AWS

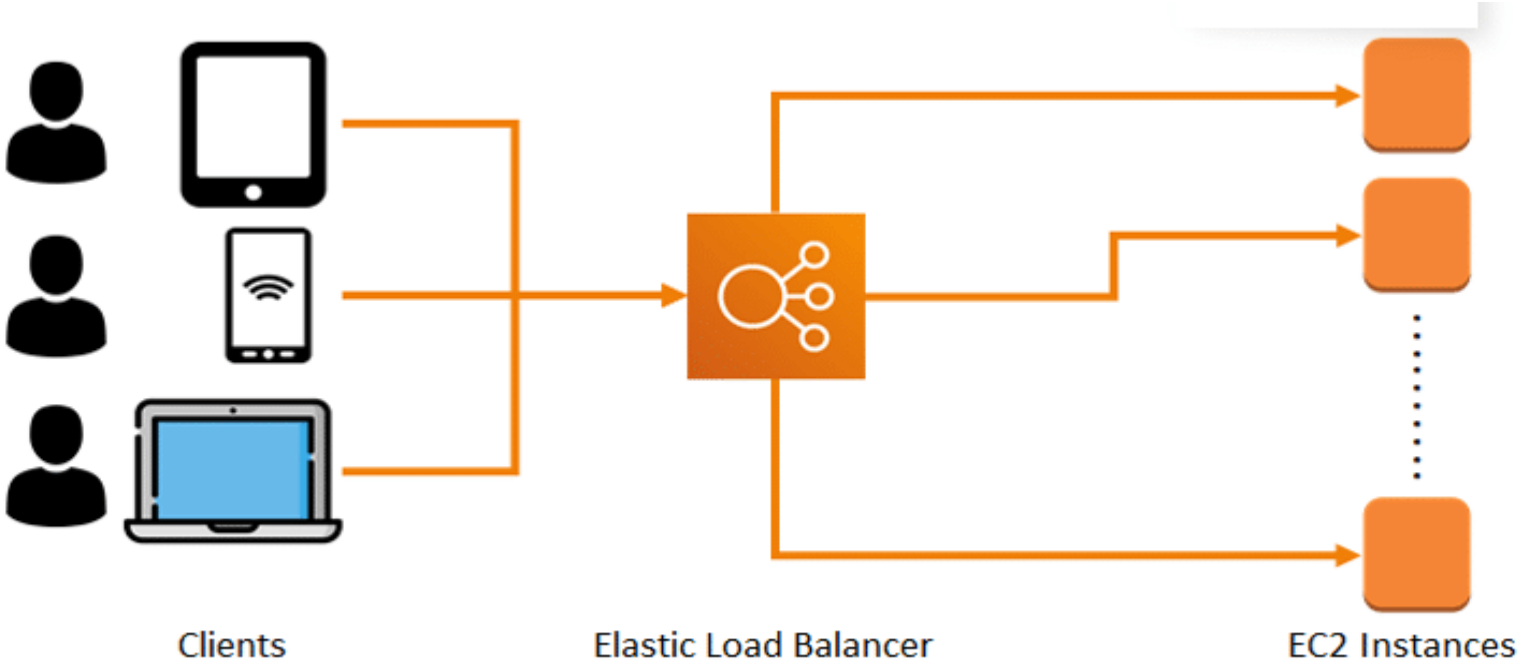
Elastic Load Balancing

PRESENTED BY
ARAVIND KUMAR

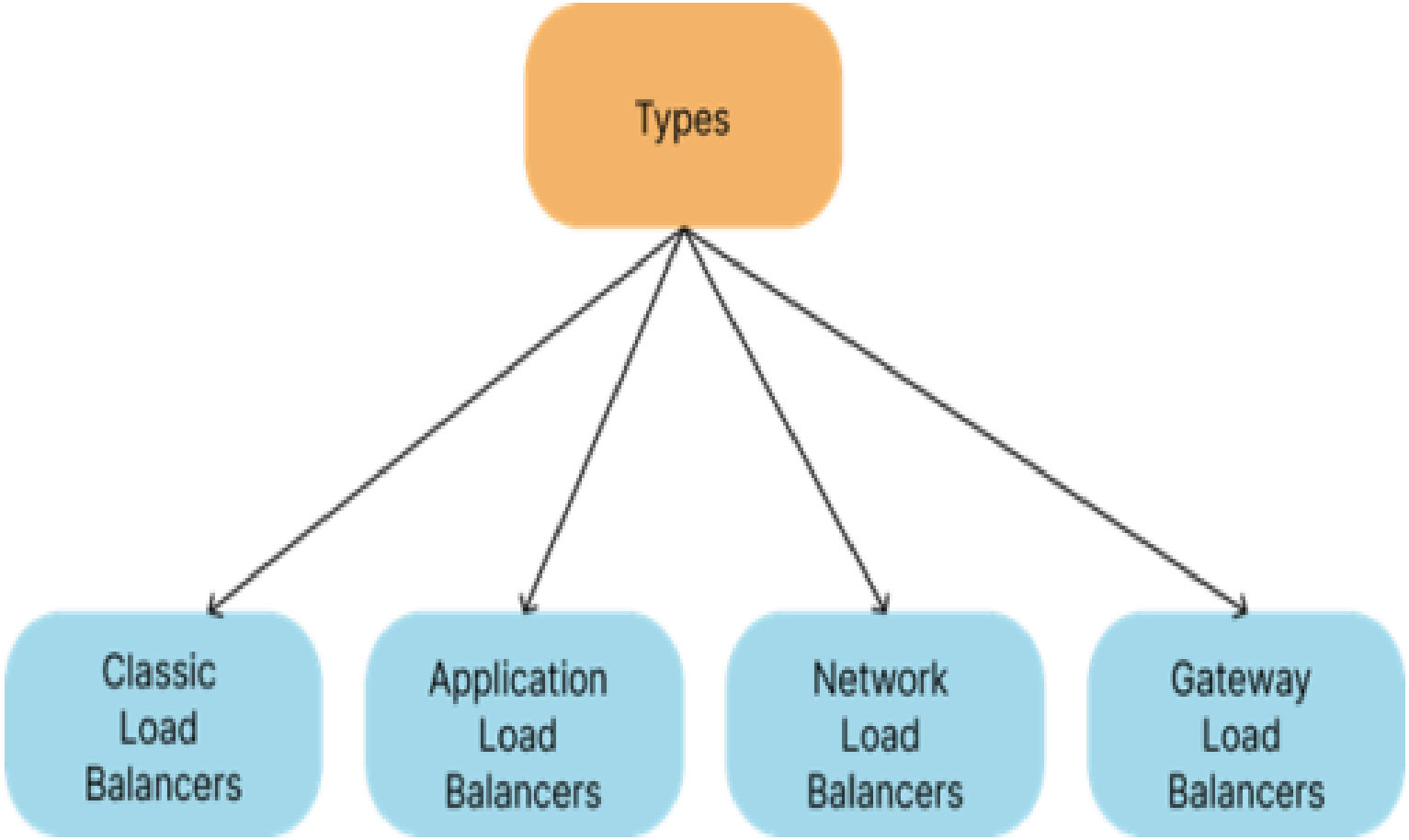
SPARCSTONZ

What is ELB?

Elastic Load Balancing automatically distributes incoming application traffic across multiple targets, such as Amazon EC2 instances, containers, IP addresses, and Lambda functions. It can handle the varying **load** of your application traffic in a single Availability Zone or across multiple Availability Zones.

