

BQConf

# BETTER QUALITY Conference 2017 中国软件质量大会

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软件质量关注者的分享和交流平台

ThoughtWorks®

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中国软件质量大会

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**PERFORMANCE IS A FEATURE**

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陈锋

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A medical monitor displays various health metrics. The 'CARDIAC' section shows three values: 67.5, 88.0, and 94.0. The 'THERMAL' section shows a fever reading of 100.6°. The 'NEURAL' section shows brain activity waveforms for Gamma, Beta, Alpha, Theta, and Delta. The background is dark with blue and red highlights.

# WHAT IS PERFORMANCE



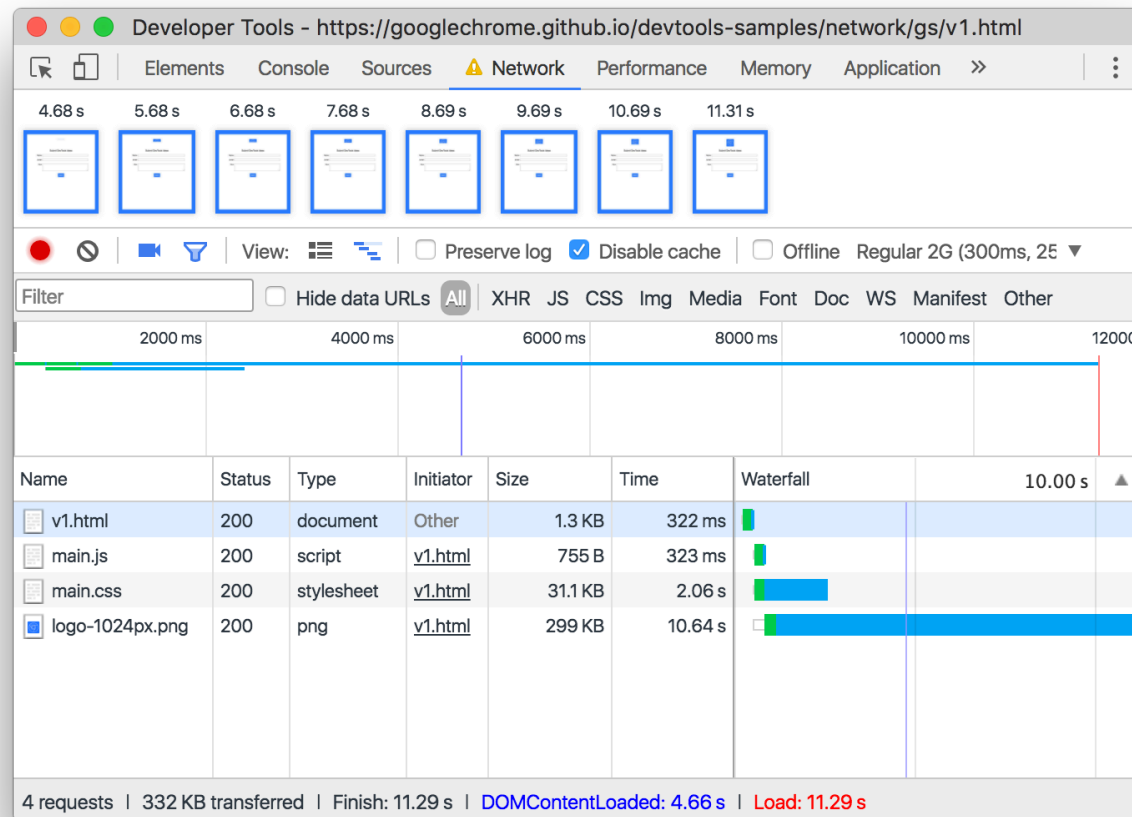
A dynamic image of The Flash in his red and yellow suit, running at high speed. The background is a blurred mix of yellow and orange, suggesting motion and energy. The word "TIME" is written in large, bold, white capital letters across the center of the image.

**TIME**

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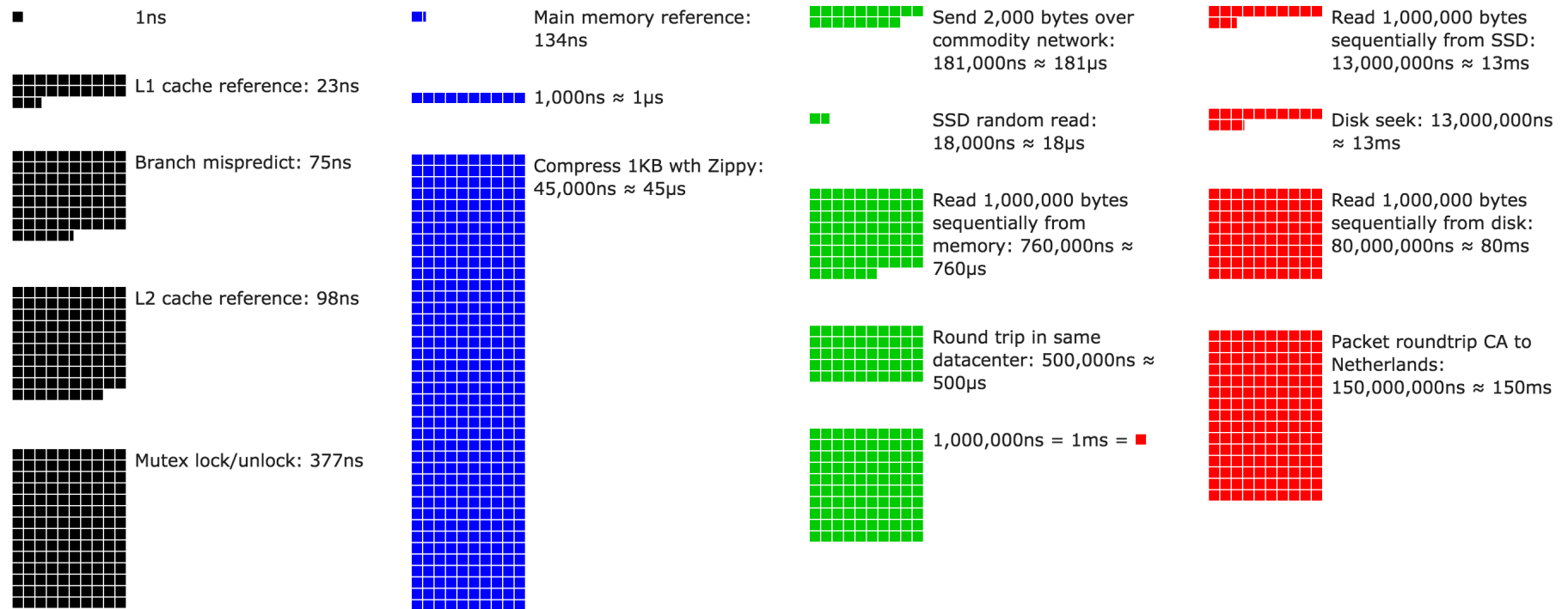
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# WEB APPLICATION



