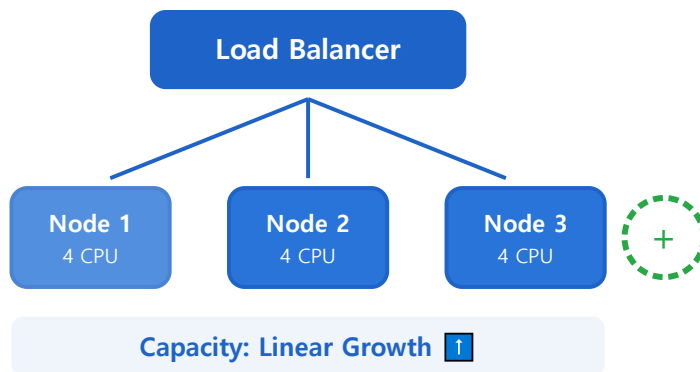
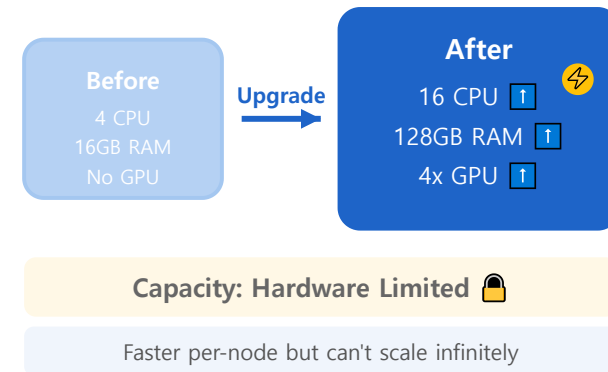


Scalability Patterns

Horizontal Scaling



Vertical Scaling



Sharding Strategies

Hash-based

Uniform distribution

Range-based

Date/category sharding

Geo-based

Regional data locality

High Availability

✓ 3x replication factor

✓ Auto-failover in <5s

✓ 99.99% uptime SLA