Architecture Challenges in Cloud Computing

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Upcoming Technology

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Introduction -

Prabodh Navare

Solution Architect – Manufacturing

About SAS -

Leader in Business Analytics

$2.3 billion revenues

SAS R&D Pune

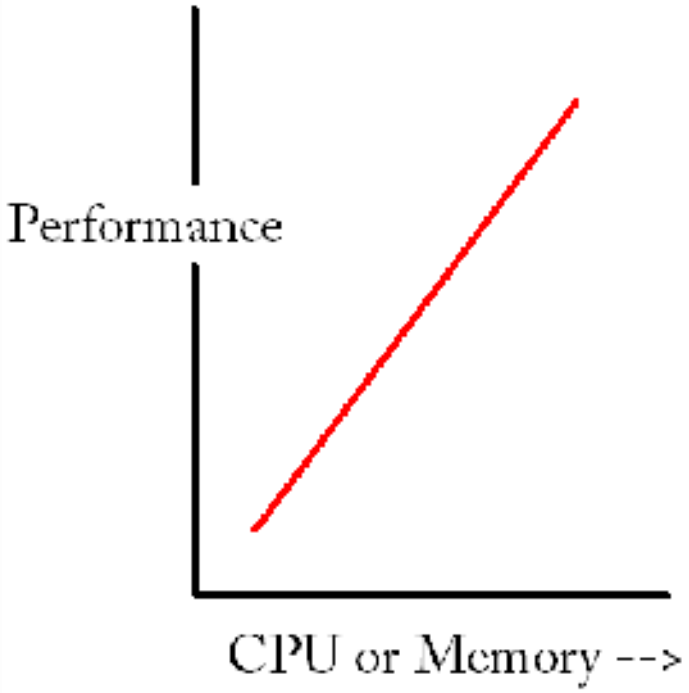
Magarpatta

Cloud apps vs. In-premise apps

- Exceptional cost saving.
- Exceptional fast deployment.
- High performance is an expectation.

#1
Design for
Auto-Scaling

Linear Scaling



- Elastic design
- Parallelization of tasks
- In-memory execution
- Caching

In an average computer, it takes the CPU approximately 200ns (nanoseconds) to access RAM compared to 12,000,000ns to access the hard drive.

This is equivalent to what's normally a 3 1/2 minute task taking 4 1/2 months to complete!

#2

Design for

High Performance

Lamp Stack

(**L**inux, **A**pache, **M**ySQL and **P**HP)

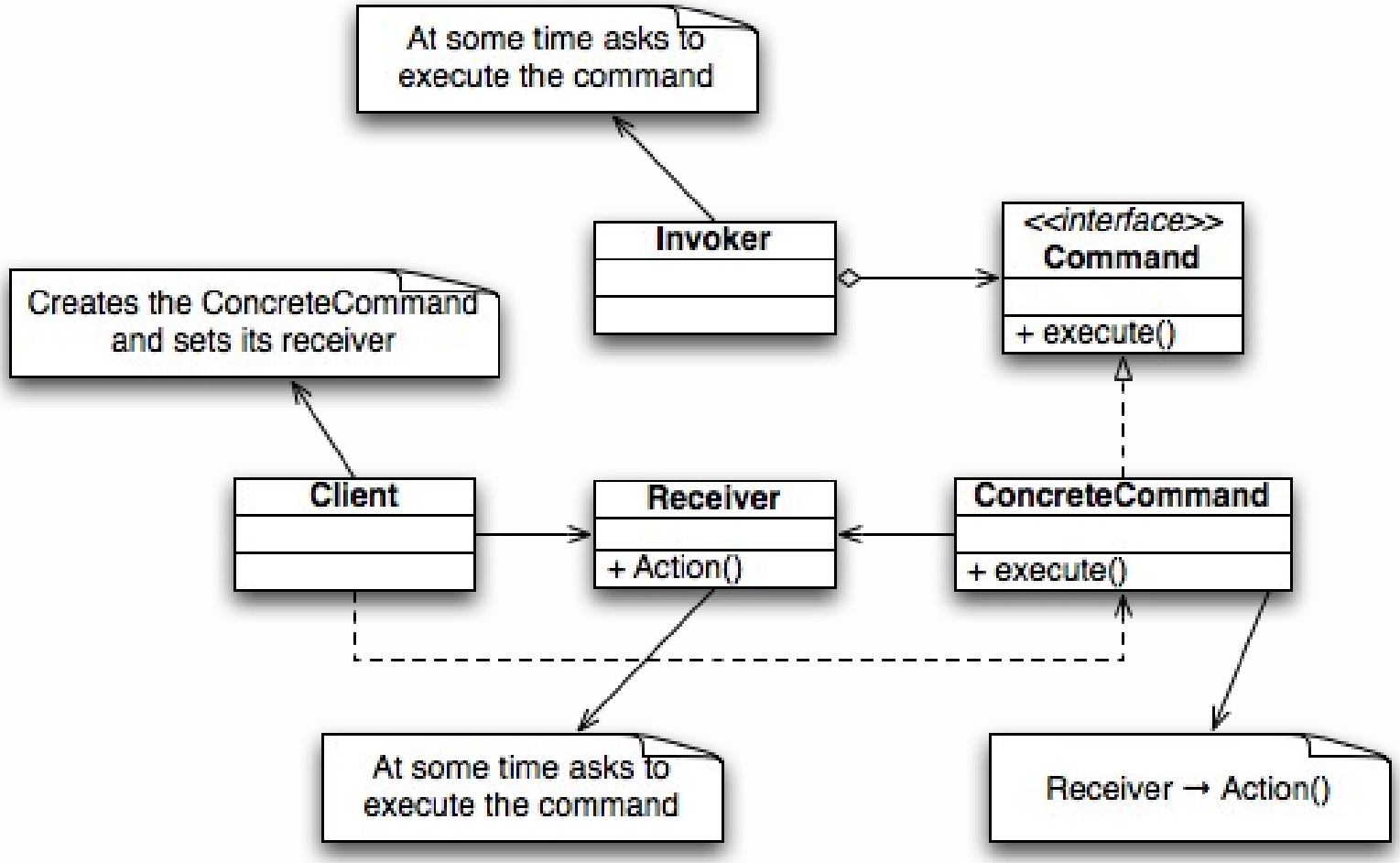
Lamp Stack (Current)

(**L**inux, **A**pache, **M**ySQL and **P**HP)

- Memcache
- Hadoop

#3
Design for
Failover

Command Pattern for Failover



Next...

Is customer Lock-in good or bad?

#4

Design for

Data Portability

Standards

- Dataportability.org

- ISO/TS 8000-110:2008

#5
Design for
Pay-as-you-go

Costing of my Service ?

Amount of shared memory used, tech support levels, CPU cycles, hard disk space, bandwidth used, electricity, the ROI for the customer etc…

Pay-as-you-go

- Support a billing system with stats of user pattern.
- Design different flavors of service.

Architecture Challenges!!

#1 Design for Auto-scaling

#2 Design for High performance

#3 Coding for failure

#4 Design for Data portability

#5 Design for Pay-as-you-go

Thank you!