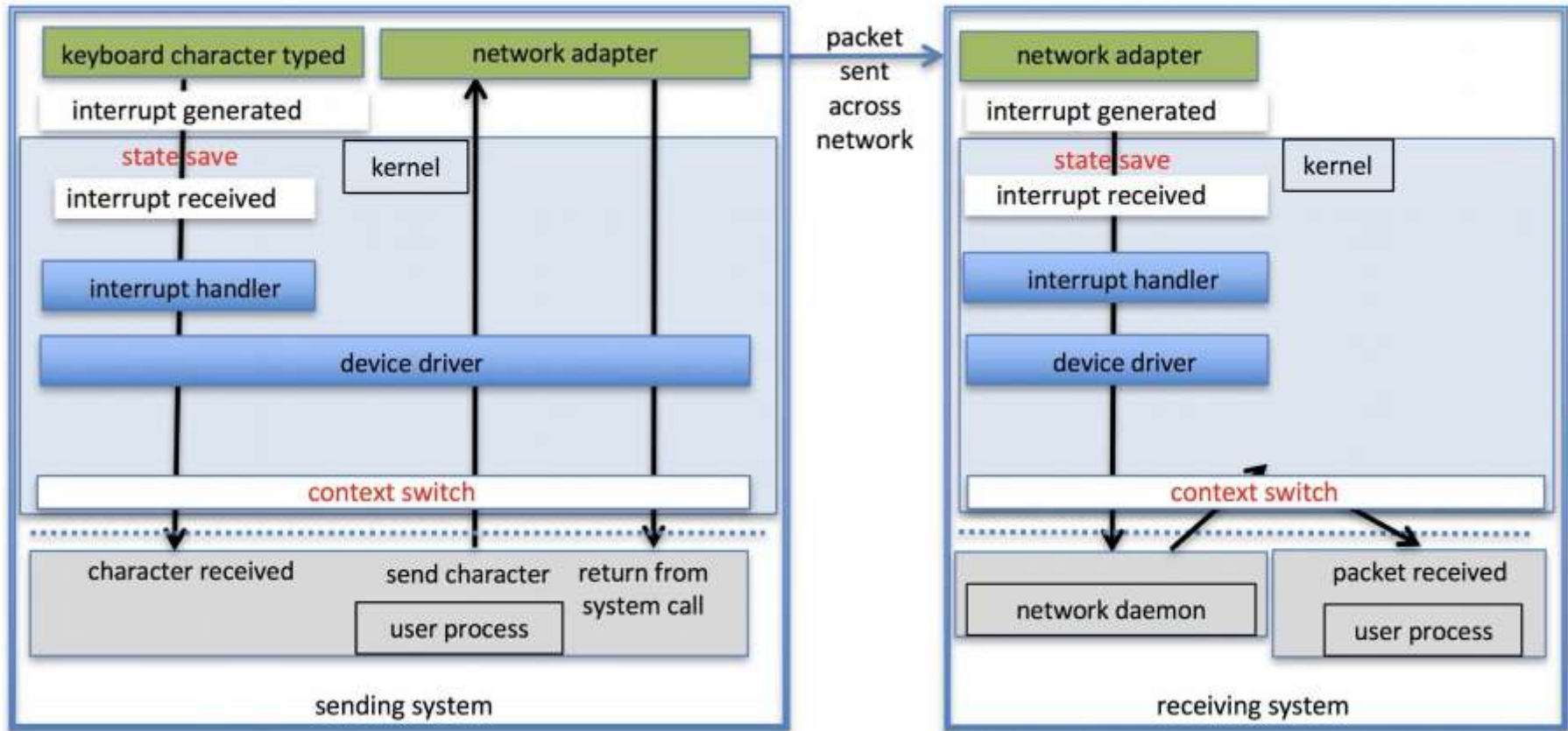


Performance

- I/O a major factor in system performance:
 - Demands CPU to execute device driver, kernel I/O code
 - Context switches due to interrupts
 - Data copying
 - Network traffic especially stressful