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1997

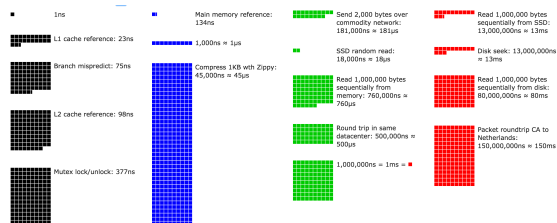
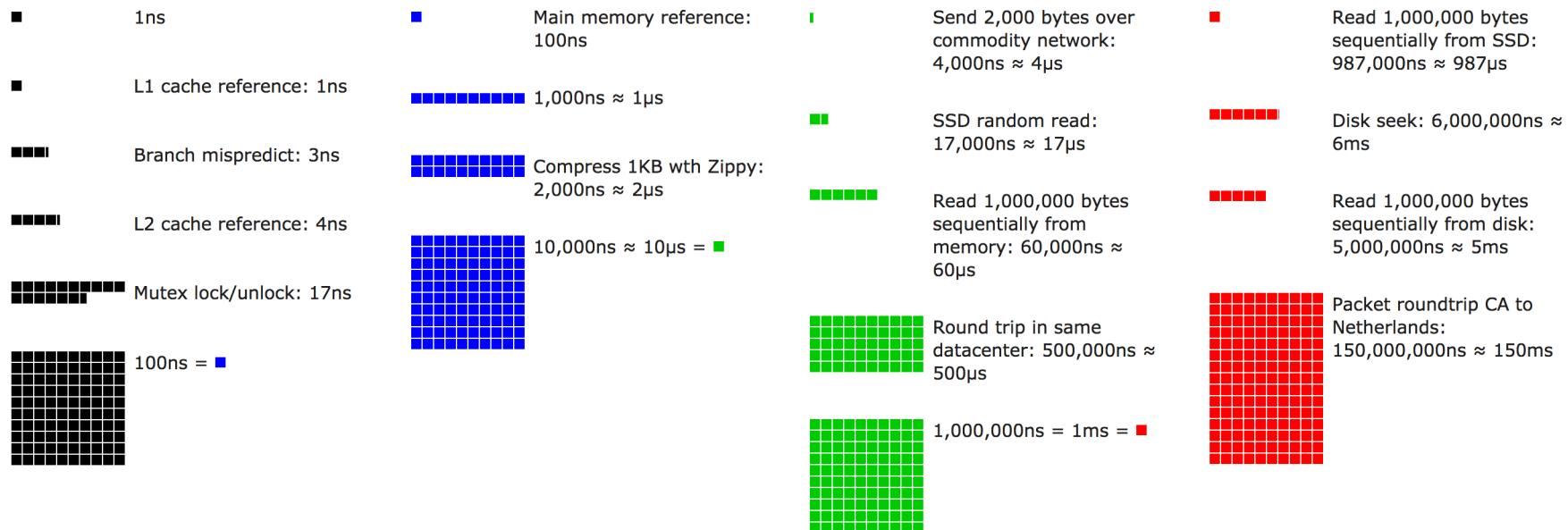
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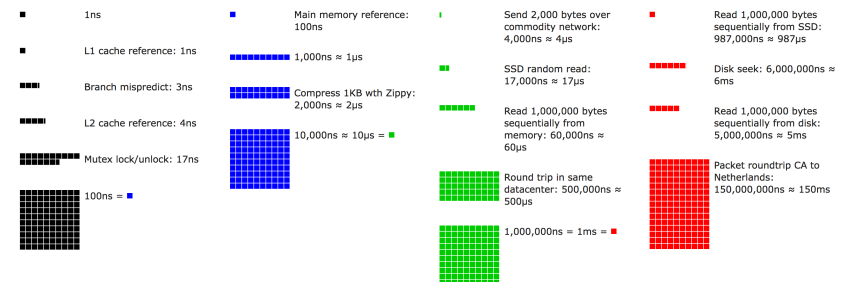
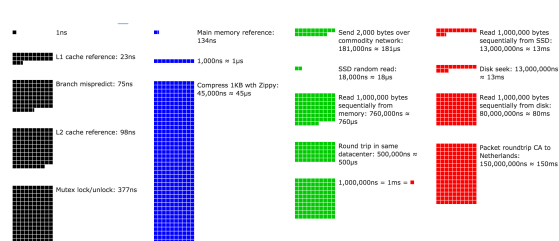
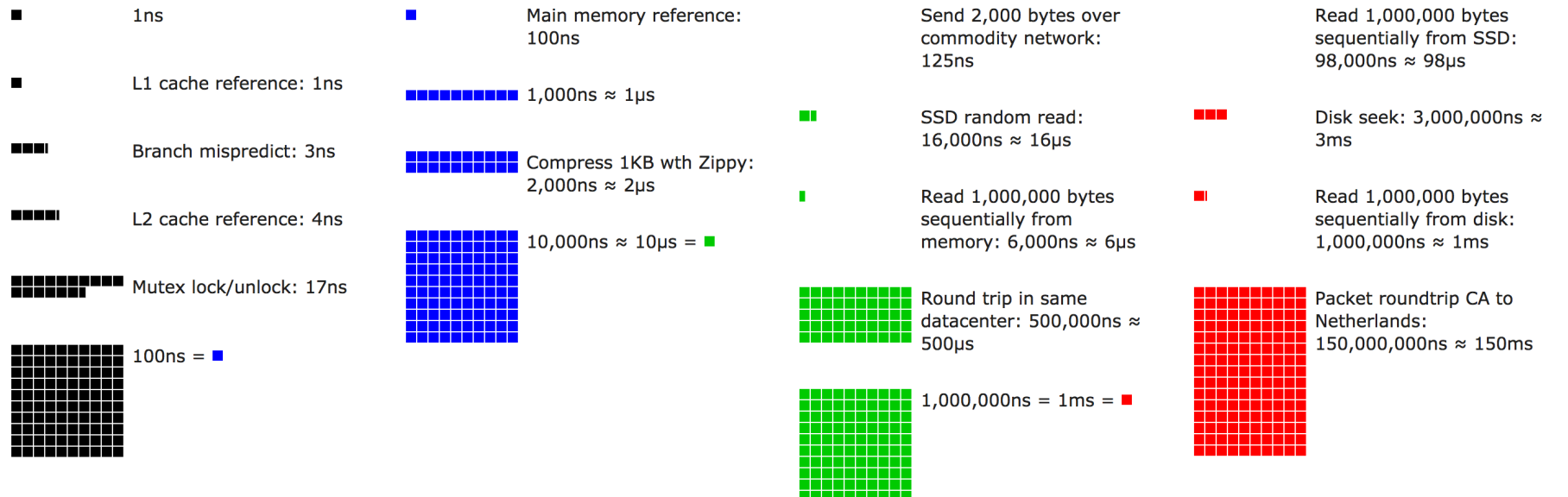
# BQConf 2007

