

Why distributed systems?

Why do we want distributed systems?

- Performance - parallelism across multiple nodes
- Scalability - by adding more nodes
- Reliability - leverage redundancy to provide fault tolerance
- Cost - cheaper and easier to build lots of simple computers
- Control - users can have complete control over some components
- Collaboration - much easier for users to collaborate through network resources

The promise of distributed systems

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- Higher availability - one machine goes down, use another
- Better durability - store data in multiple locations
- More security - each piece easier to make secure