OFISGATE
Future Proofing QA
BlazeMeter
by Perforce
: A Next Gen Tool

Hafizi Muhamad

OFISGATE

www.ofisgate.com

OFISGATE

Our expertise spans across network, security and application areas, providing holistic evaluations tailored to unique needs

Subscribe to our services

- Cybersecurity Assessment
- Network Assessment
- Application Assessment
- Regulatory Compliance Risk Assessment
- SME Digitalization
- Cyber Security Training and Exercise
- Cyber Security Awareness Talk
- Cyber Range Lab

OFISGATE SERVICES

OFISGATE SDN BHD

Past 5 Years Alone !

User Abandonment

Low Satisfaction and Adoption Rates

Downtime = $$$

Looking Ahead !

Future-Proof Applications!

Commit to Staying Ahead

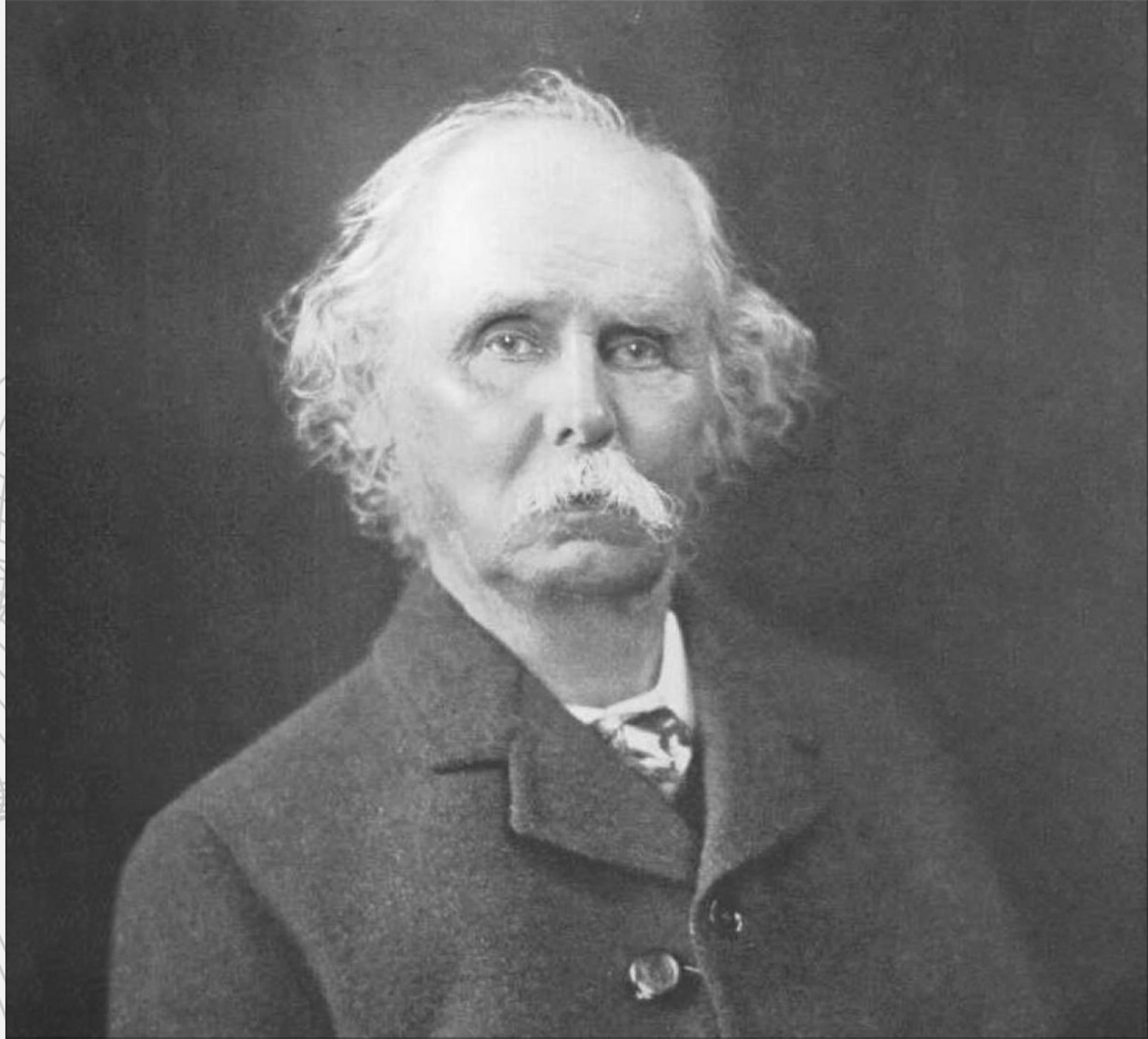
Adopt a proactive approach by investing in comprehensive QA performance testing to ensure applications meet high standards.

Continuing Innovation and Adaptation

Constantly evolve by integrating advanced performance testing tools to optimize application quality.