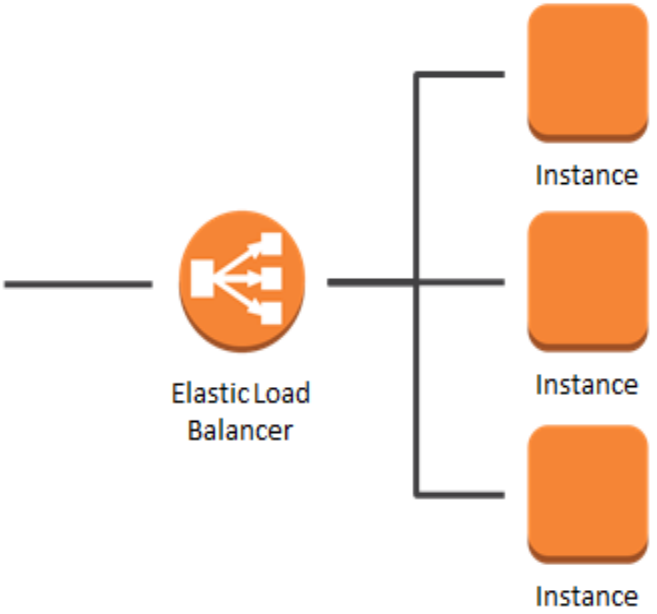


Types of Load Balancer



Classic Load Balancer

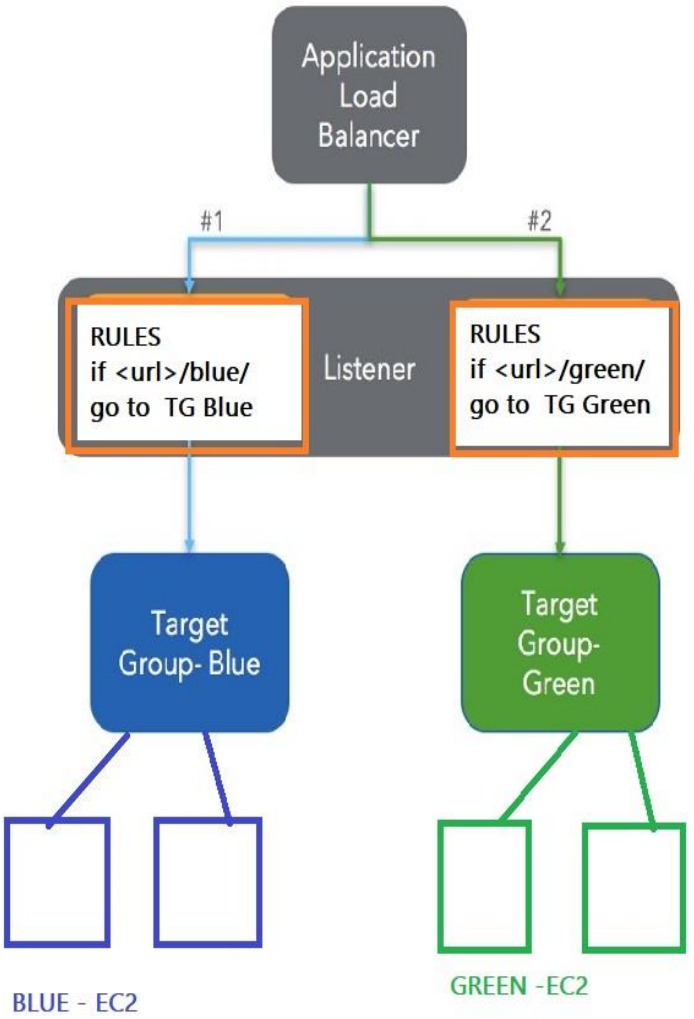
- Classic Load Balancer **provides basic load balancing across multiple Amazon EC2 instances and operates at both the request level and connection level**.
- Classic Load Balancer is intended for applications that are built within the EC2-Classic network.