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# BQConf 2017

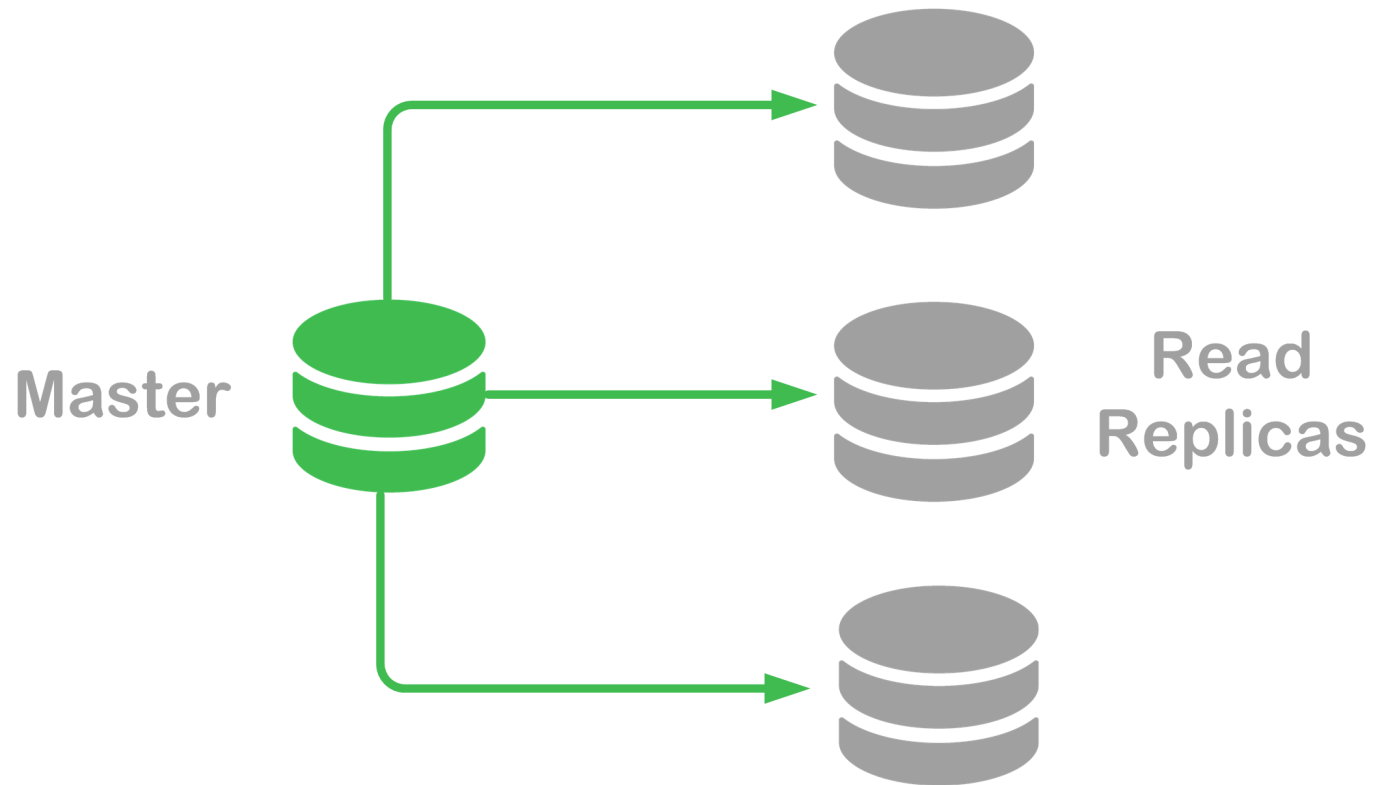
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# THROUGHPUT