· **The Most Valuable Of All Capital Is That Invested In Human Beings.**

· ~ Alfred Marshall



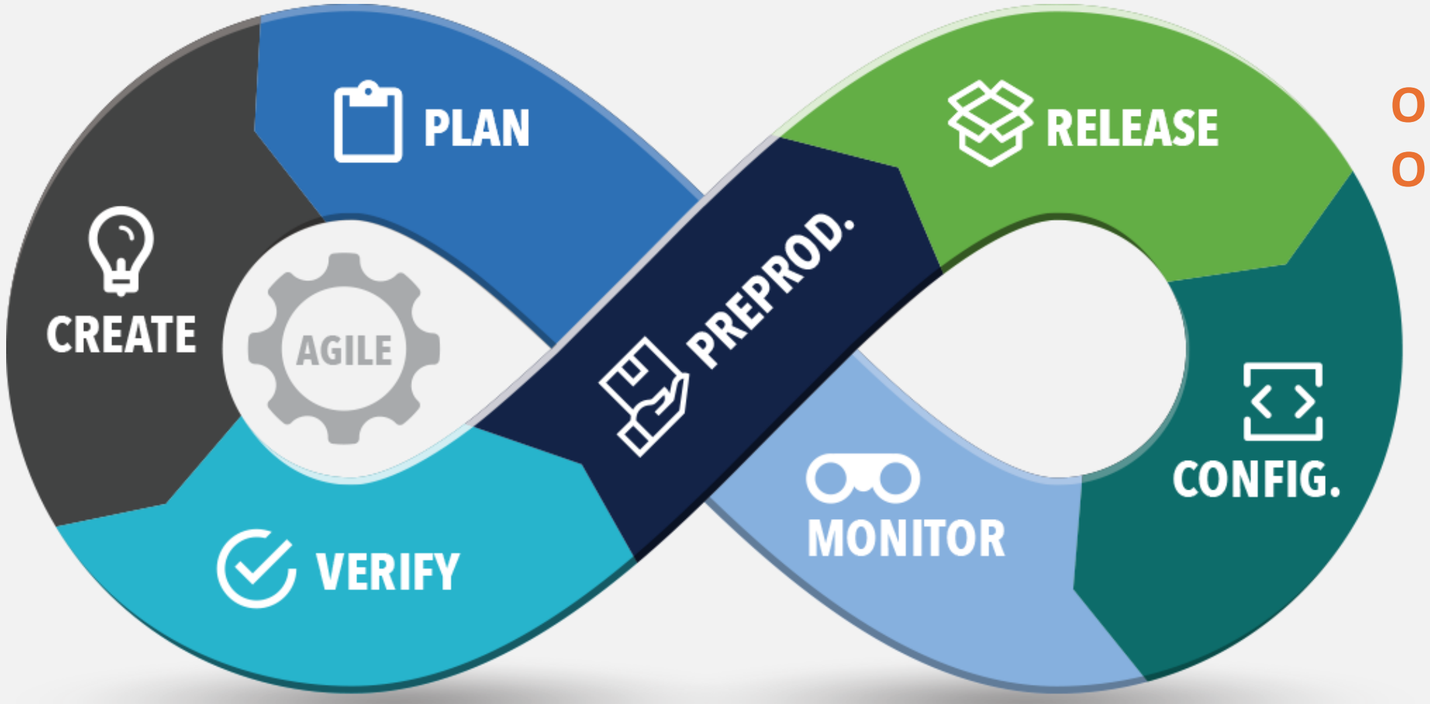
Perforce = “Everything DevOps”

DIGITAL CREATION AND PLANNING

- Helix ALM
- Hansoft

DEVELOPER PRODUCTIVITY

- Helix Core



OSS MANAGEMENT & OPERATIONS

- Puppet
- OpenLogic

Delphix by Perforce
Production-based Data Management (Masking, Compliance)

AUTOMATED TESTING & QUALITY

- Perfecto
- BlazeMeter

WORKSOFT®
Packaged Application Testing (SAP, Oracle, Salesforce etc)

Trusted by World's Leading Digital Enterprises

Telecom

AT&T, BT, EE, T-Mobile, Virgin Media, Vodafone, verizon, Bell, Sprint

Financial Services

ADP, Deloitte., VISA, mastercard, Wells Fargo, citibank, Goldman Sachs, Morgan Stanley, Vanguard

Retail

IKEA, ULTA BEAUTY, ROLEX, ebay, NESPRESSO, ASDA, MARY KAY

Manufacturing

ABInBev, Bristol-Myers Squibb, BAYER, INTUITIVE SURGICAL, Johnson & Johnson

Travel

CAESARS ENTERTAINMENT, CHOICE HOTELS, LA QUINTA INNS & SUITES, WYNDHAM, SINGAPORE AIRLINES, FRONTIER AIRLINES, ETIHAD, QANTAS

Insurance

Cigna, Anthem, Liberty Mutual, Allstate, NEW YORK LIFE, StateFarm, AXA, Manulife, ROYAL LONDON