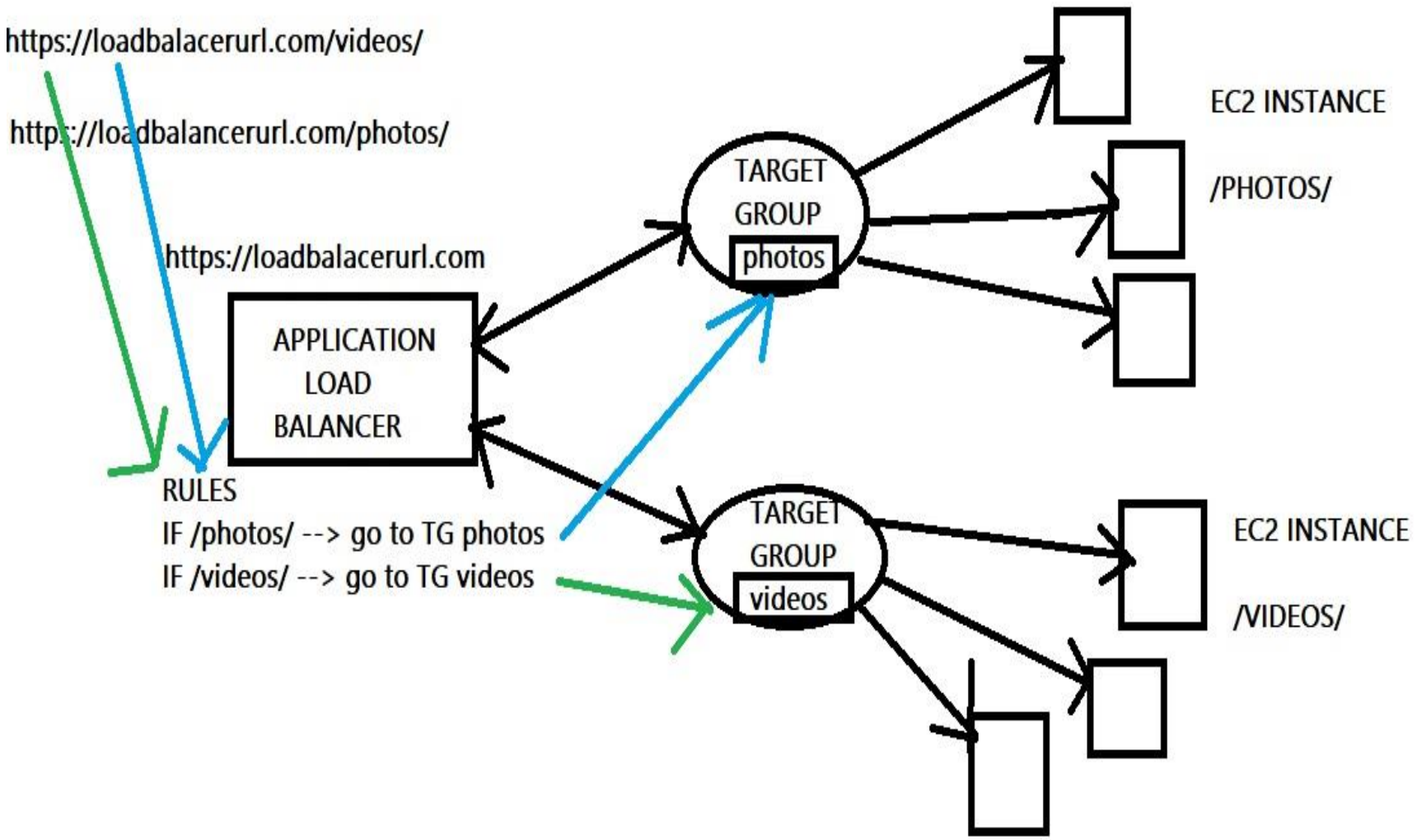
THIS IS OLD MODEL AND WILL BE DECOMISSIONED FROM AWS SOON

Application Load Balancer

- A *load balancer* serves as the single point of contact for clients.
- Clients send requests to the load balancer, and the load balancer sends them to targets, such as EC2 instances.
- To configure your load balancer, you create target groups, and then register targets with your target groups.
- You also create listeners to check for connection requests from clients, and listener rules to route requests from clients to the targets in one or more target groups.