Intercomputer Communications



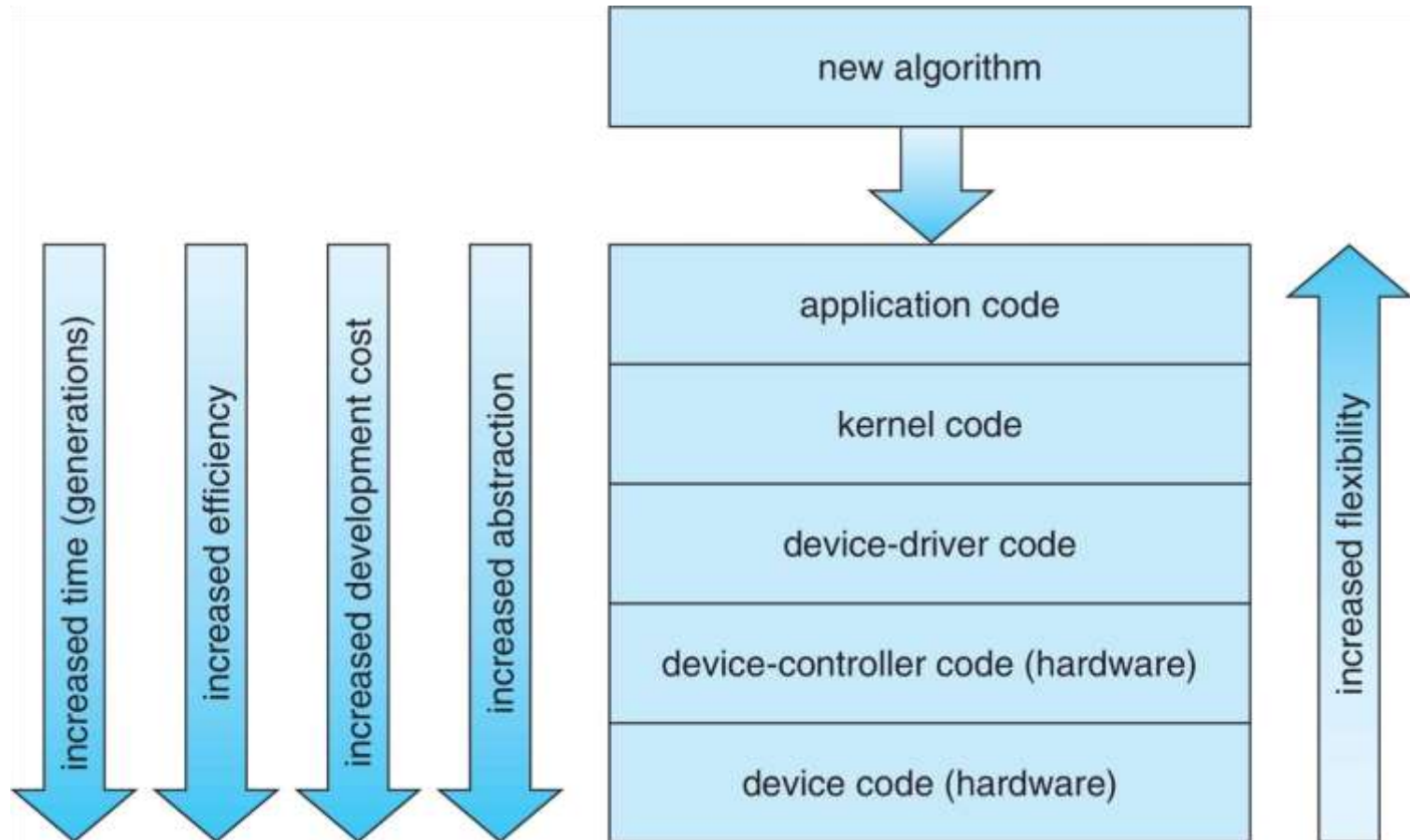


Improving Performance

- Reduce number of context switches Reduce data copying
- Reduce interrupts by using large transfers, smart controllers, polling
- Use DMA
- Use smarter hardware devices
- Balance CPU, memory, bus, and I/O performance for highest throughput
- Move user-mode processes / daemons to kernel threads



Device-Functionality Progression





I/O Performance of Storage (and Network Latency)

