Multi-Tier

Database(mc3)

Database-Layer

Service-Layer

Presentation layer

Service-Tier(mc2)

Presentation Tier(mc1)

Distributed

SQL

Service-2

Multi-Layer

(Monolith)—FAT/THIN

Database

DB-Service

Presentation service

Micro-Service application

Logging Service

Local/Distributed

Amazon web site(desktop)

Amazon app(mobile)

Monolith-Service

Customer service

--Customer id and Name

--Account Details

-- Address Details

Customer id service

Customer

Front-end

Service

(Aggrgate-Service)--JOIN

Address Details service

Account Details service

Front-end

Service

(Splitter)

Customer

**Fixed🡪Micro-service<--configuration(chidren service,env, port values,database host address etc.)**

**Dynamic**-> **Micro-service(GCP)🡨Configuration Service(Home NW)**

**Hard-Coded🡪 User-Service🡪Data-service-Node(Ip address)**

**Dynamic Discovery 🡪Alternate Data Service(Different ip address)🡪Machines are dynamically launched by the nw applications.**

**Dynamic Discovery🡪by Name of service**

**Discovery-service(mapping of service name🡪ip address)**

Discovery-service

(Service Registry)

Lookup

User-service

🡪Register service

Data-service

connect

Alternate Data-service

**NetFlix🡪Eureka Discovery Service(java appln server)-REST API**

**Spring Cloud 🡪Discovery service**

**Google Cloud🡪It launches virtual machines 🡪Own discovery engine.**

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Role of Gateway🡪Dispatch client requests to concerned URL/node/mc

API Gateway🡪Request dispatching.

🡪Load balancing

🡪Security control

Service1🡪Service data🡪Database

(Circuit Breaker)🡪Fall Back-Service->database

NetFlix🡪CircuitBreaker🡪Hystrix

Synchronous calls🡪One to one call

A🡪B

C 🡪B

Direct Call

Text SMS/Send Email

Background Process🡪Asynchronous communication.

Service1🡪**Service2**🡪database🡪Response delayed

Service3🡪Service2

**Messaging Systems: ActiveMQ, RabbitMQ, IBM MQ, JMS Server**

Receiver service

Asynchronous

**Sender Service**

Message Broker

MicroServices with Message Broker for communication🡪

Service3(mc3)

Service1(mc1)

Service2(mc2)

Log Analyser

Centralized logging(MC4)

ZipKin, ELK(Kibana UI)