

# Scalability

## Approaches for Coping with Load

- Scale up v.s. scale out
- Shared-nothing architecture
- Elastic v.s. manually called system
- No silver bullets

# Maintainability

## More costly than development

- Maintenance cost of legacy systems

fix bugs	keep the sys operational	trouble shooting	adopt new platform
modify for new use cases	repay technique debt	new features	

- Design principles
  - Operability - make it easy for operations teams to keep the sys running smoothly
  - Simplicity - make it easy for new engineers to understand the system
  - Evolvability - make it easy for engineers to modify for new use cases
    - aka extensibility, modifiability, or plasticity