



GRANULATE

Real-time Continuous Optimization



# Real-time Continuous Optimization

Improve Performance. Reduce Compute Costs.

Reduce  
Costs by

60%

Reduce  
Response Time  
by

40%

Increase  
Throughput

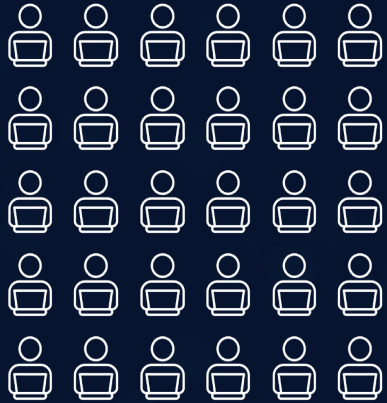
5X

Code  
Changes

0

# Organizations Face Difficulties Managing & Optimizing Infrastructure

**1 Million users,  
all with unique requests**



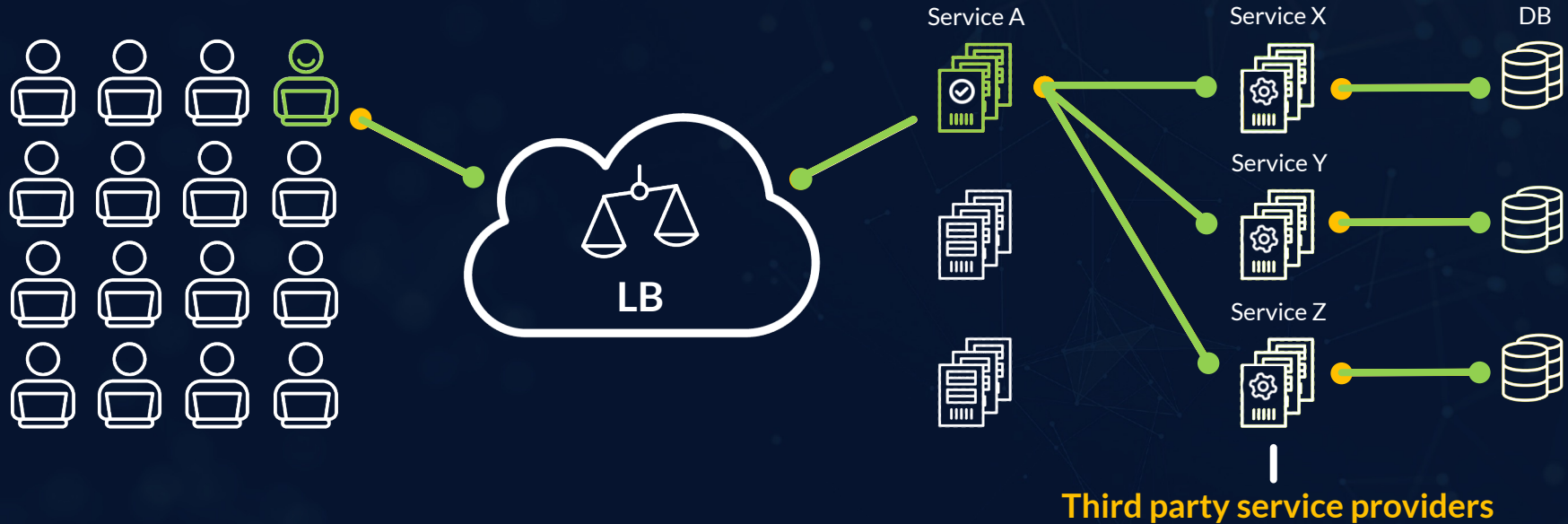
**50-50,000 VMs**



**Third party service providers**

# Organizations Face Difficulties Managing & Optimizing Infrastructure

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# The Growing Infrastructure And Workload Optimization Challenge

Optimization At Scale Is **Highly Complex**



## Technical Complexity

Requires deep performance expertise



## Outside Core Business

Distraction from product & business logic



## Dynamic Environments

Ever changing workload & resource consumption



## Shared Responsibility

Responsibility shared between R&D & DevOps

Leading To **Unfulfilled Performance** Potential

**2-5X**

Untapped Performance

**30% - 40%**

Utilization

**Tens Of Billions USD In Wasted Compute Costs Annually**

# Our Solution

## Real-Time Continuous Optimization

### 1 Automatically Analyze

Granulate automatically learns your application specific resource usage patterns and data flow

### 2 Continuously Optimize

Granulate tailors OS-level scheduling and prioritization decisions regarding CPU, network, locks, and memory accesses



### 3 Improve Performance

Granulate reduces response time and increases throughput of every machine

### 4 Reduce Compute Costs

Leverage improved performance to reduce cluster size and downsize compute resources



# The Secret Sauce

Granulate agents optimize performance continuously adapting to application workload -

- **Kernel Module** - resource allocation
- **Runtime Module** – application level improvements, without code changes or restart

## OS Kernel

CPU Scheduling

Network

Memory

I/O



## Customer Environment



# GRANULATE

## Is Infrastructure Agnostic and Integrates With All Architectures

Hybrid, multi cloud and on prem