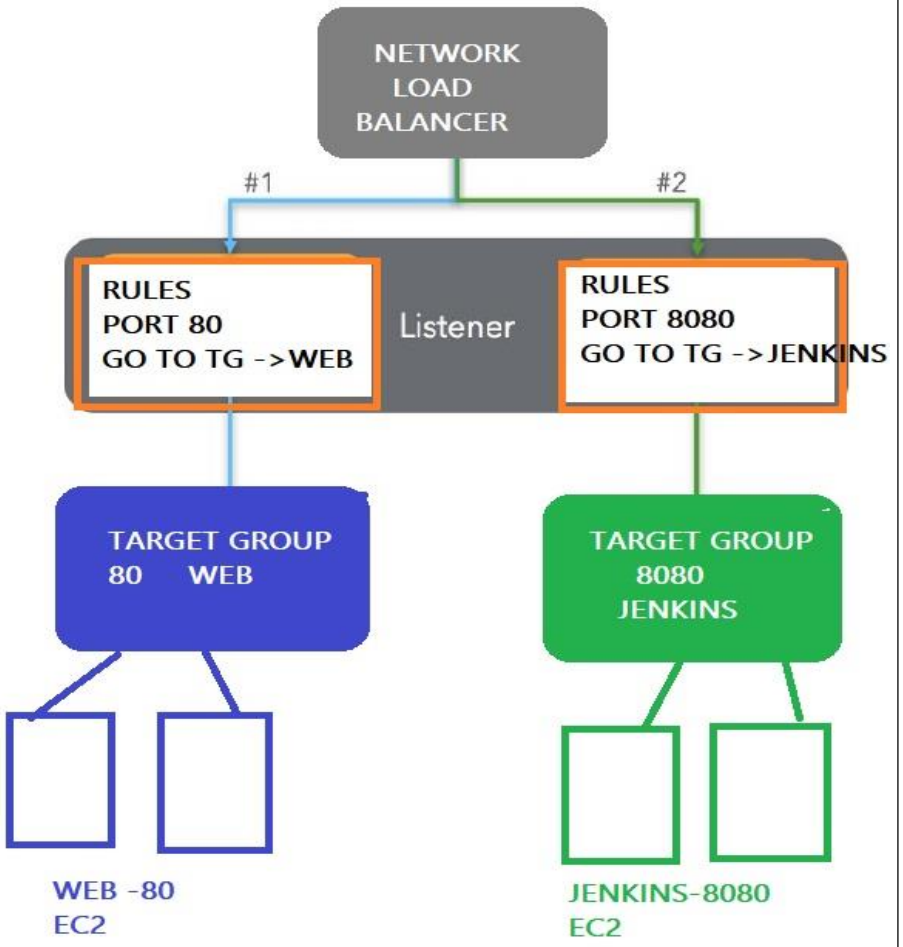


Application Load Balancer



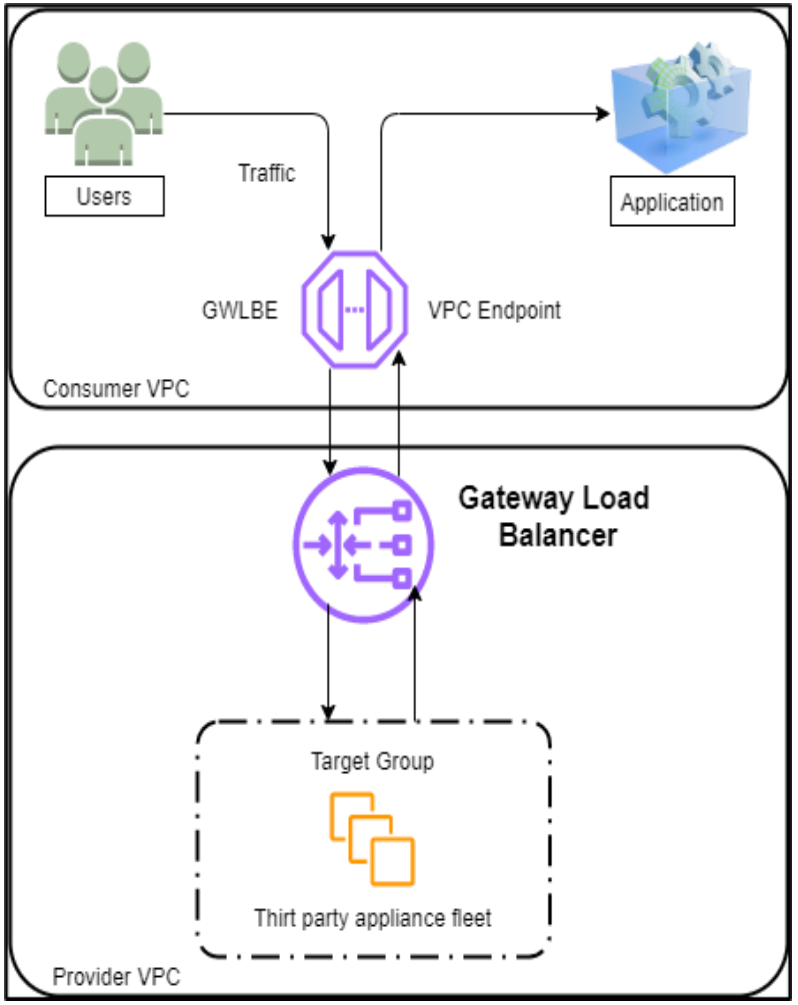
Network Load Balancer

- A Network Load Balancer functions at the fourth layer of t Open Systems Interconnection (OSI) model.
- After the load balancer receives connection request, it selects a target from the target group for the default rule.
- It attempts to open a TCP connection to the selected targe on the port specified in the listener configuration.