## CQRS



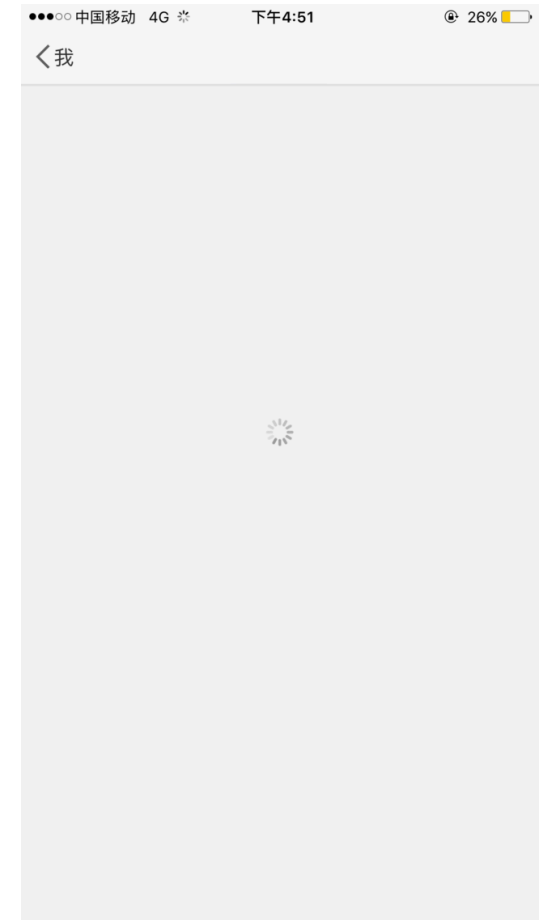


# CONCURRENCY

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# CONCURRENCY ISSUES







**HOW TO FIX**



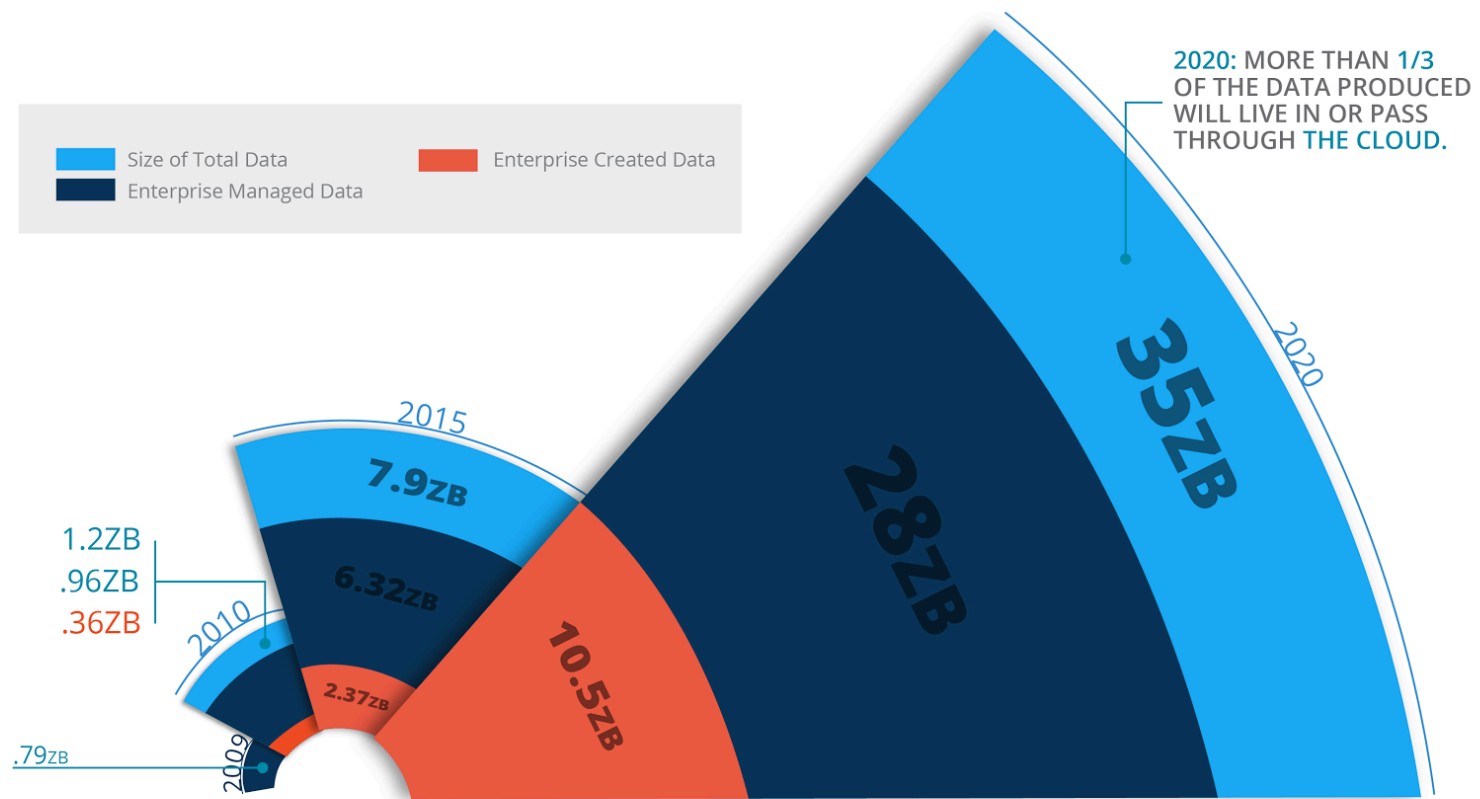


**REPRODUCE**

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## DATA VOLUME