Technology

salesforce, facebook, IBM, criticalblue, Imagination, Honeywell, dex media

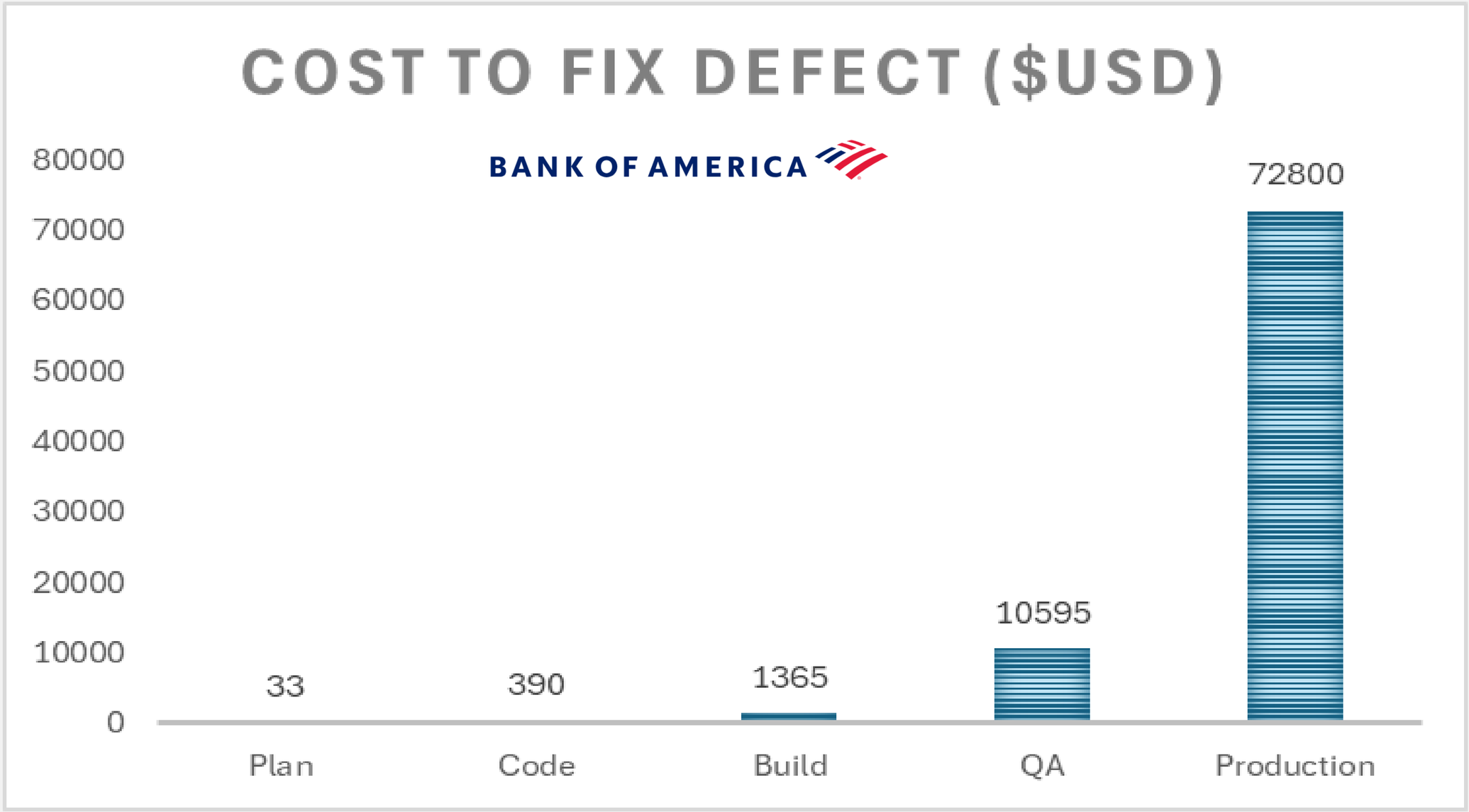
IoT

Ford, gm, Schneider Electric, TOYOTA, Medtronic

And more

King, pepsi, ESPN, COMCAST, BT TV, AMC, DIRECTV

Test "Everything, Everywhere, All At Once"



What & Why Continuous Testing ?

“Resolving defects in production can cost **30 times more**”

NIST NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
U.S. DEPARTMENT OF COMMERCE

Software Development

Integrating Unit & Integration Tests

Production Monitoring

Maintaining & Improving Software/App

Testing

Executing Extensive QA

Deployment

Ensuring Reliable Deployment

The Roadblocks to Continuous Testing

Continuous testing is pivotal for modern software development, yet it presents several intricate challenges that can derail your testing strategy and prevent you from achieving it.

"Continuous testing can greatly reduce the time spent by development teams on reworking defects, which studies show can consume 15-35% of their time. However, the complexity of implementing a continuous testing strategy can present a barrier, underscoring the need for robust and integrated testing solutions."

Expert Beacon

Typical Enterprise Tool Stack

Varied Vendors
Managing a multitude of testing tools.

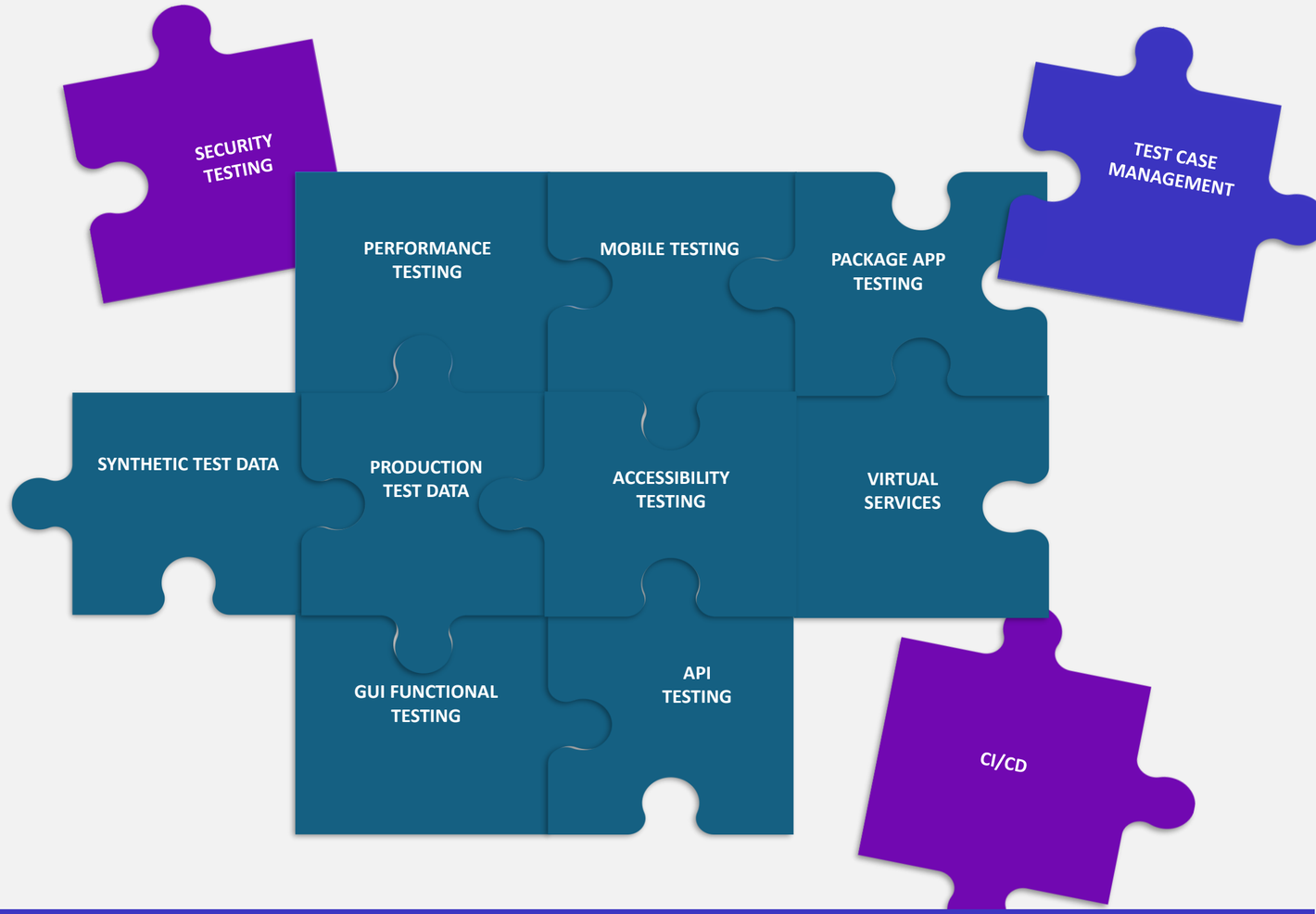
Multiple Integrations
Unifying diverse systems.

