

# Project Presentation

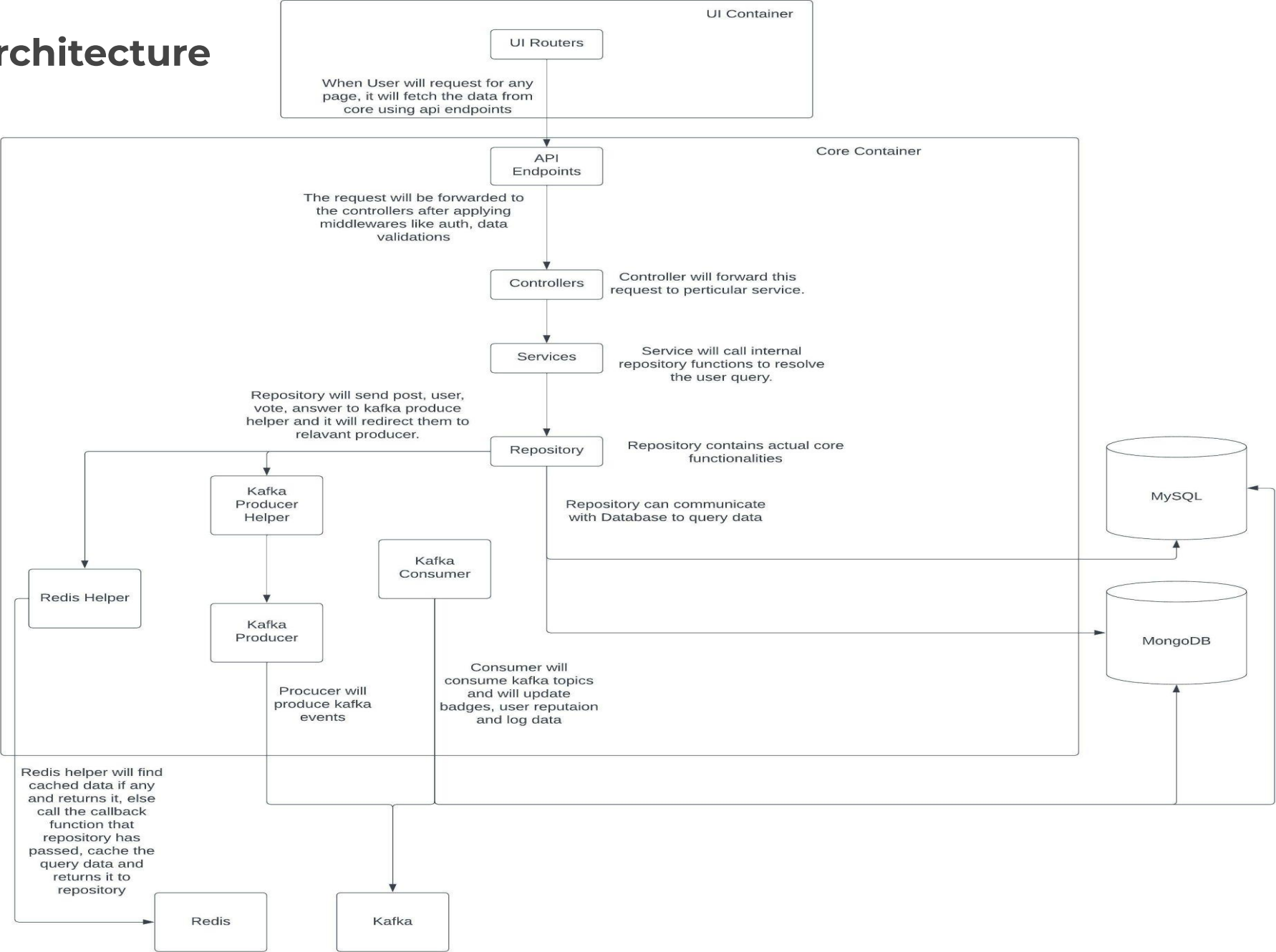


Group 1#	
Roshan Chokshi	016045289
Saikrishna Dosapati	015950493
Ravi Shanker Thadishetti	016011983
Ravi Teja Kallepalli	015998853
Subhash Reddy	016003403
Sandeep	016001167
Varun Raj Badri	015918006