GATEWAY LOAD BALANCER

- Gateway Load Balancer **helps you easily deploy, scale, and manage your third-party virtual appliances**.
- It gives you one gateway for distributing traffic across multiple virtual appliances while scaling them up or down, based on demand.



Feature	Application Load Balancer	Network Load Balancer	Gateway Load Balancer	Classic Load Balancer
Load Balancer type	Layer 7	Layer 4	Layer 3 Gateway + Layer 4 Load Balancing	Layer 4/7
Target type	IP, Instance, Lambda	IP, Instance	IP, Instance	
Terminates flow/proxy behavior	Yes	Yes	No	Yes
Protocol listeners	HTTP, HTTPS, gRPC	TCP, UDP, TLS	IP	TCP, SSL/TLS, HTTP, HTTPS
Reachable via	VIP	VIP	Route table entry	
Layer 7				
Redirects	✔			
Fixed Response	✔			
Desync Mitigation Mode	✔			
HTTP header based routing	✔			
HTTP2/gRPC	✔			

Elastic Load Balancing TYPES

Application
Load Balancer
(ALB)

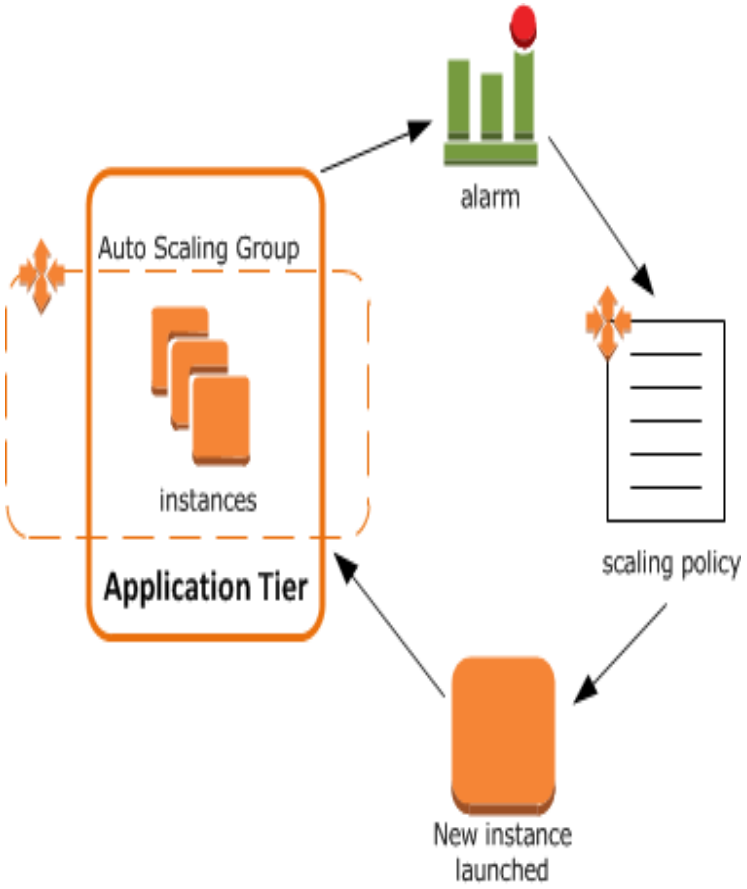
Network
Load Balancer
(NLB)

Gateway
Load Balancer
(GWLB)

Classic
Load Balancer
(CLB)

