



Edge Computing and NextJS

anees.ahmed@gfk.com



BackGround: Computing Models:Definitions (Read from Bottom to Top)

Cloud: Computing and data storage resources/services available over Internet, publicly available

Infrastructure: Where your app runs, Storage, Memory, Processing, Security & Compliance, Networking,

Distributed: Multiple Processing and computing resources available as a single unit.

Networking vs Networks: Networking Means connecting computers, Networks means set of computers, connected with each other

Servers vs Computer: All Servers are computer, but a server is a computer that provide services to other computers.

Computing: Perform simple or Complex calculation on a given data

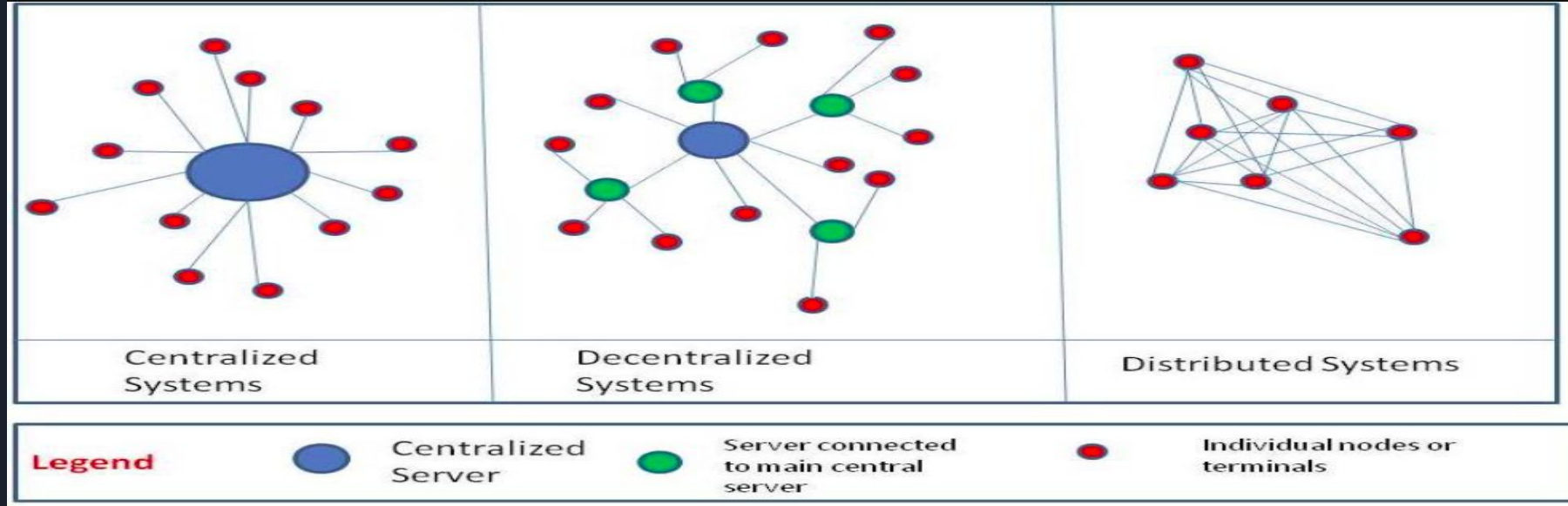
Processing: Computation plus storage of data and code

Devices: any electronic device that can connected with edge computing.



BackGround:Sever vs Serverless

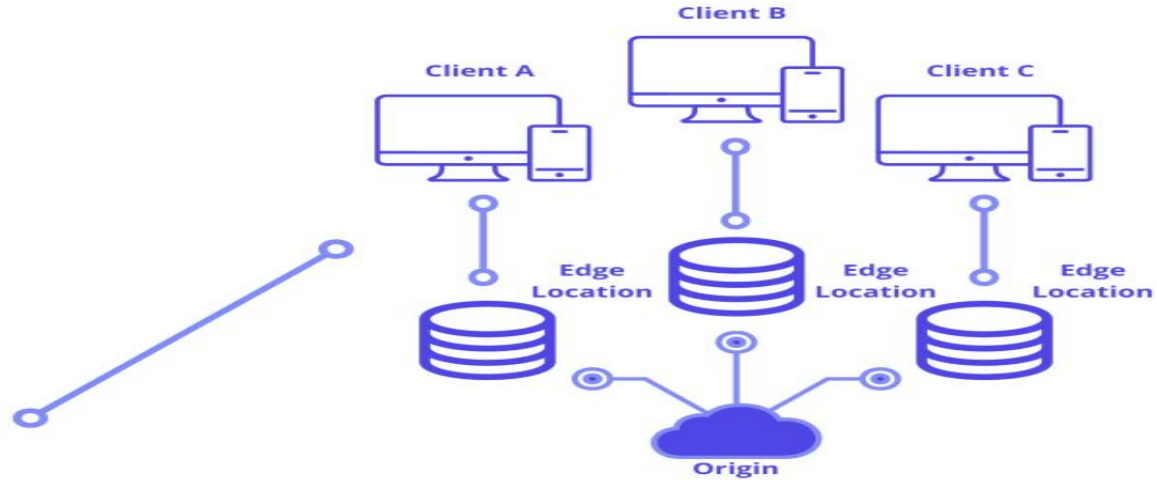
BackGround: Different Type of Computing Models