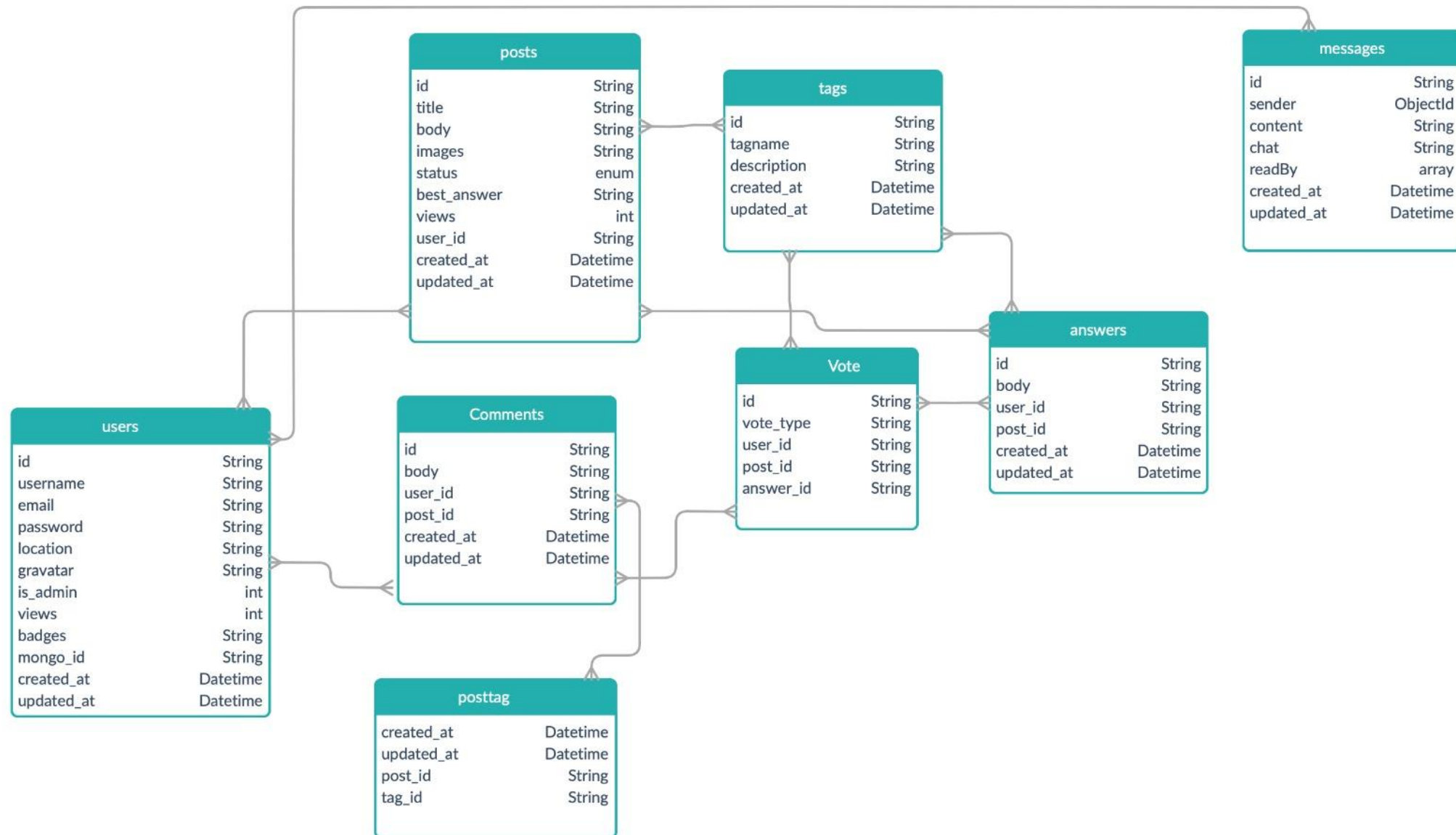
# Introduction

- MongoDB (NoSQL) and MySQL (Sequelize) **databases** were created using mongoose ODM and Amazon RDS.
- React with Redux state management used for **frontend**.
- Node with Express used for **backend** APIs.
- Redis, **in-memory data** structure store used for caching purpose.
- Message queues are setup for multiple requests using **zookeeper** and **Kafka**.
- Server powered by AWS to ensure scaling, updates and rollouts.
- Testing API using JMeter for 100-500 concurrent users.