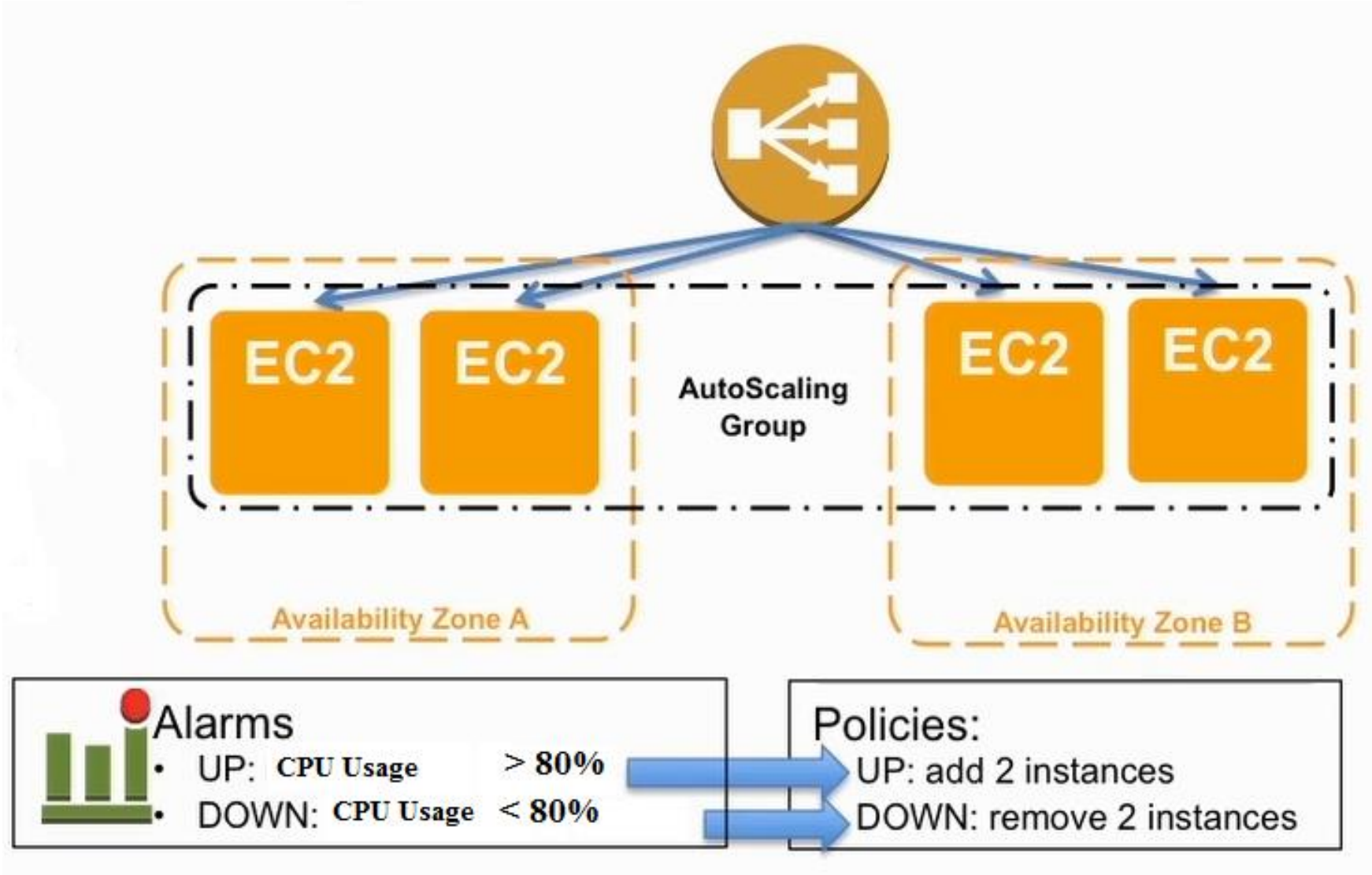
PROTOCOL LISTENERS	HTTP / HTTPS gRPC	TCP / UDP TLS	IP	HTTP / HTTPS TCP SSL/TLS
USE CASES	For **web apps**, microservices & containers	Handling **millions of requests per second** while maintaining **ultra-low latencies**	Running third-party **virtual appliances** in AWS	For **legacy** applications in AWS For implementing **Custom Security Policies** and **TCP passthrough configuration**