Question: How will your Typescript UIX will work here

BackGround: Different Type of Computing Models

First
Computing
↓
Personal
Computing
↓
Cloud
Computing
↓
Edge
Computing



Question: How will your Typescript UIX will work here



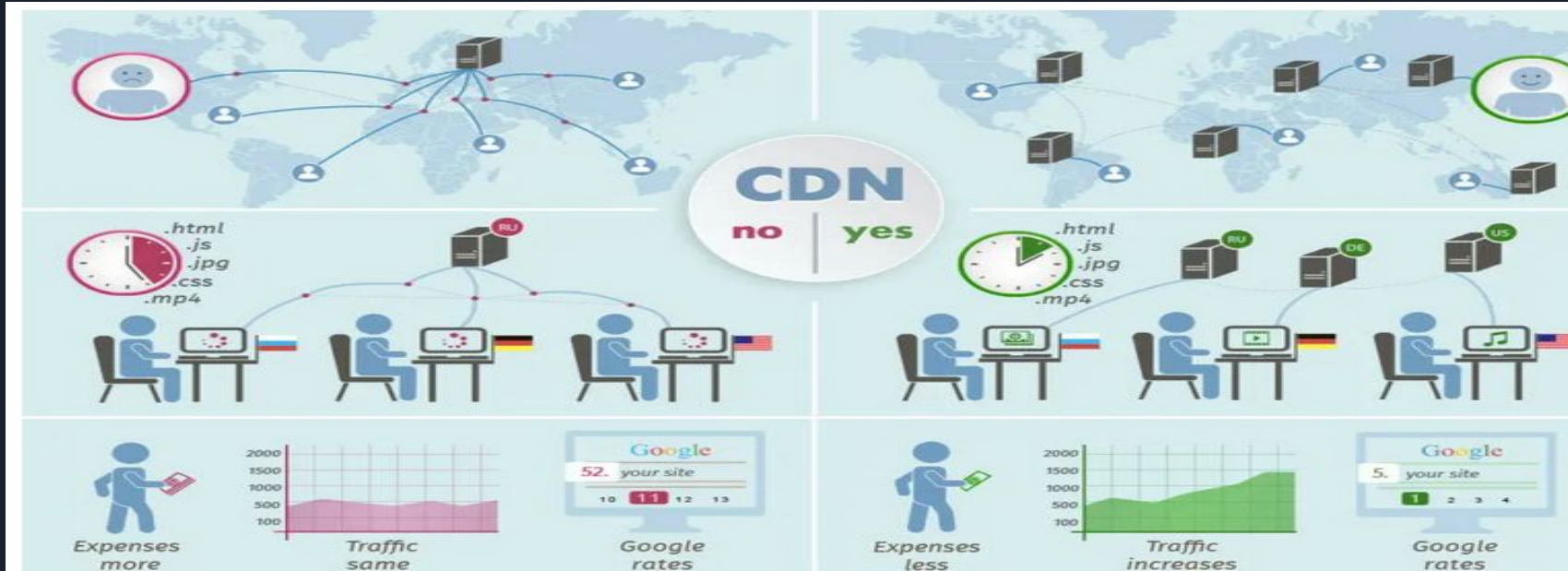
Edge Computing Concepts (Networks)


Your Solution will not deploy on a server or single cloud instance. Instead It will deploy on Network (of servers, and resources)

Edge Computing Concepts (Networks)