# System Architecture



# Database Schema



# Database Bifurcation

## MySQL (sequelize) :

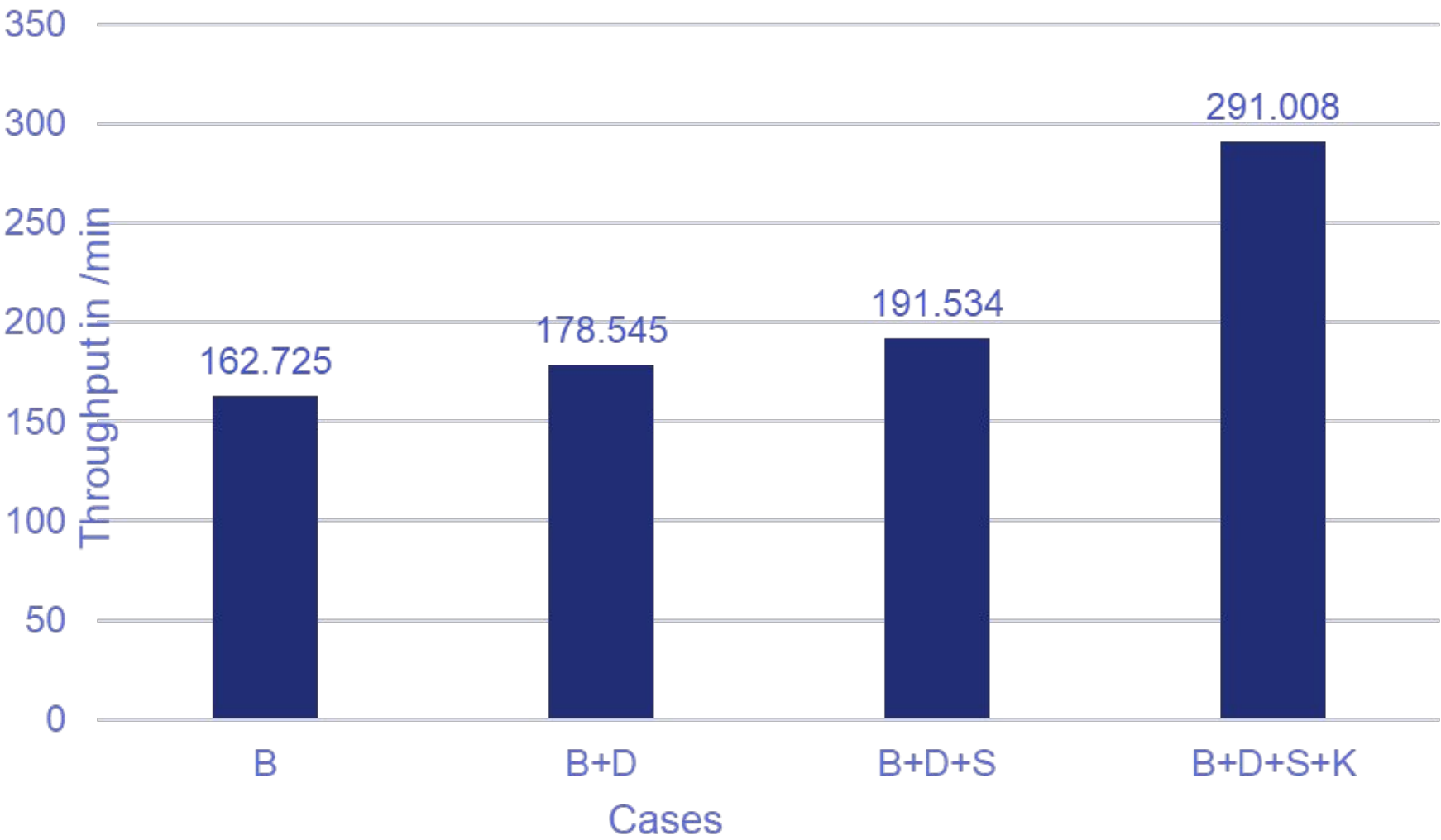