Lack of Visibility
Gaining clear insights throughout testing.

Lack of Cohesion
Merging test components effectively.

Comprehensive Solution

- **Industry Leading**
  Performance testing
- **Industry Leading**
  Mobile testing
- **Industry Leading**
  Packaged Application Testing
- **Reduce # of vendors by 65%**



"75% of organizations are seeking vendor consolidation" - Gartner

BlazeMeter

What is it and who cares?

Why Performance Test?

1. Measure Performance of critical IT systems

2. Test Desired (eg Black Friday sales) vs Actual Performance

3. Dimension IT infra, Control Costs

Why not Open-Source? (JMeter etc)

- Scalability
- Ease of use
- Infrastructure admin & cost
- Reporting
- Functionality
- Tech support

Blazemeter for Performance Testing

- Scalability
- Ease of use
- Infrastructure admin & cost
- Reporting
- Functionality
- Tech support

BlazeMeter's Five Functional Modules

Low-Code/No-Code test creation
"Does it work?"

Unified Functional & Performance Testing

Create and use realistic test data with no PII concerns

Synthetic Test Data Creation (+AI)

Comprehensive Analytics

BlazeMeter by Perforce

Performance Testing

Eliminate test environmental constraints
"Test everything, any time, no delays"

Mock Services

Test and Monitor all your critical API interfaces
"Does it work and keep working properly"

360° API Testing & Monitoring

Core performance and load testing platform. [Cloud & On-Prem L.G.s]
"How far does it scale?"

© Perforce Software, Inc.

One Platform – Multiple Benefits

	CAPABILITY	VALUE
BlazeMeter Performance & GUI Functional Testing	Simulate thousands or millions of virtual users. Test End User Experience.	• Baseline reporting and comparison • Improve test search capabilities for faster discovery • Updated browser support for GUI Functional testing
BlazeMeter Test Data Synchronized Test Data	Build synthetic test data from BlazeMeter	• Compliant test data for every test, synchronized across tests, services, & SUT • Generate synthetic data at test execution • Import/Export Data Models
BlazeMeter Virtual Services Virtualized Services	Virtualize and continue to test all parts of your system	• Build virtual services for any test • Inspection view and historical reporting • Virtual Server Engine: Secure Integrations to enterprise test environments with complex virtual services
BlazeMeter API Agile API Testing / Monitoring	Start monitoring your APIs in seconds	• Full visibility to perform health and performance of code to ensure structure and content of API calls are returning data you expect

“Parallel Runs” – meaning ?

- **"1 parallel"** = 1 x 1000 VU – only **ONE** test can be run **at any one time**, at any scale from 1 – 1000 VU

- **"5 parallel"** = **UP TO 5** tests can be run **at any one time**, in any variation from 1 – 1000 simultaneous VU **total**
  - 1 x 1000
  - 2 x 500 VUH or….
  - 5 x 200 VUH

- **“no limit”** = **ANY NUMBER** of simultaneous tests from 1 – 1000 VU **total**
  - 1 x 1000 VUH
  - 2 x 500 VUH
  - 5 x 200 VUH
  - 10 x 100 VUH
  - 100 x 10 VUH….etc etc

Concurrent Variable Units (CVUs) Consumption Examples

- **Scenario 1** - 5,000 CVUs: Pure Performance Testing
  - 1 test with 5,000 Concurrent Virtual Users at a time = **5,000 CVUs**, OR…
  - 5 tests with 1,000 Concurrent Virtual Users at a time = **5,000 CVUs**
  - Combination not to exceed 5,000 Concurrent Virtual Users at any point in time

- **Scenario 2** - 5,000 CVUs: Performance Testing + Other Capabilities
  - 1 perf test running with 1,000 Concurrent Virtual Users = **1,000 CVUs**, PLUS…
  - 10 functional tests running (i.e., 10 browser sessions) = **1,000 CVUs**, PLUS…
  - 20,000 transaction in 1 running virtual service = **1,000 CVUs**, PLUS
  - 200,000 API monitoring calls = **1,000 CVUs**, PLUS
  - Test Data leveraged for the 1,000 CVU perf test **and** 1,000 CVU virtual service = **1,000 CVUs**,
  - TOTAL of **5,000 CVUs** being consumed

BlazeMeter Platform supported - Technology and Protocols

Message-Oriented Middleware (MOM)
JMS, MQ, Kafka, Pub/Sub, AMQP, RabbitMQ

GUI
Selenium, Web, SAP Web / Fiori, SAP GUI, Vaadin, Oracle Siebel, Oracle Hyperion, JD-Edwards Enterprise Once

Streaming
Apple HLS, Adobe HDS, MPEG-DASH, Microsoft Smooth (HSS), XMPP

IoT
MQTT

Point of Sale (POS)
ISO-8583

Database
JDBC, PostgreSQL, MySQL, Cassandra, MongoDB

Web
HTTP(S), HTTP2 WebDAV, SOAP, REST, GWT (GWTRPC)

Remote Access
Citrix, RTE, SSH, FTP

Other
TCP, UDP, LDAP, Java EJB

Mail
SMTP(S), POP3(S), IMAP(S)