*

Network Example: CDN

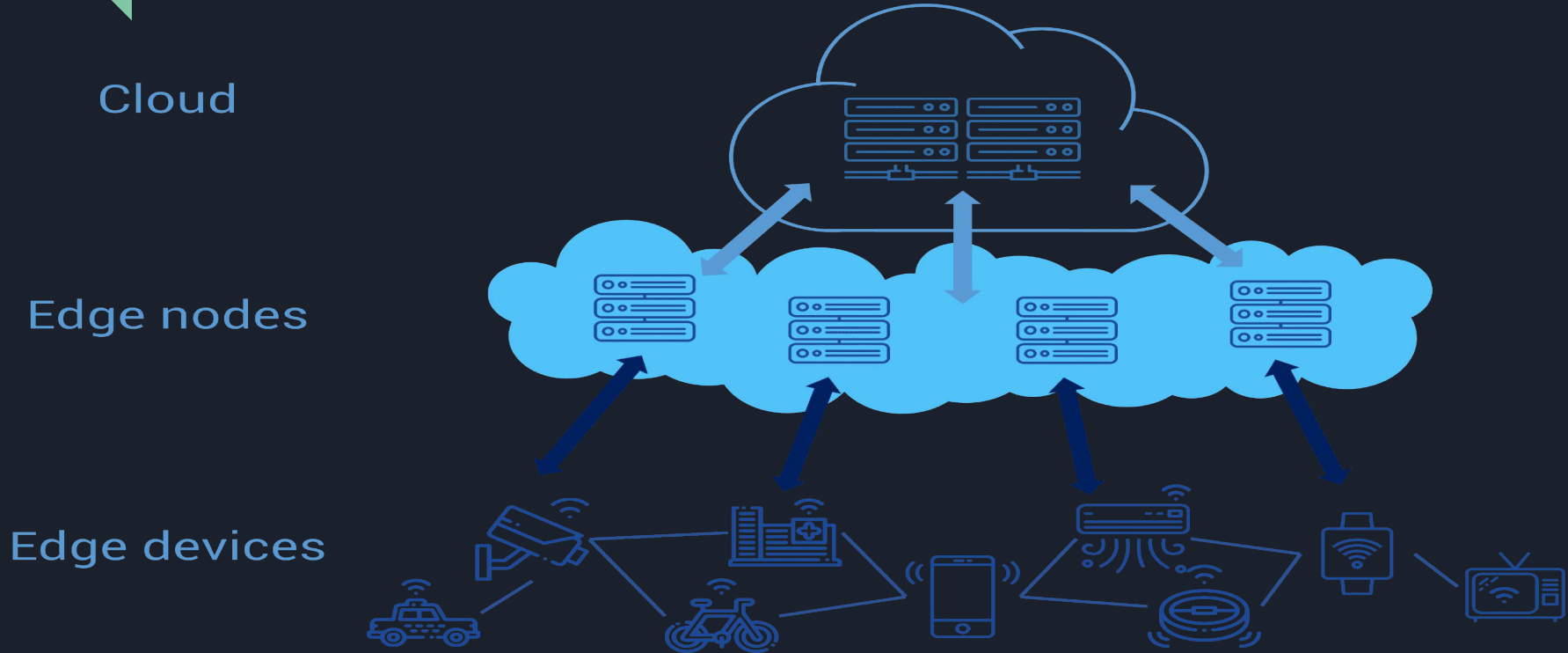




Connecting Dots: Edge Computing (inNextJS Terms)

- **Clouds:(Infrastructure Core):**
- **Origin-Servers:** main computers that stores and runs the original version of your application code
- **CDN-Servers:** store static content (such as HTML and image files) in multiple locations around the world and are placed between the client and the origin server.
- **Edge-Servers:**generalized concept for the fringe (or edge) of the network, closest to the user.