- Posttag
- Tags

## MongoDB :

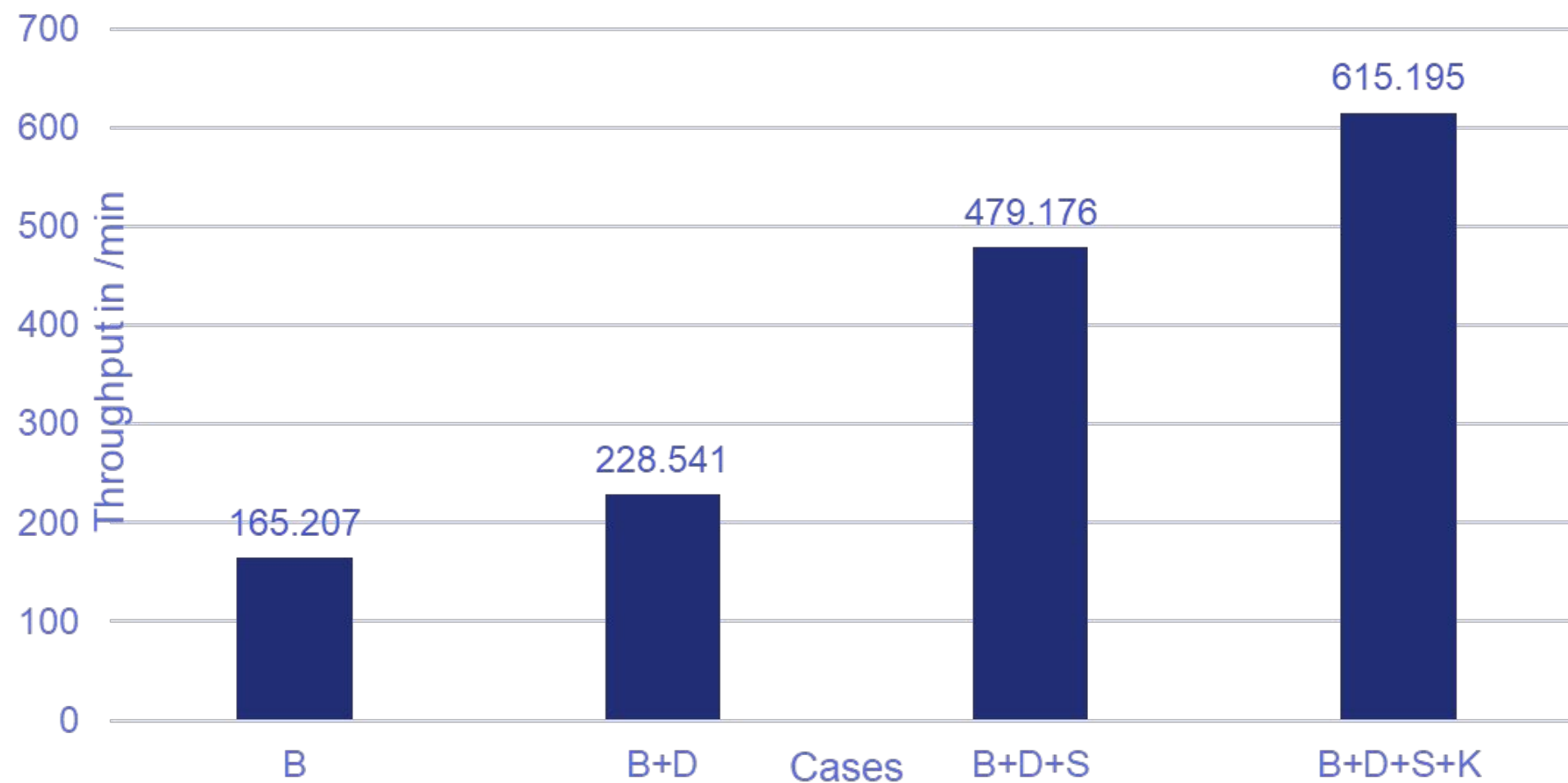
- Users
- Posts
- Answers
- Comments
- Vote
- Badges
- Messages / Chat

