Traffic Prediction And Load Testing Infrastructure

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1. Do you know how much traffic your infrastructure will serve in the next quarter?

2. Is your infrastructure capable of handling such load?
Why Traffic Trend Changes?

- User Engagement
- New Releases
- Seasonal Trends
Yearly Seasonality

Yearly trend:
Forecasting

- QPS: Queries Per Second
- Page views: Unique visit to a web page
Pre-Requisites For Traffic Forecasting

- Metrics
- Historic Data
- Frequency
Our Journey
Our Journey

Linear Projection

Linear Regression

Time Series Model
Traffic Prediction At LinkedIn

- Historic QPS
- Page views Data (Historic + Forecasted)
- Important Events And Holidays

Forecasting Tool

Forecasted QPS
Sample Forecast

![Sample Forecast Graph](image-url)
What Next?
Load Testing
Challenges In Load Testing

Load Test process

User Experience
Load Testing LinkedIn Infrastructure

Traffic Routing
Tools provide control over the traffic assignments across data centers

Monitoring
Monitoring infrastructure to capture any site wide impact of Load test.

Learnings
Follow up actions to maintain the site capacity.
Traffic Routing

User Request
Proxy Server
Sticky Routing Service
Edge Host
Trafficshift Tool

Data Center 1
Data Center 2
Data Center N
Monitoring

My service errors

Errors/sec

12:00 14:00 16:00 18:00

Metrics
SRE on-call
Learnings

- Current Capacity
- Degraded Services
- Production Issues
- Capacity Adjustments
Key Takeaways

• Be aware of the upcoming site traffic demand and keep your infrastructure ready.

• Load test your infrastructure regularly.

• “It is better to be safe than sorry”
Questions?