Auto Scaling

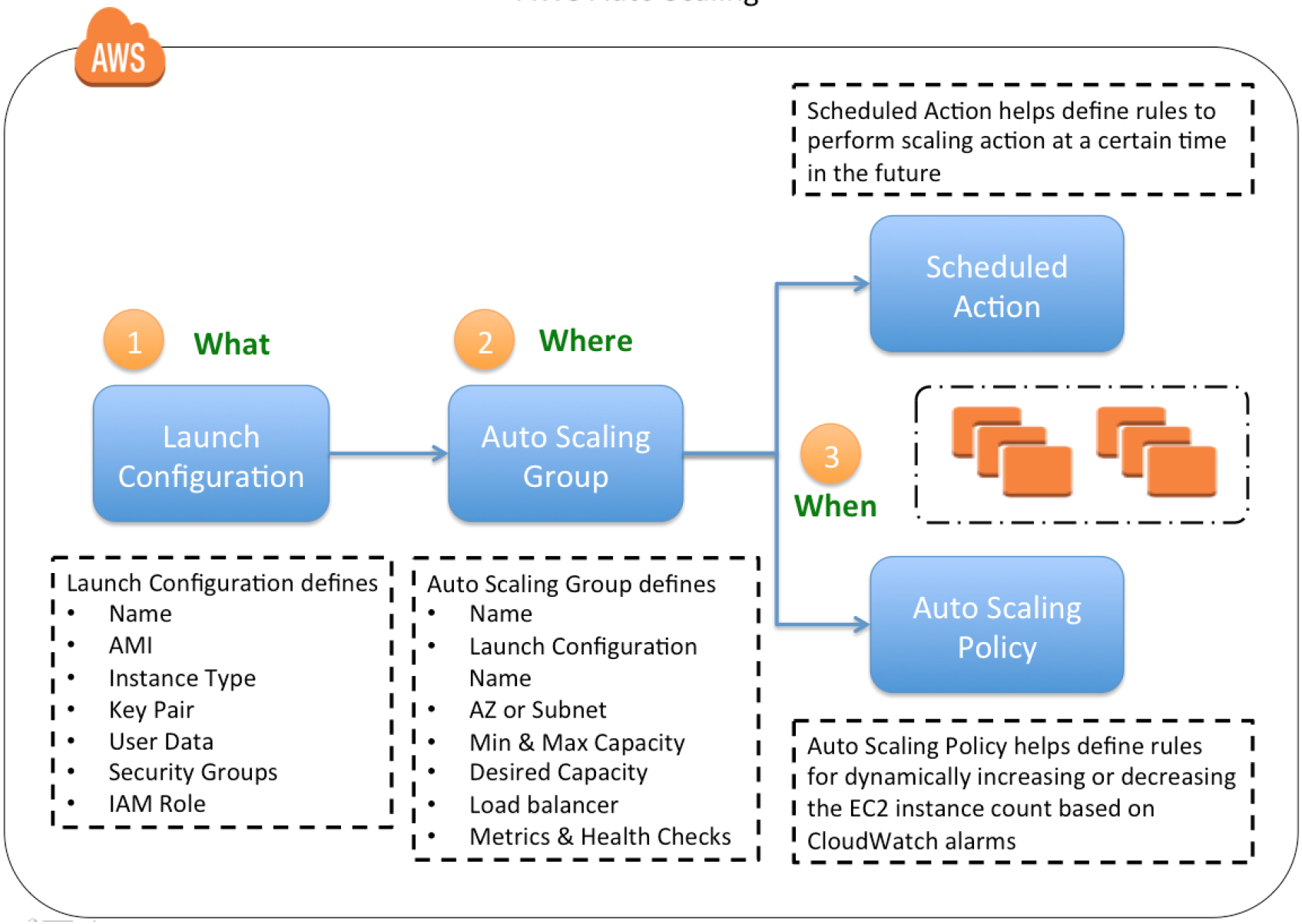


- **AWS Auto Scaling** lets you build **scaling** plans that automate how groups of different resources respond to changes in demand.
- You can optimize availability, costs, or a balance of both.
- **AWS Auto Scaling** automatically creates all of the **scaling** policies and sets targets for you based on your preference.

Auto Scaling



AWS Auto Scaling



Thank You

Address:
Madurai and Chennai

Contact Numbers:
+91-9994871924

Email Address:
aravindkumar@sparcstonz.com
gkaravindkumar@gmail.com