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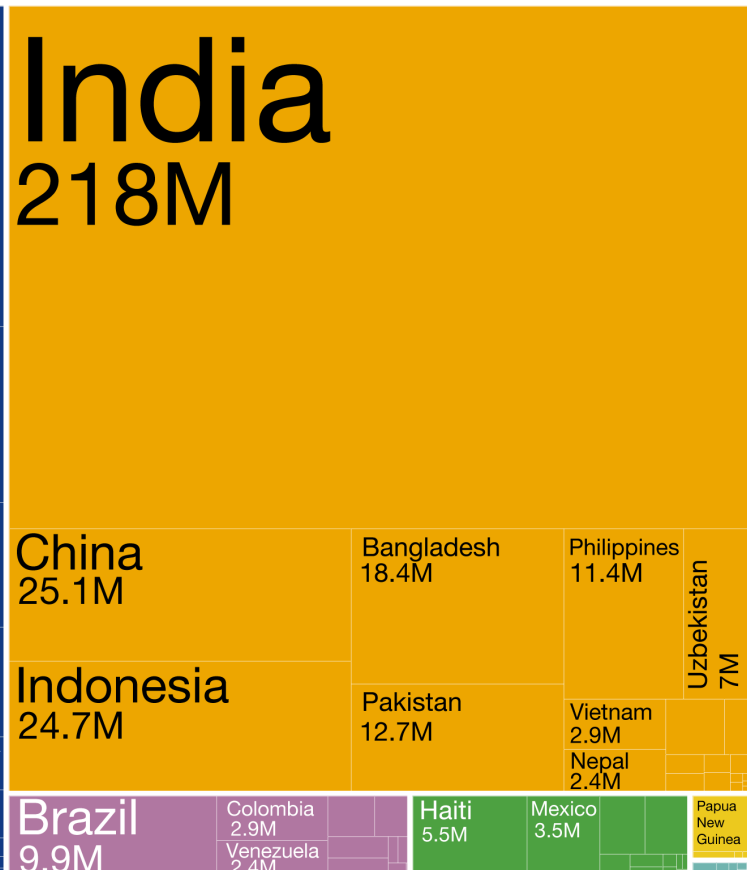
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# DATA DISTRIBUTION

Africa (383 million)



Asia (327 million)



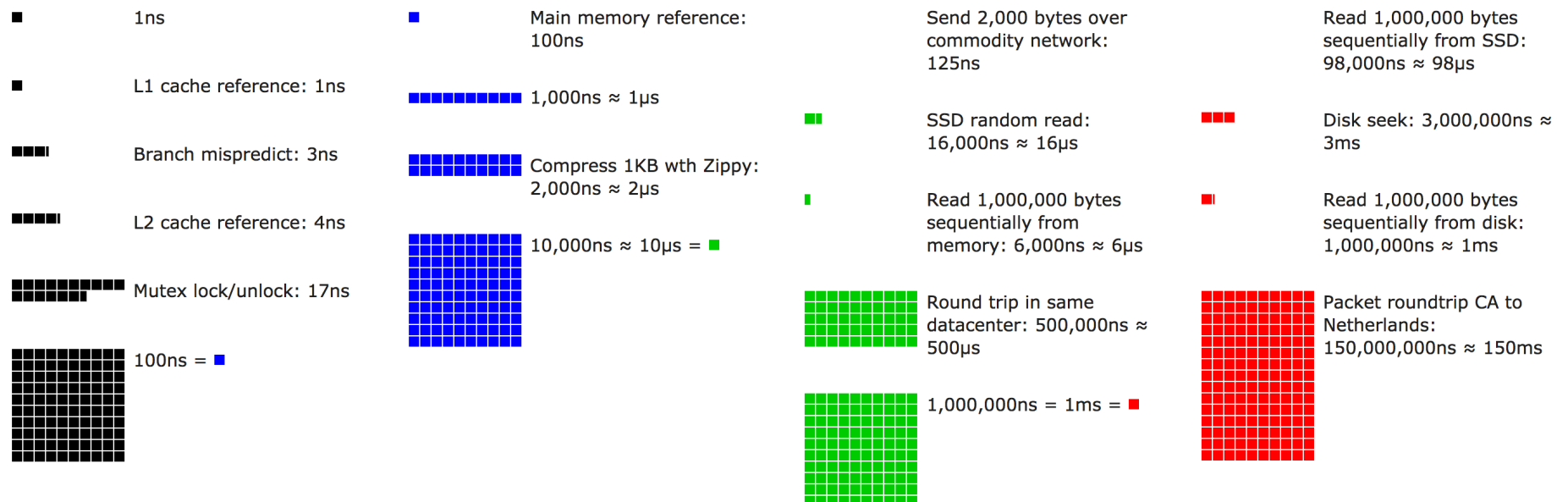
South America (19M)