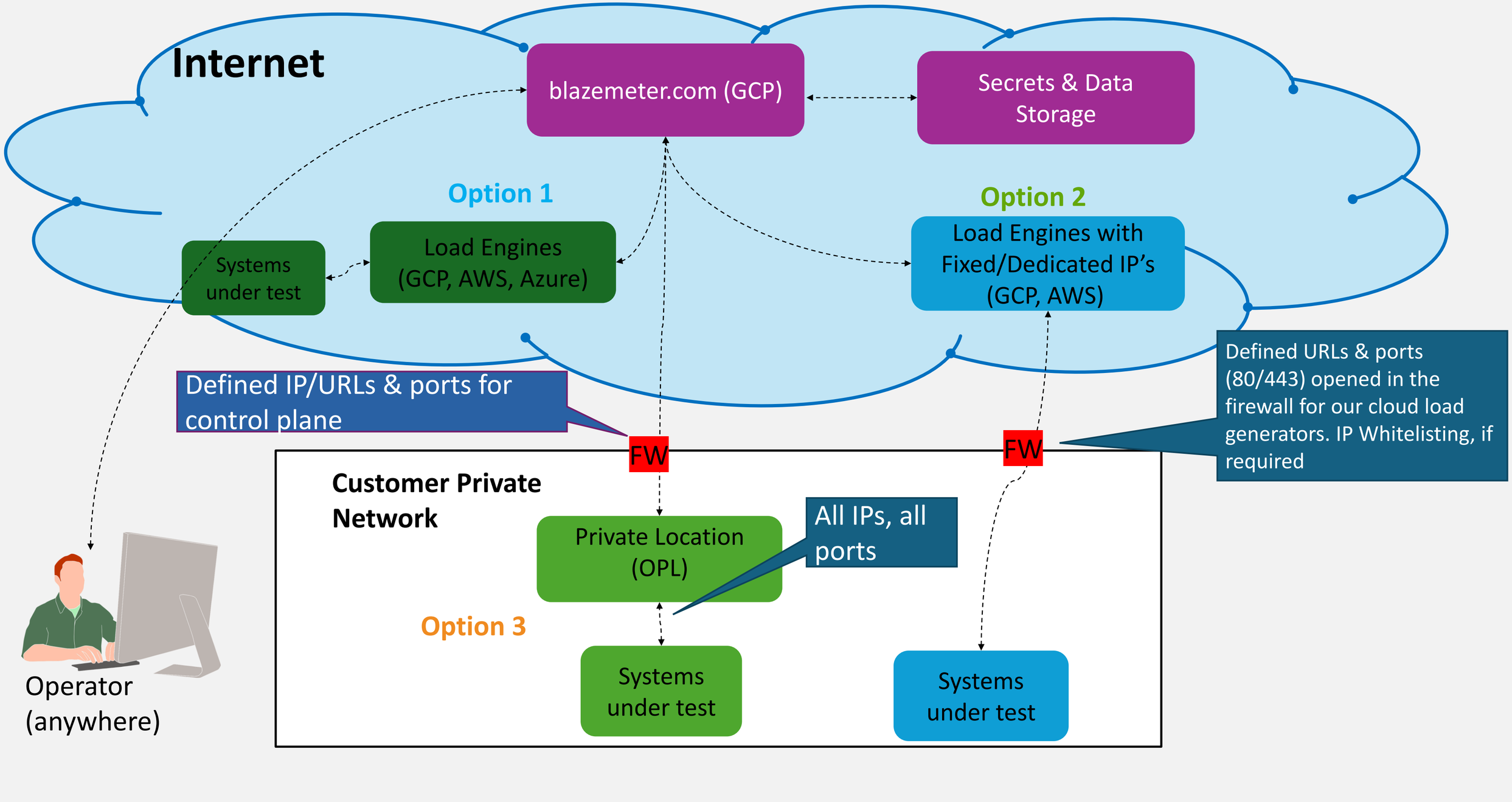
Open Source
JMeter, Tsung, Selenium, JUnit, TestNG, Apirtif, PyTest, Rspec, Mocha, WebDriver, NUnit, Robot Framework, Gatling, Grinder, Locust, Pbench, Siege, Apach Benchmark, Motolov, Postman / Newmand

Languages
Java, JavaScript, Python, Ruby, .NET, C++

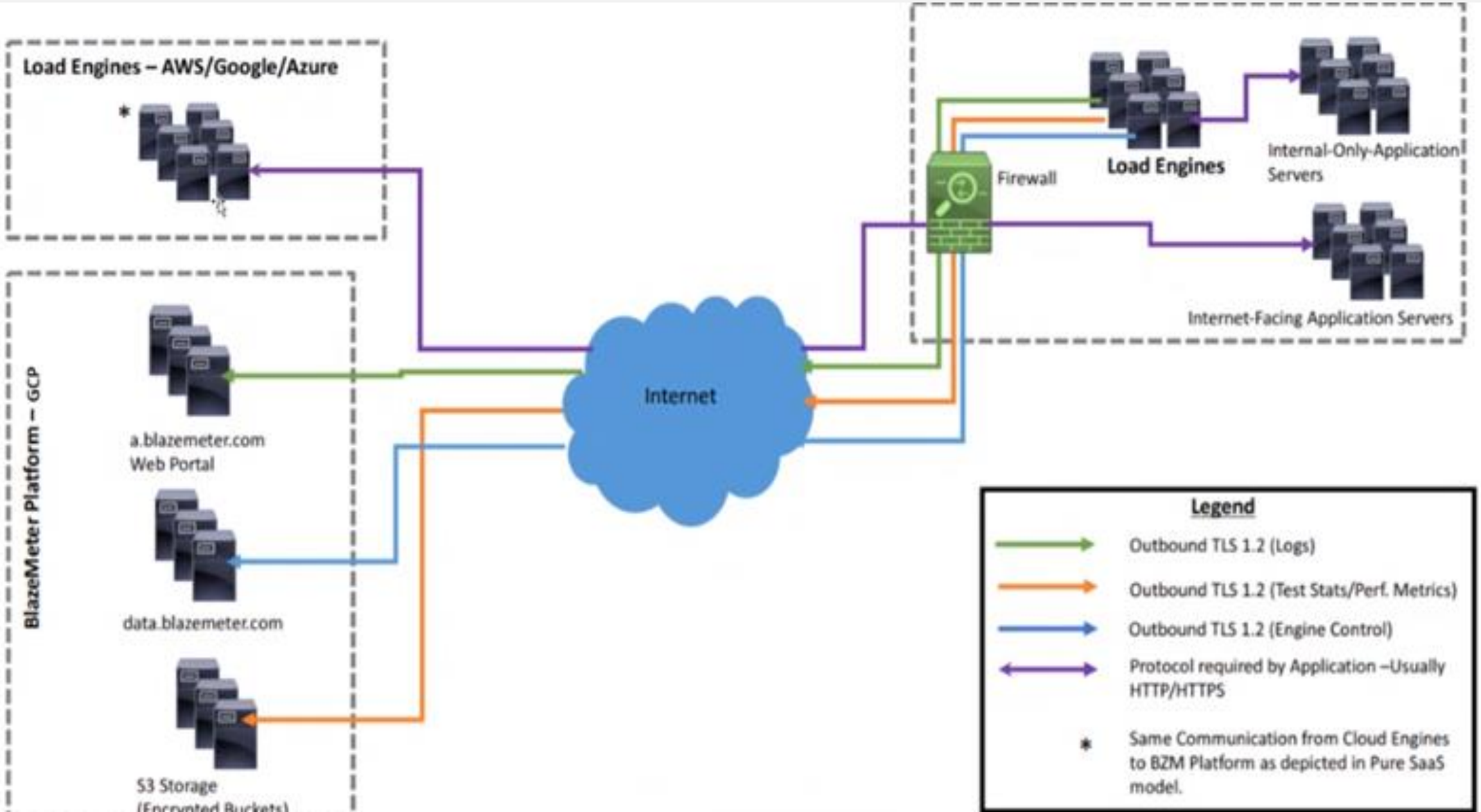
© Perforce Software, Inc.