# Performance Comparison:

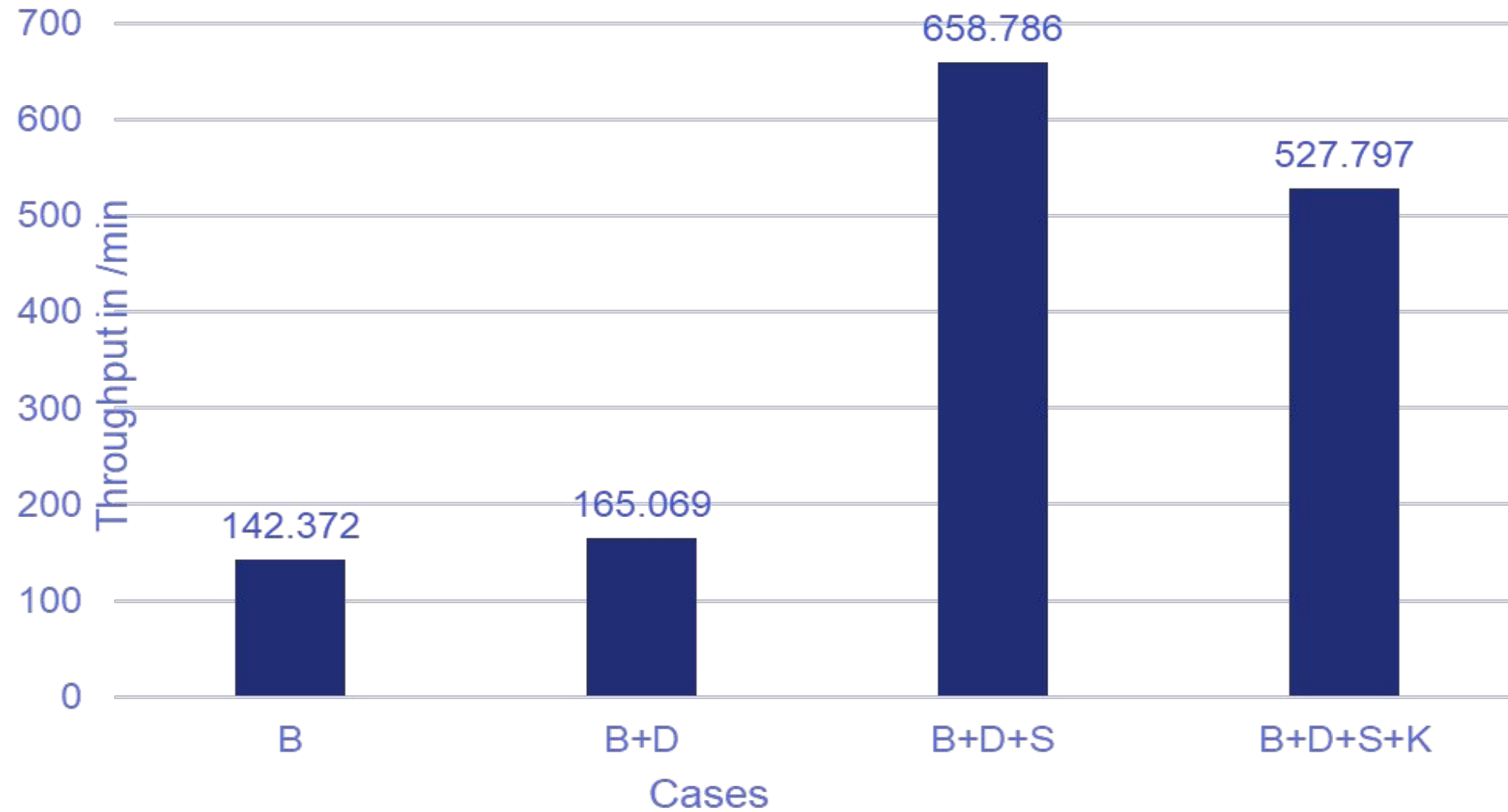
#100 Concurrent Users



## #200 Concurrent Users

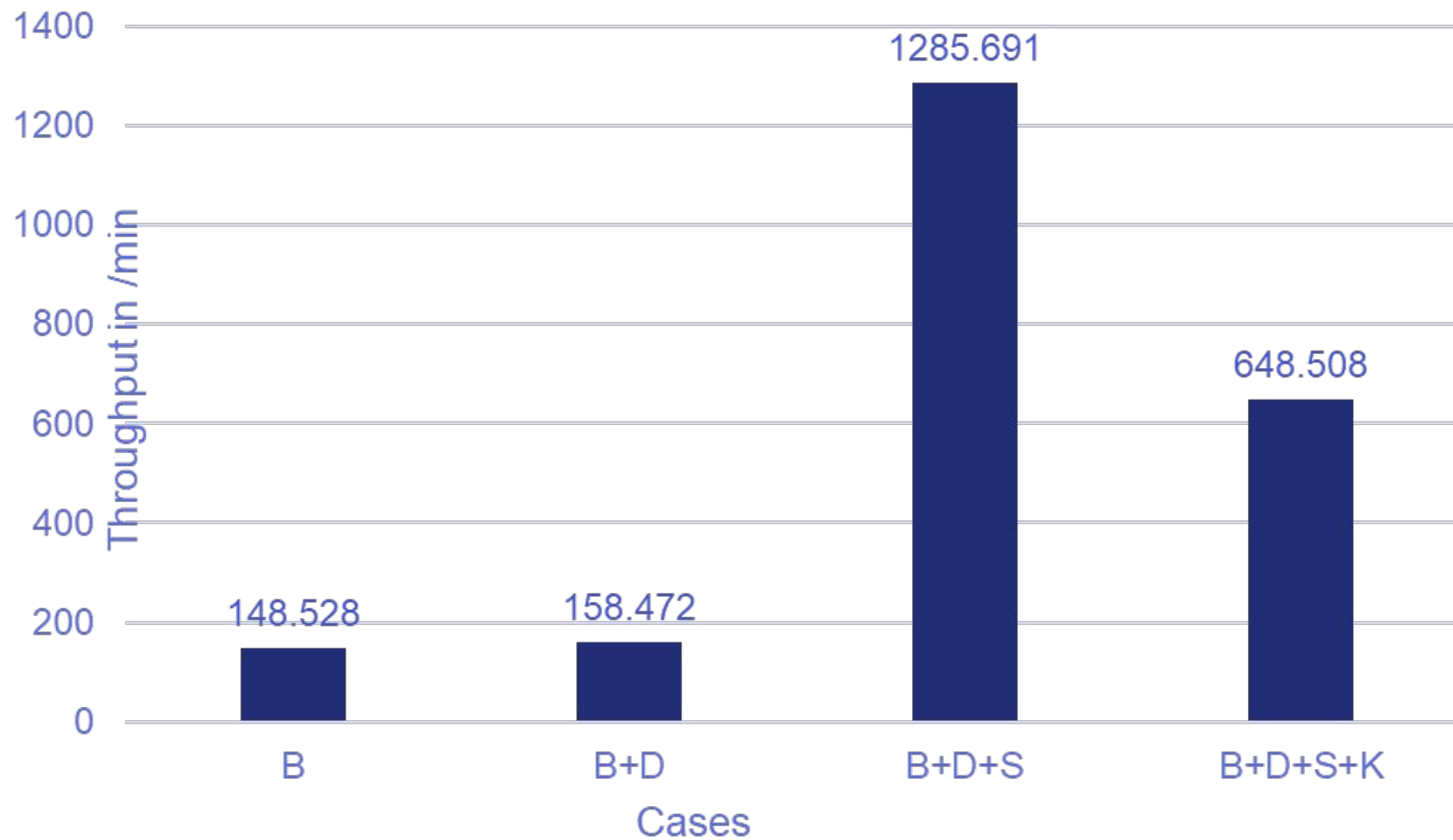


## #300 Concurrent Users

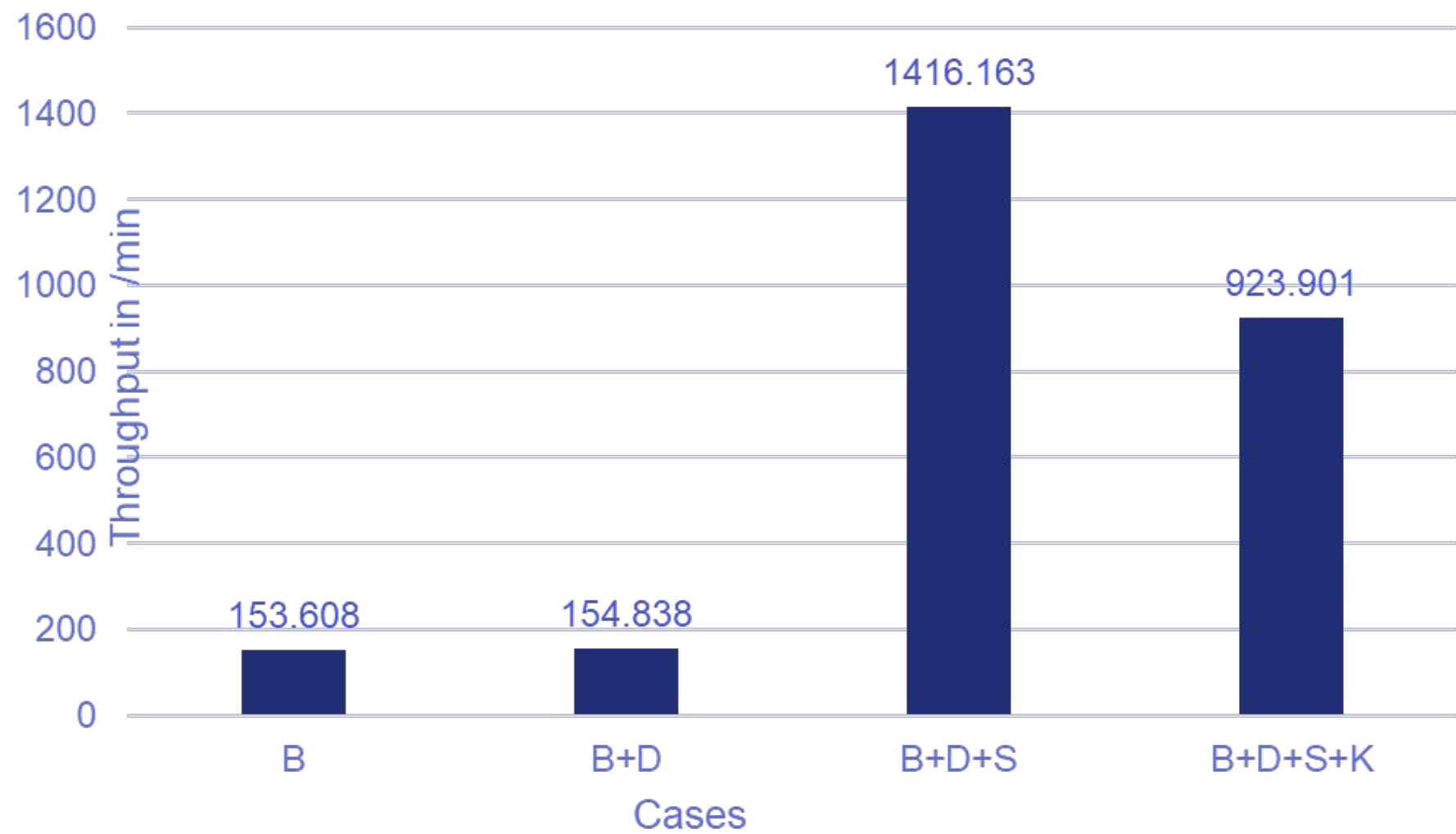




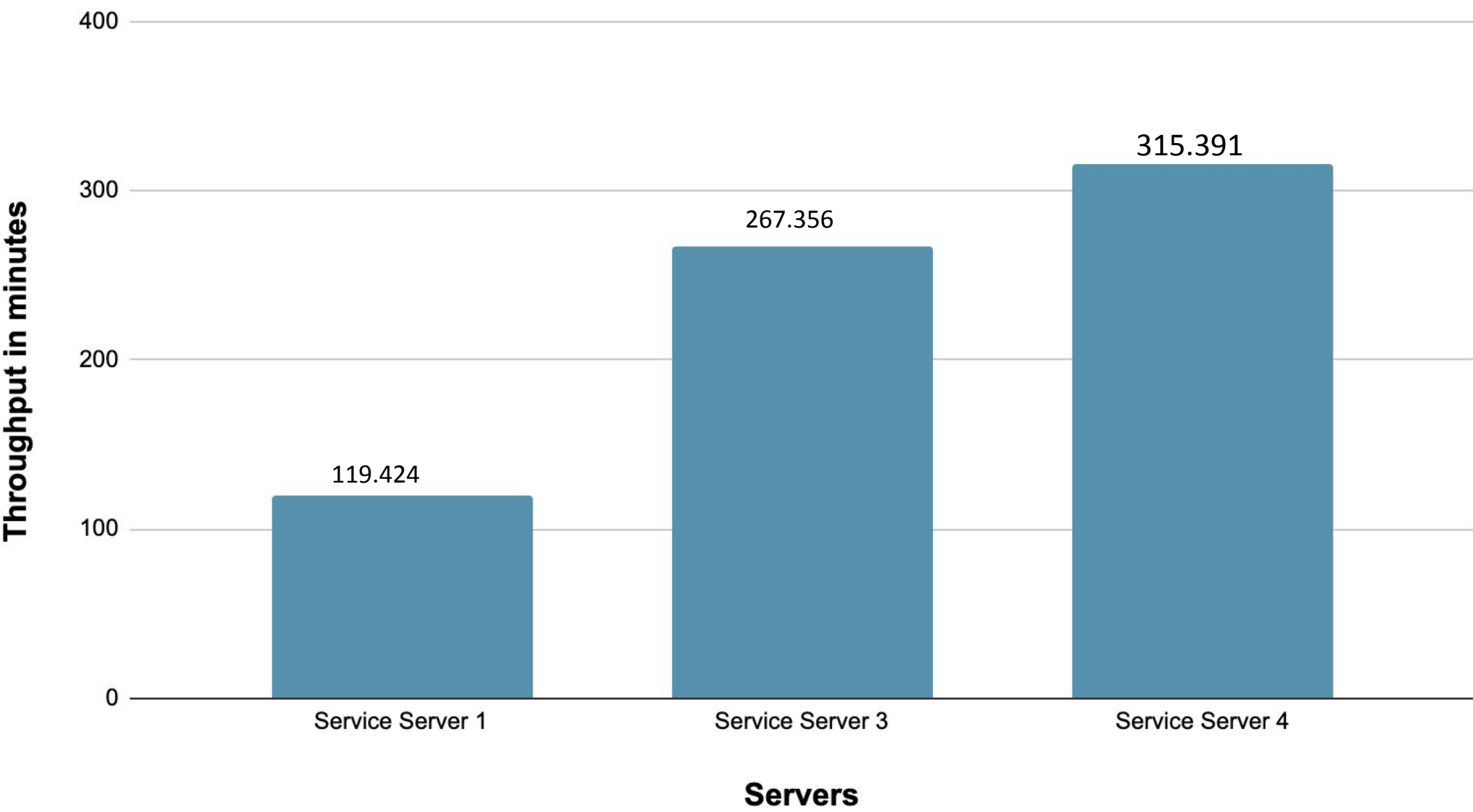
## #400 Concurrent Users



# #500 Concurrent Users



# Load Balancing



# Load Balancer 1 Services Server

Target groups | EC2 Management console

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#TargetGroup:targetGroupArn=arn:aws:elasticloadbalancing:us-east-1:549223189027:targetgroup/GroupTarget/cc19f2d9614346f3

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Security Groups

Elastic IPs

Placement Groups

Key Pairs

EC2 > Target groups > GroupTarget

GroupTarget

arn:aws:elasticloadbalancing:us-east-1:549223189027:targetgroup/GroupTarget/cc19f2d9614346f3

Details

Target type	Protocol : Port	Protocol version	VPC
Instance	HTTP: 80	HTTP1	vpc-09c8fb728de7acead