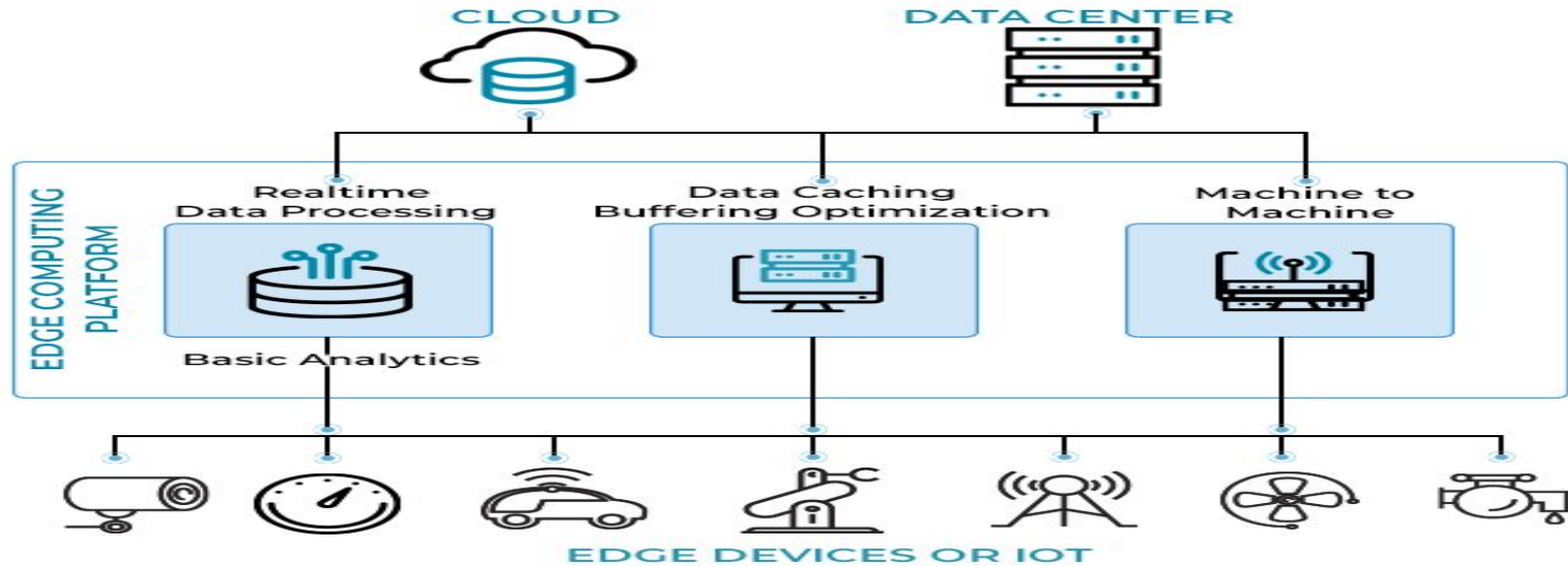
Edge Computing Concepts (the Edge)



Connecting Dots: Edge Computing (inNextJS Terms)



EDGE COMPUTING

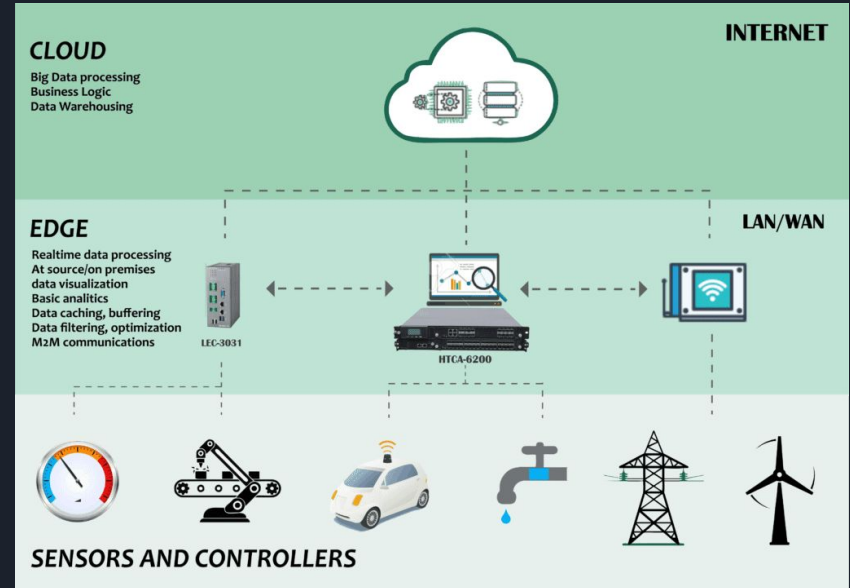



Examples of Edge Computing Solutions in Use Today

1-Grid Edge Control and Analytics

2-Oil and Gas Remote Monitoring

3-Edge Video Orchestration





Connecting Dots: Edge Computing (inNextJS Terms)


Question: How will your Typescript, NodeJS, NextJS will work here



Connecting Dots: Edge vs CDN (inNextJS Terms)

- **CDNs** could be considered part of "the Edge" because they store static content at the fringe (edge) of the network.
- **Similar to CDNs**, Edge servers are distributed to multiple locations around the world
- **Edge servers** can run small snippets of code.
- Both **Caching** and **code execution** can be done at the Edge closer to the user.

Question: What is Caching and how is different to CDN



How NextJs works in distributed Edge Computing

- **Clouds:(Infrastructure Core):**
- **Origin-Servers:** main computers that stores and runs the original version of your application code
- **CDN-Servers:** store static content (such as HTML and image files) in multiple locations around the world and are placed between the client and the origin server.
- **Edge-Servers:** generalized concept for the fringe (or edge) of the network, closest to the user.



NextJs services and Edge Computing

Caching

Distributed code execution

Data fetching (again distributed)

Replicating data

Integration Apps