North America (13M) Europe (0.7M) Oceania (2.5 M)

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# LATENCY









## AMDAHL'S LAW

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$$S_N = \frac{1}{(1 - P) + \frac{P}{N}}$$

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## AMDAHL'S LAW

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$$S_N = \frac{1}{(1 - P) + \frac{P}{N}}$$

Two independent parts A B

Original process



Make B 5x faster



Make A 2x faster



## STRATEGY

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- Preload
- Lazy Load
- Batch



# REGRESSION







# HOW TO PREDICT

# CODE REVIEW







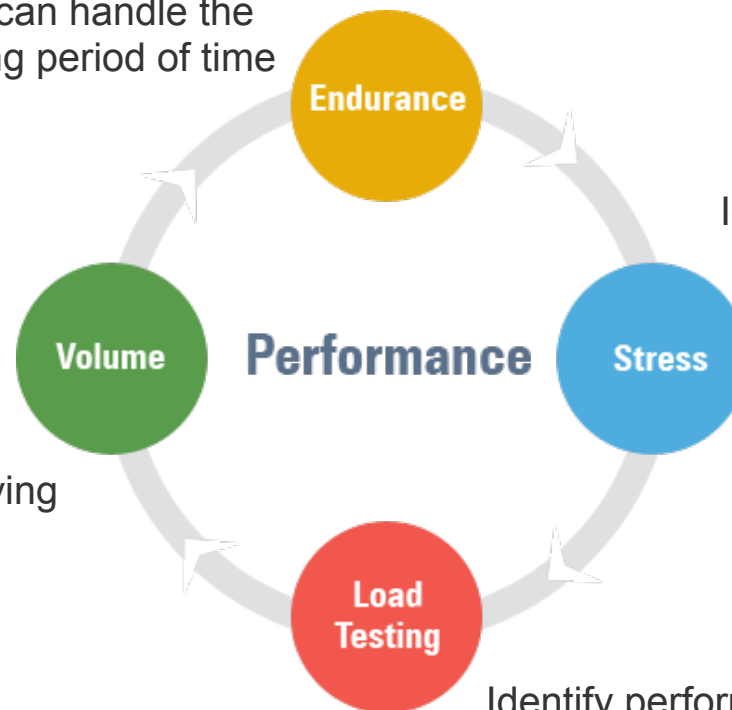
**TESTING**



## STRATEGY

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Make sure the software can handle the expected load over a long period of time



Identify breaking point of an application

Check performance under varying data volumes

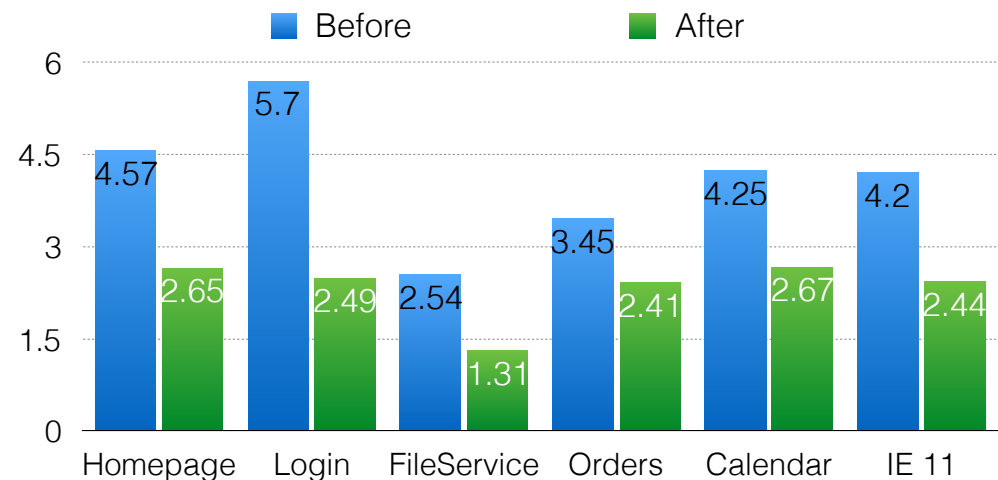
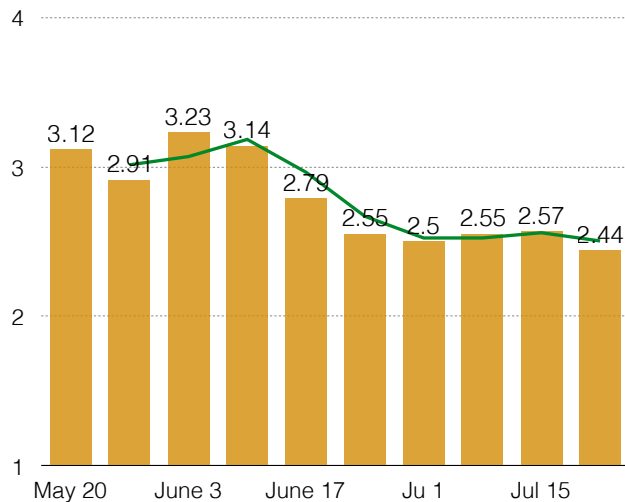
Identify performance bottlenecks

# MONITORING



## MONITORING

- QA or Test Env
- Setup Alert
- Generate Reporting



Comparison before / after the July release

A person in a dark, form-fitting suit and goggles is firing a bright blue energy beam from their right hand. The beam is thick and turbulent, extending across the frame. The background is a dark, industrial-looking space with various pipes and structures. The word "TOOLS" is overlaid in large white letters.