PE

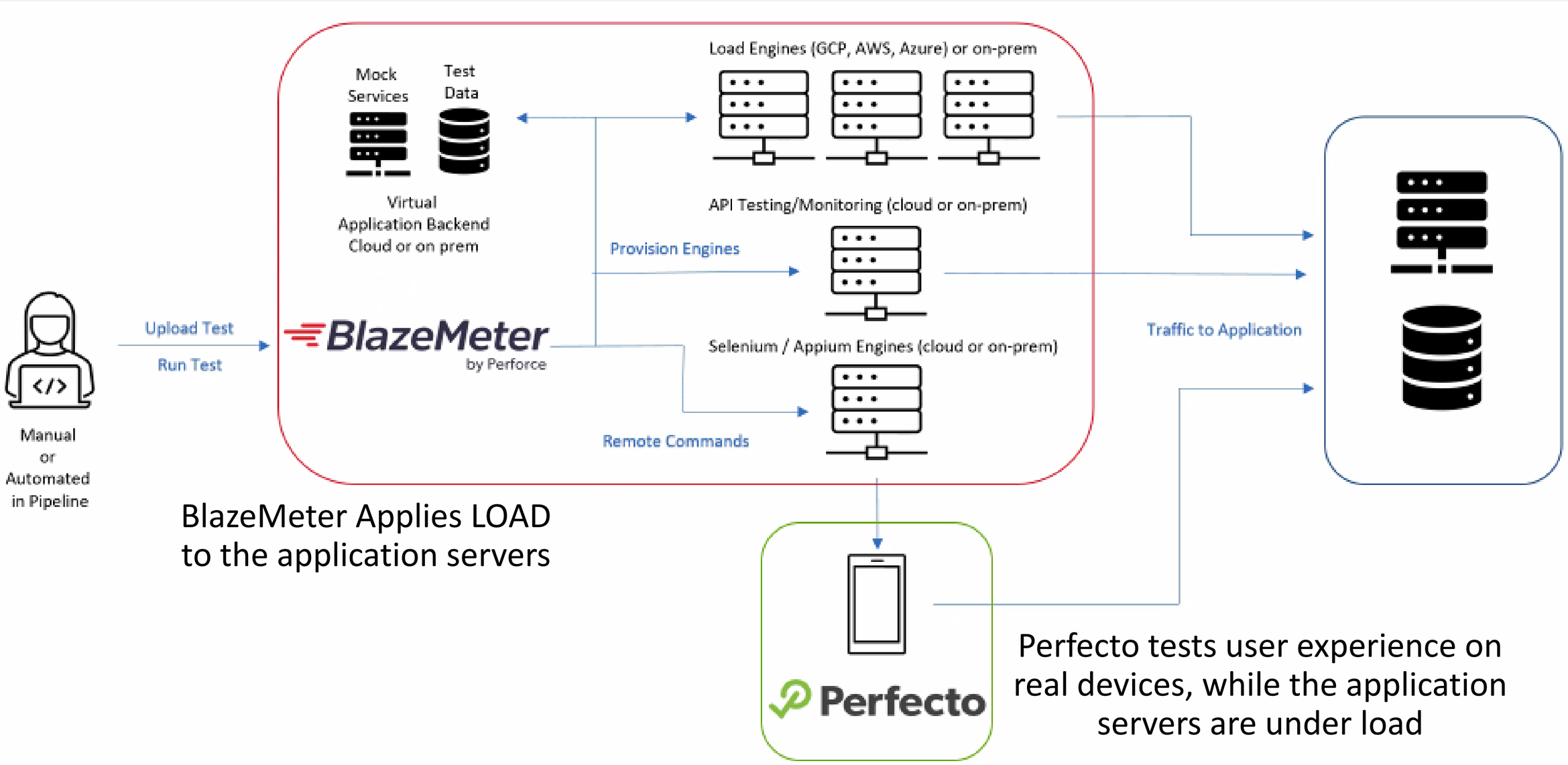
Blazemeter Use Cases - Cloud, Hybrid and Private Locations



Blazemeter Connection Details



Mobile App Performance Testing



BlazeMeter Applies LOAD to the application servers

Perfecto tests user experience on real devices, while the application servers are under load

) Perforce Software, Inc.

BlazeMeter Usage Options: Pros and Cons

Option	Pros	Cons
1- Cloud Load Engines	Zero Load engine infrastructure managed by customer, zero maintenance, reduced complexity, quickest TTV	Typical security concerns
2- Cloud load engines with Dedicated IPs	Zero Load engine infrastructure managed by customer, zero maintenance, reduced complexity	High inbound firewall traffic, limited by inbound connectivity
3- Private Locations (OPL)	Reduced complexity, less inbound firewall traffic, not limited by inbound connectivity, additional data management options	Load engine infrastructure managed by customer

Some Sample Customers

Saved Hundreds of Thousands of $ per year by moving from legacy processes and tools.

