Content Delivery Network

- CDNs are a geographically distributed group of servers that work together to provide fast delivery of content.
- Uses -
    a. Improve the Speed and Efficiency - Content can be delivered to users of multiple countries or locations quickly, reducing the time it takes for web pages to load and minimising the risk of losing a user's interest.
    b. Uses Caching - Store static pages such as HTML pages, reducing the need to make a request to the server for every single page.
    c. Customise the Content - Helps to optimise the user experience by sending different content to different types of devices and locations.
- CDN's can be a single point of failure, which can lead to the collapse of the whole system if it crashes.
    a. To mitigate this risk, CDN's can be designed as a distributed cache, with multiple nodes working together in a group consensus.
    b. Horizontal sharding of the cache can be done based on location, country, or other factors, which helps to serve relevant content to specific users.
    c. CDN's require a distributed consensus mechanism (we use Distributed Cache), to ensure the consistency of the cache.
    d. CDN's should be designed to treat requests from different users differently, directing them to the relevant part of the cache.