IP address type	Load balancer		
IPv4	LoadBalancer1		

Total targets	Healthy	Unhealthy	Unused	Initial	Draining
1	1	0	0	0	0

TargetsMonitoringHealth checksAttributesTags

Registered targets (1)

Filter resources by property or value

Instance ID	Name	Port	Zone	Health status	Health status details
i-05610d8dc3711fd1c	StackOverFlow1	80	us-east-1b	healthy	

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# Load Balancer 3 Services Server

Target groups | EC2 Management console

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#TargetGroup:targetGroupArn=arn:aws:elasticloadbalancing:us-east-1:549223189027:targetgroup/Grouptarget2/ad2496931a04...

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Target groups

EC2

Target groups

Grouptarget2

Actions

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Security Groups

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Placement Groups

Key Pairs

Grouptarget2

arn:aws:elasticloadbalancing:us-east-1:549223189027:targetgroup/Grouptarget2/ad2496931a04ae5e

Details

Target type	Protocol : Port	Protocol version	VPC
Instance	HTTP: 80	HTTP1	vpc-09c8fb728de7acead
IP address type	Load balancer		
IPv4	LoadBalancer1		

Total targets

Healthy

Unhealthy

Unused

Initial

Draining

3

3

0

0

0

0

Targets

Monitoring

Health checks

Attributes

Tags

Registered targets (3)

Filter resources by property or value

Instance ID

Name

Port

Zone

Health status

Health status details

	i-06556b90a6233fbb8	StackOverFlow2	80	us-east-1b	healthy	
	i-05610d8dc3711fd1c	StackOverFlow1	80	us-east-1b	healthy	
	i-0529a3ea19055803c	StackOverFlow3	80	us-east-1b	healthy	

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# Load Balancer 4 Services Server

Target groups | EC2 Management console

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#TargetGroup:targetGroupArn=arn:aws:elasticloadbalancing:us-east-1:549223189027:targetgroup/GroupTarget3/38af1dd76f211756

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Placement Groups

Key Pairs

EC2 > Target groups > GroupTarget3

GroupTarget3

arn:aws:elasticloadbalancing:us-east-1:549223189027:targetgroup/GroupTarget3/38af1dd76f211756

Details

Target type

Instance

IP address type

IPv4

Protocol : Port

HTTP: 80

Load balancer

LoadBalancer1

Protocol version

HTTP1

VPC

vpc-09c8fb728de7acead

Total targets

4

Healthy

4

Unhealthy

0

Unused

0

Initial

0

Draining

0

Targets

Monitoring

Health checks

Attributes

Tags

Registered targets (4)

Filter resources by property or value

Instance ID

Name

Port

Zone

Health status

Health status details

i-00131808ecbed64b2

StackOverFlow4

80

us-east-1b

healthy

i-0529a3ea19055803c

StackOverFlow3

80

us-east-1b

healthy

i-06556b90a6233fbb8

StackOverFlow2

80

us-east-1b

healthy

i-05610d8dc3711fd1c

StackOverFlow1

80

us-east-1b

healthy

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