TESLA

Helped de-risk Model 3 launch within 48 Hours (after having failed with a competing vendor)

BT TV

Ensure customer experience even under peak load (1M user load tests)

Disney

Over 11M VUH across various divisions – Marvel, ESPN+, ABC Dancing with Stars

JPMorganChase

Eliminates bottlenecks and provides complete test environments on demand

QANTAS

Performance testing their Membership Portal for Performance and Security

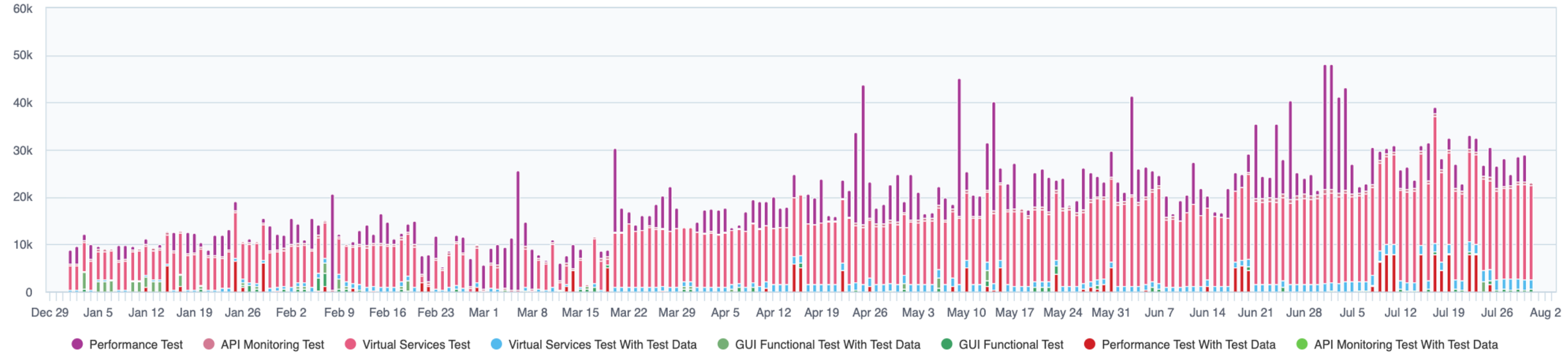
Usage Report

Data is in UTC time

01/01/2024 07/31/2024 **Resolution:** Day Max Number Of Variable Units

49K Max VU

Show entitlements



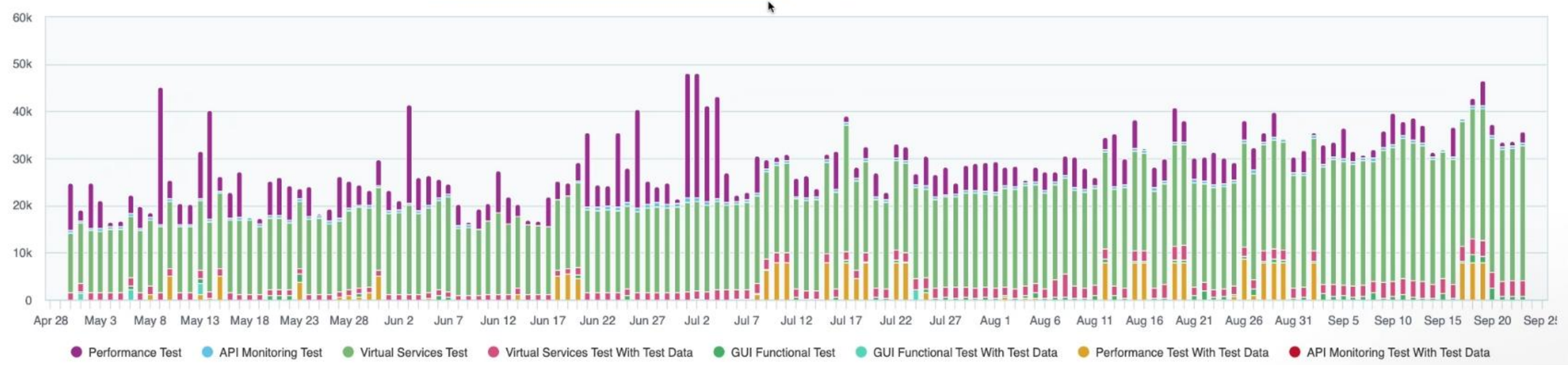
Usage Report

Data is in UTC time

04/29/2024 09/23/2024 **Resolution:** Day Max Number Of Variable Units

49K Max VU

Show entitlements



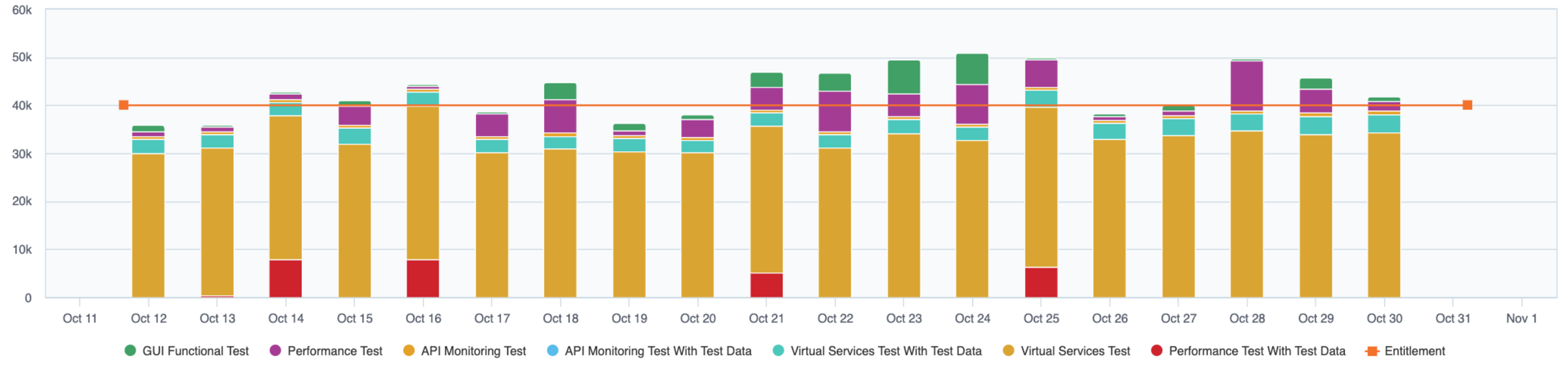
Usage Report

Data is in UTC time

10/11/2024 | 10/30/2024 | **Resolution:** Day | Max Number Of Variable Units

