Let’s roll by 09:05 !!!

System Design 3

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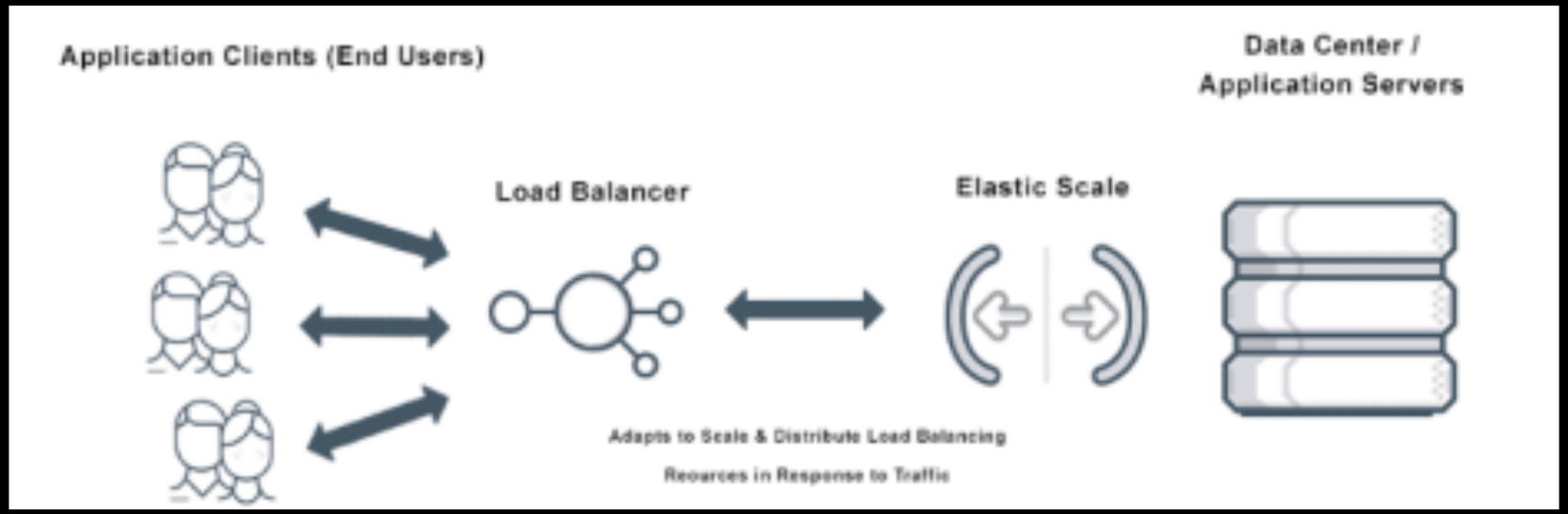
Topics to be Discussed

- System Design 1 & 2 Recap
- Elastic Scalabiltiy
- MVP - TinyURL
  - What is TinyURL?
  - Requirements
  - Design matrix / Calculations
  - Choice of Tech Stack
  - Choice of Deployment Stack
  - High Level Design
  - Low Level Design

Elastic Scalability

Elastic scaling is the ability to automatically add or remove compute or networking infrastructure based on changing application traffic patterns. Elastic load balancer auto-scaling is used to automatically adjust the number of resources (for instance, the number of load balancers) that are allocated to deliver an application in response to changes in traffic patterns.



TinyURL Requirements

- Number of users
- Login and SignUp
- R/W ratio 1:10
- Big URL to Tiny URL
- Data Analytics

Requirements Type

- Functional requirement
- Non Functional requirement

Calculation

- QPS
- Number of Master node
- Number of Slave node

Tech Stack & Deployment Stack

- Frontend
- Backend
- Database
- Devops

HLD v/z LLD

The **HLD** stands for **High-Level Design** involves system architecture, database design, a brief description of systems, services, platforms, and relationships among modules.

The **LLD** stands for **Low-Level Design,** in which the designer will focus on the components like a **User interface (UI)**.

The Low-level design specifics the detailed description of all modules, which implies that the LLD involves all the system component's actual logic. It goes deep into each module's specification.

The History of the Web