# TOOLS



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## MONITORING

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Google Analytics

splunk>

**Nagios**®



dynatrace



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## TESTING

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A group of people, mostly women, are gathered around a table in a meeting room. They are looking at laptops and discussing. The image has a teal overlay. The text "OUR PRACTICE" is written in large, white, bold, sans-serif capital letters across the center of the image.

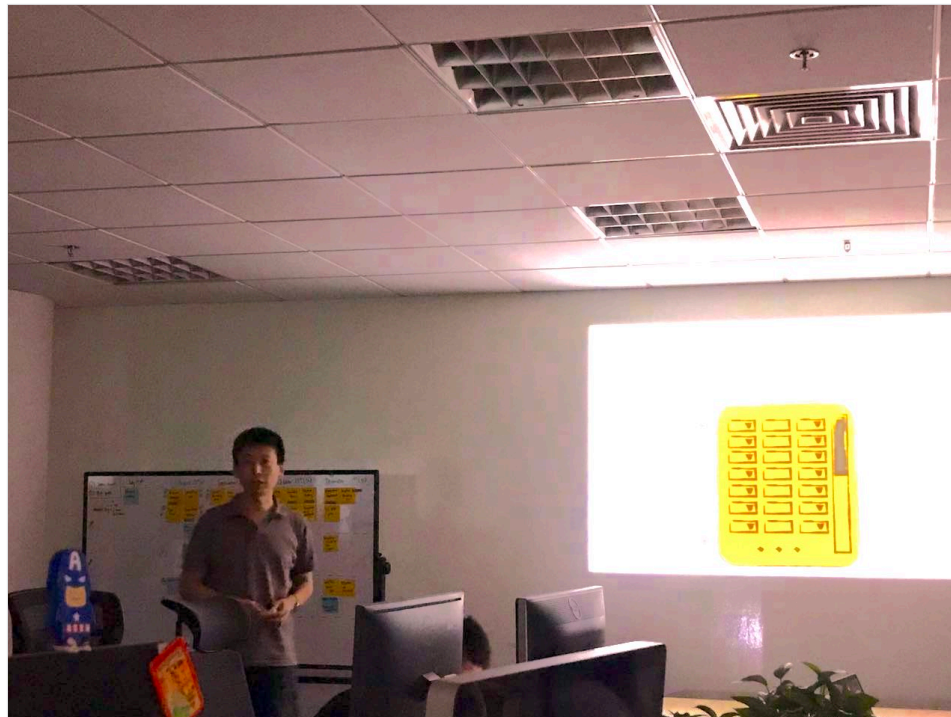
# OUR PRACTICE

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## KNOWLEDGE

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**Sharing Performance tuning Experience**

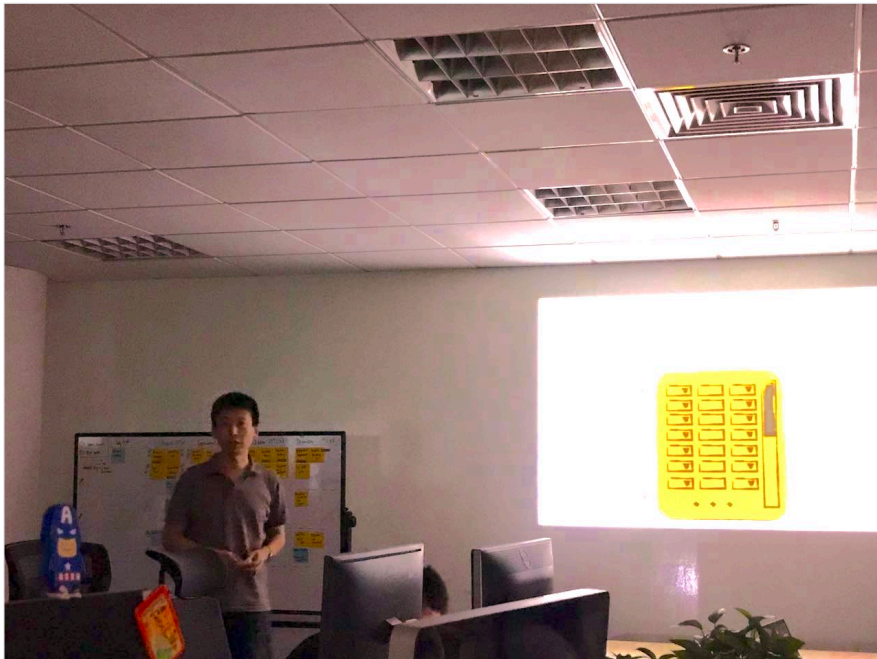


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## KNOWLEDGE

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Sharing Performance tuning Experience

