

PERFORMANCE 101

WHAT IS LOAD TESTING?

Dan Marek

perf.pro

AGENDA

- What is Load Testing
- Load Testing Value
- Benchmark Process Snapshot
- Golden Rules
- Responsibility Matrix
- Key Takeaways

WHAT IS LOAD TESTING?

- Automate app services, infra services and front end applications performing REAL system actions
 - Run “virtual users” or transactions to create target load volumes
 - Process of metric collection and analysis
 - Collaborative troubleshooting and tuning
- Use load testing tools for automation
- Use operational monitoring and APM for metrics & problem solving

WHAT IS THE VALUE OF LOAD TESTING?

- Cost avoidance
 - Identify defects before deployment or user growth
- Minimize cost by conserving hardware and software
 - Enable consolidation and virtualization
- Understand risk before deployment
- Deploy reliable and stable systems
 - Understand system limits and operational procedures
- Share performance experiences with new application teams
- Independent third party review of applications

PERFORMANCE TEST SERVICES

Service Need	Benchmark	Reliability Resiliency	Capacity	Component Exploration	Tuning	WAN Client Side
Baseline	Load, Day in Life, Peak, Month End					Network, Client Side
Stability		Endurance, Failover, Chaos				
Capacity			Stress Servers	Trending		
Problem Research				Shake Out Throughput Load Balancer	Iterative Load	

BENCHMARK SNAPSHOT

```
graph LR; subgraph Timeline [ ]; direction LR; P[Planning] --> S[Setup] --> T[Testing] --> R[Results]; end; P -- "Kickoff Meeting  
Questionnaire  
Test Plan  
App Test Script  
App Test Data" --- P_tasks; S -- "Creates Test  
Automates Scripts  
Monitor Setup  
Infrastructure Review  
Test Readiness Review" --- S_tasks; T -- "Testing Execution  
Plan 3 Test Runs" --- T_tasks; R -- "Analysis  
Review  
Root Cause  
Final Reports" --- R_tasks; P -. "New Test" .-> S; T -. "Retest" .-> T; R -. "Problem" .-> Problem([Problem]);
```

Planning

Kickoff Meeting
Questionnaire
Test Plan
App Test Script
App Test Data

Setup

Creates Test
Automates Scripts
Monitor Setup
Infrastructure Review
Test Readiness Review

Testing

Testing Execution
Plan 3 Test Runs

Results

Analysis
Review
Root Cause
Final Reports

New Test

New Test

Retest

Problem

GOLDEN RULES

- Three Golden Rules "It is all about the Scenario"

- Volume
- Business Critical
- 80/20

- Think Outside In

> Test Inside Out

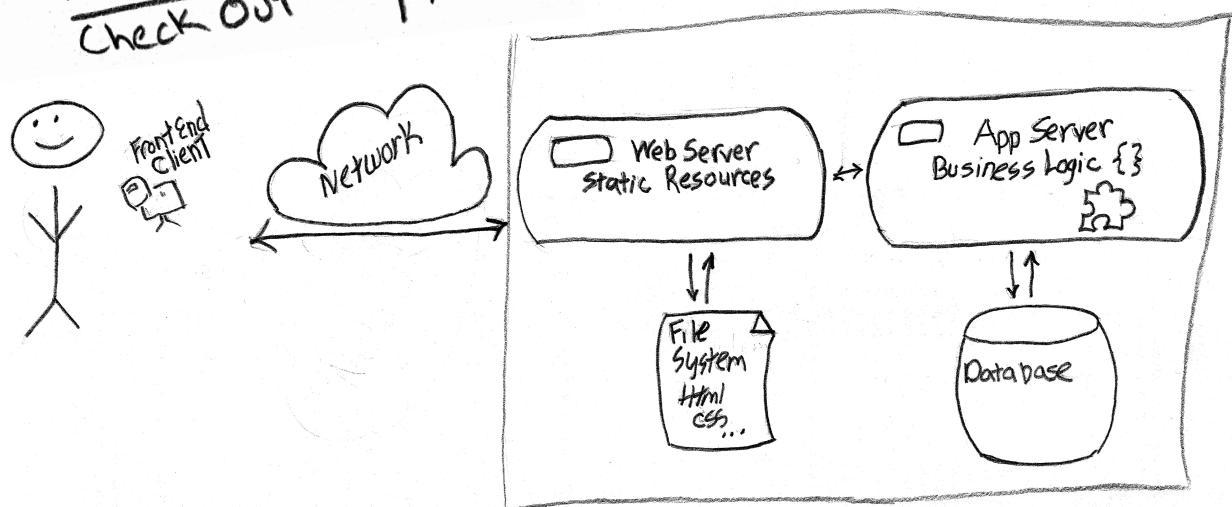
- Feature CRUD

- User Visits

- Small Batch Size

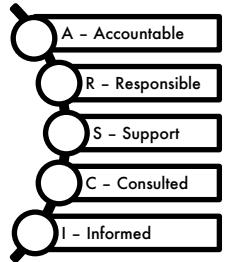
- One Test One Goal

Transaction Name	TPM
Product Search	500
Add to Cart	200
Check Out	100



RESPONSIBILITY MATRIX

	perf lead	perf eng	proj lead	app lead	test lead	test eng	bus analyst	bus contact	infra lead	infra eng	app dev / vendor	arch ent, infra app
Planning												
Kickoff Meeting	A		R	S	S		S					
Questionnaire	A	S	R	S	S	C	C	C	S	C	C	C
Test Plan	A/R	S	R	S	S	C	C	C	S	C	C	C
Test Scenario & Script List												
App Test Script			A			R	S	S				
App Test Data			A	S		R	S	S	S		S	
Setup												
Creates Test	A	R			C		S				C	C
Automates Scripts	A	R			C		S					
Monitor Setup	A/R								R	S	S	C
Infrastructure Review	A	R			S				S	S	S	S
Test Readiness Review	A	R		S		S	S		S	S		
Testing												
Testing Execution	A	R							S	S	S	C
Plan 3 Test Runs	A	R							S	S	S	C
Results												
Test Results and Analysis	A	R							S	S	S	
Analysis, Root Cause & Tuning	S/R	S	A	R	S				S	S	S	C
Final Reports	A	R		C	C	C			S	S	C	C



KEY TAKEAWAYS

- Performance Fundamentals “It’s all about the Scenario”
- One Size Does Not Fit All
- Think About People – aka “Outside In”
- Think Infrastructure, Architecture, & Code
- Test As Early As Possible – aka “Inside Out”
- Agile or Iterative Waterfall – align goals, what, who, when & how

PERFORMANCE SERIES

- What is Performance Engineering?
- Advanced Performance Practices
- What about DEVOPS?

QUESTIONS

