Scaling - [Resilience, Avoids Single point of failure, Helps Load Balancing]

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Problem : How can we scale an app and what does it helps with?

Helps with Resilience, Avoids single point of failure, Consistence, Having system LIVE all the time.

Vertical Scaling

Imagine, just one computer, which was 1GB RAM and 1core processor is now upgraded to more bigger 2 GB RAM and 2 CPU cores The act of increasing the capacity of current system is called vertical scaling.

Why should I opt for vertical scaling?

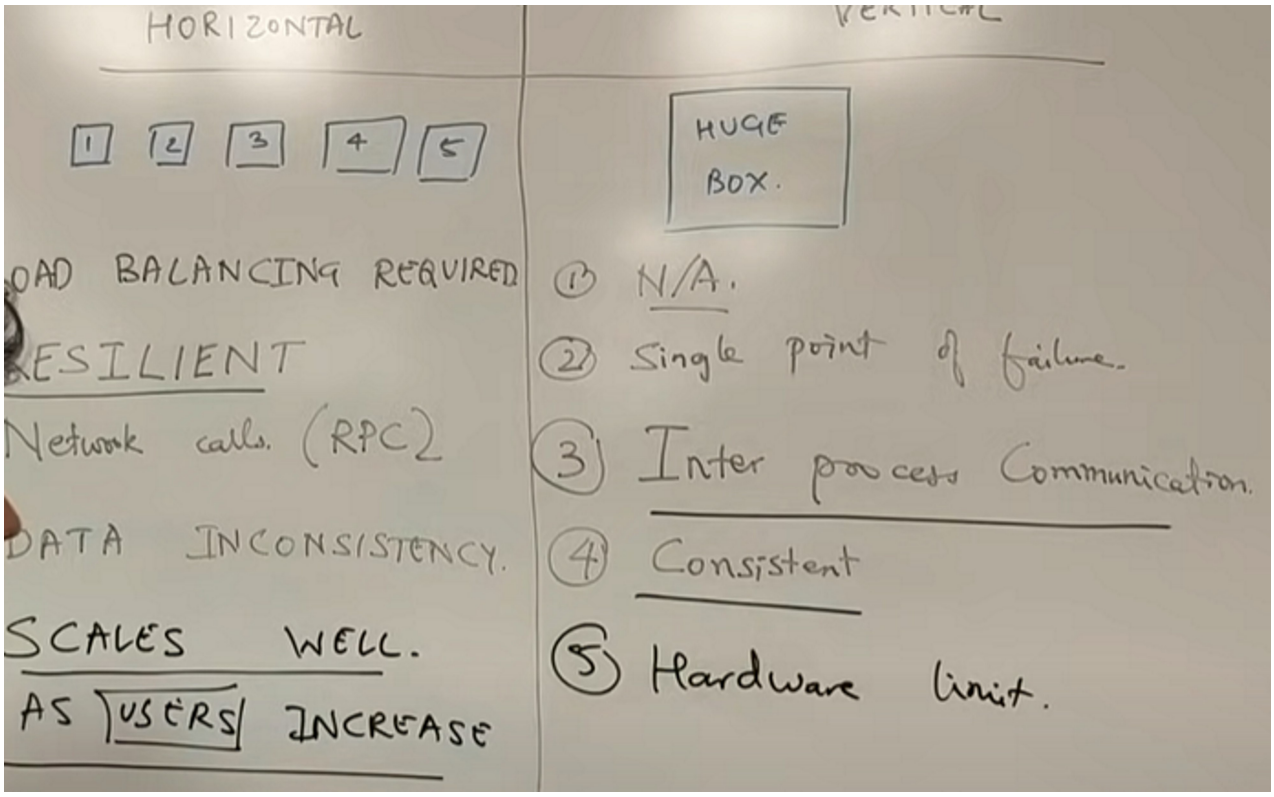
If I know, my system need this much capacity all the time, then I would opt for Vertical scaling otherwise Horizontal scaling.

Horizontal Scaling

Imagine, you have **Many** 1 GB RAM and 1 Core CPU machines laying around and you are using them when needed for example using the system at the time of Heavy loads of the Christmas system, when there is a lot of purchase in your ecommerce app.

So the plan is to always go with Vertical scaling and when your system is fine then use horizontal scaling.

Difference between Horizontal vs Vertical Scaling



References

System Design Primer ⭐: How to start with distributed systems?


SYSTEM DESIGN
BASICS