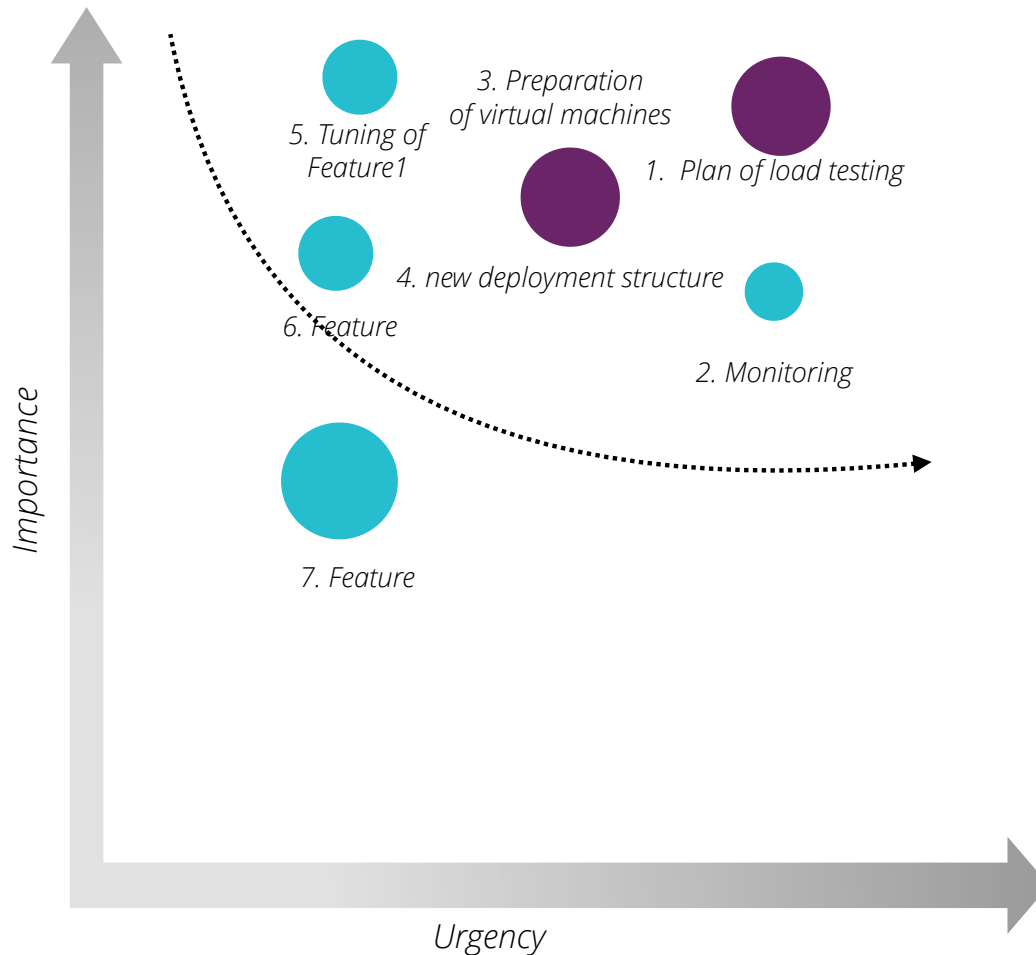


Loading Test Workshop

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## TASKING & PRIORITY

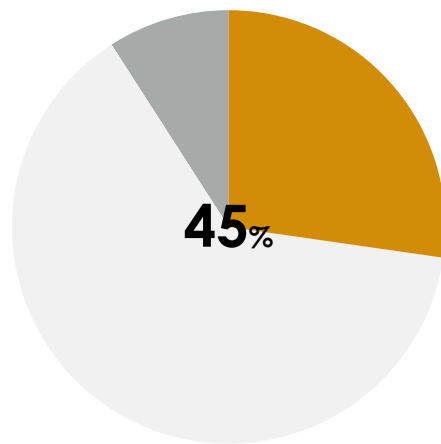


- Urgency: Severity of the task, eg. the perceived timing of end users
- Importance: The indicator of the usage of the scenarios / the output of the tasks
- Size: the relative effort to play the specific task
- Color Indicators: Blue -> Todo task, Purple -> Ongoing task

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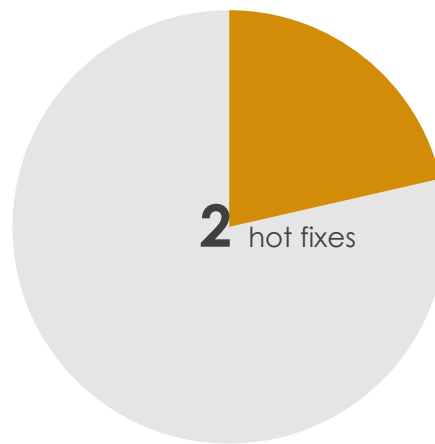
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## RESULTS



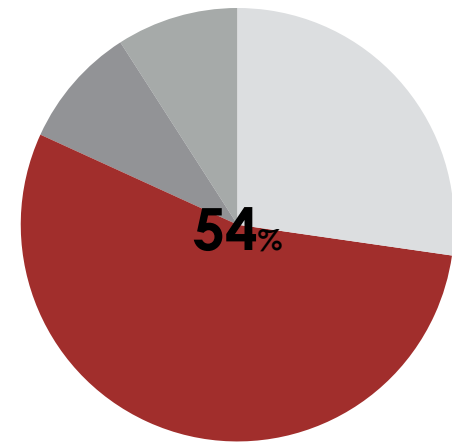
Issue detected  
before QA environment

*45% percentage of performance defects  
were detected from local / QA environment.*



Monitor and eliminate  
the critical ones at earlier

*2 performance defects are deployed  
as hot fix. for the most of the  
performance enhancement (11) were  
deployed along with the specific  
release.*



Most are related  
to the volume and data distribution

*The preparation of the large data set will be  
one of the main focuses.*

A cinematic image of a Terminator robot with glowing red eyes, standing in a server room. The robot is in the foreground, slightly out of focus, with its eyes glowing red. The background shows rows of server racks with blue and white lights. The text "ONE MORE" is overlaid in the center in a large, white, sans-serif font.

**ONE MORE**



## SECURITY

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- XSS
- Data Leak
- Firewall Rule





# 此处应该有掌声

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*Anything else?*

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# THANK YOU

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