51K Max VU

Show entitlements



Customer Case Study – Disney+

Disney's ESPN Fantasy football. Below data point is for 1 month of usage

Peak CVU Usage = ~*754,000 VUSERS*

Total teams (Platforms and Applications)= 22 teams

Total number of Engines = ~ *1470* engines across Amazon and Google GCP

Total # parallel Tests = 23

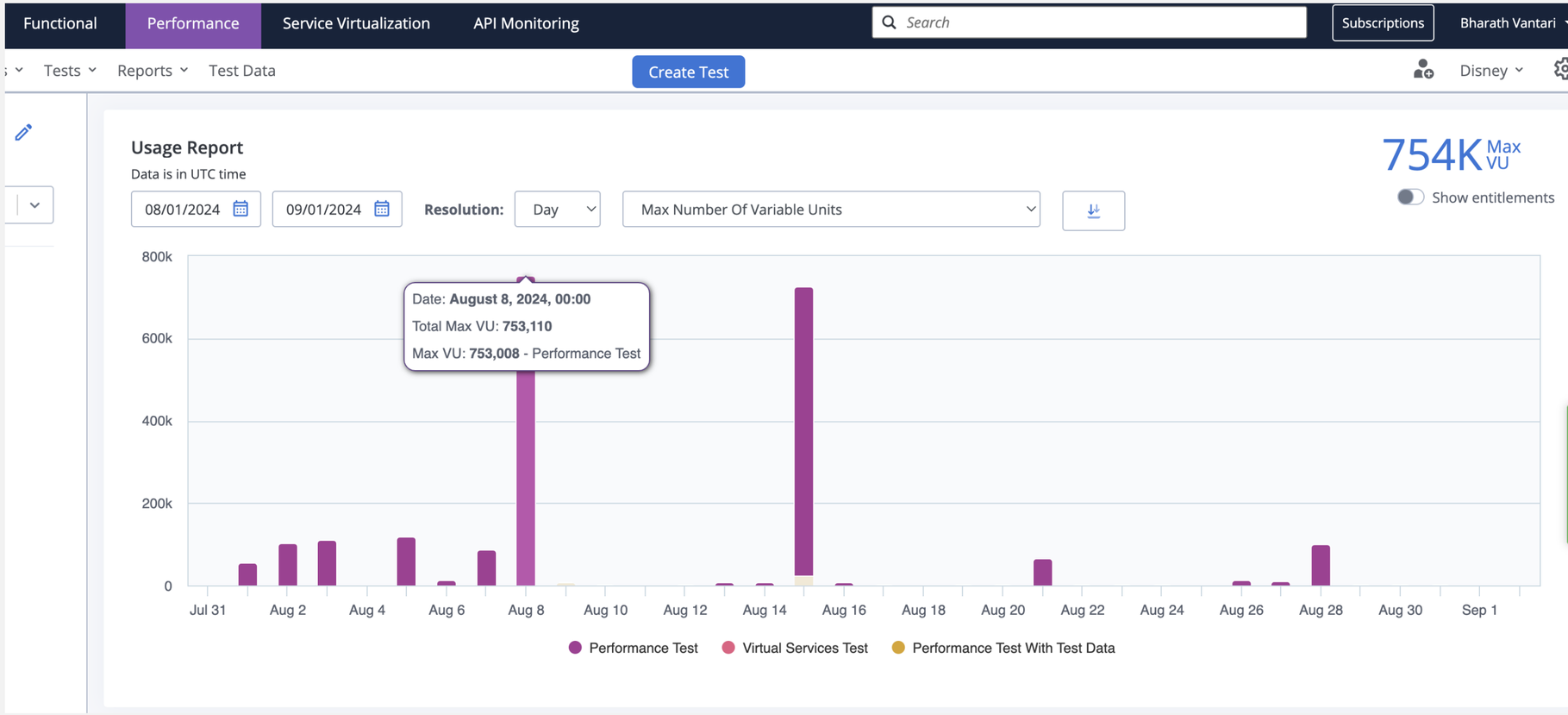
Max Single test VU = 140,000 Vusers

Total VUH = 5,102,000 (Yes! 5 million)

Max Avg Throughput = ~104,783 hits/sec (Sample for single test)

Total SV mock tx count = 1,823,000 txs

Load achieved = 125%



BlazeMeter | Functional | Performance | Service Virtualization | API Monitoring | Search | Subscriptions | Bharath Vantari

Home | Disney | Projects | Tests | Reports | Test Data | Create Test | Active Runs 25 | Disney

Workspace | Admin View

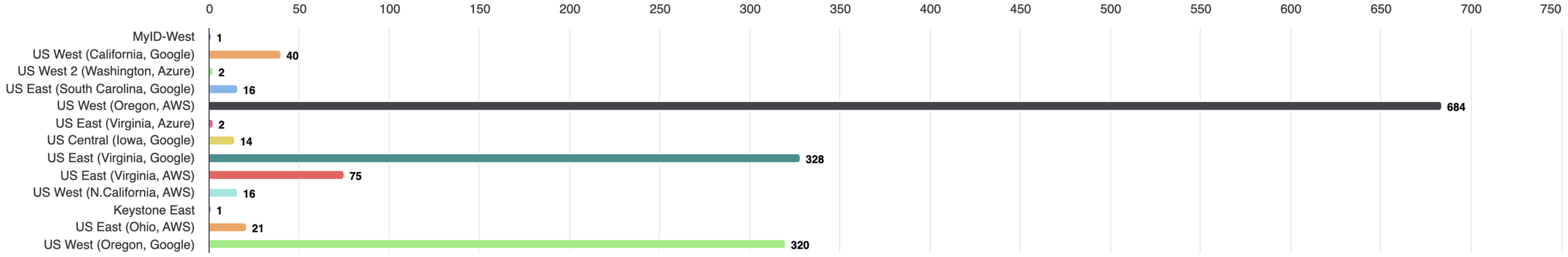
Running Tests

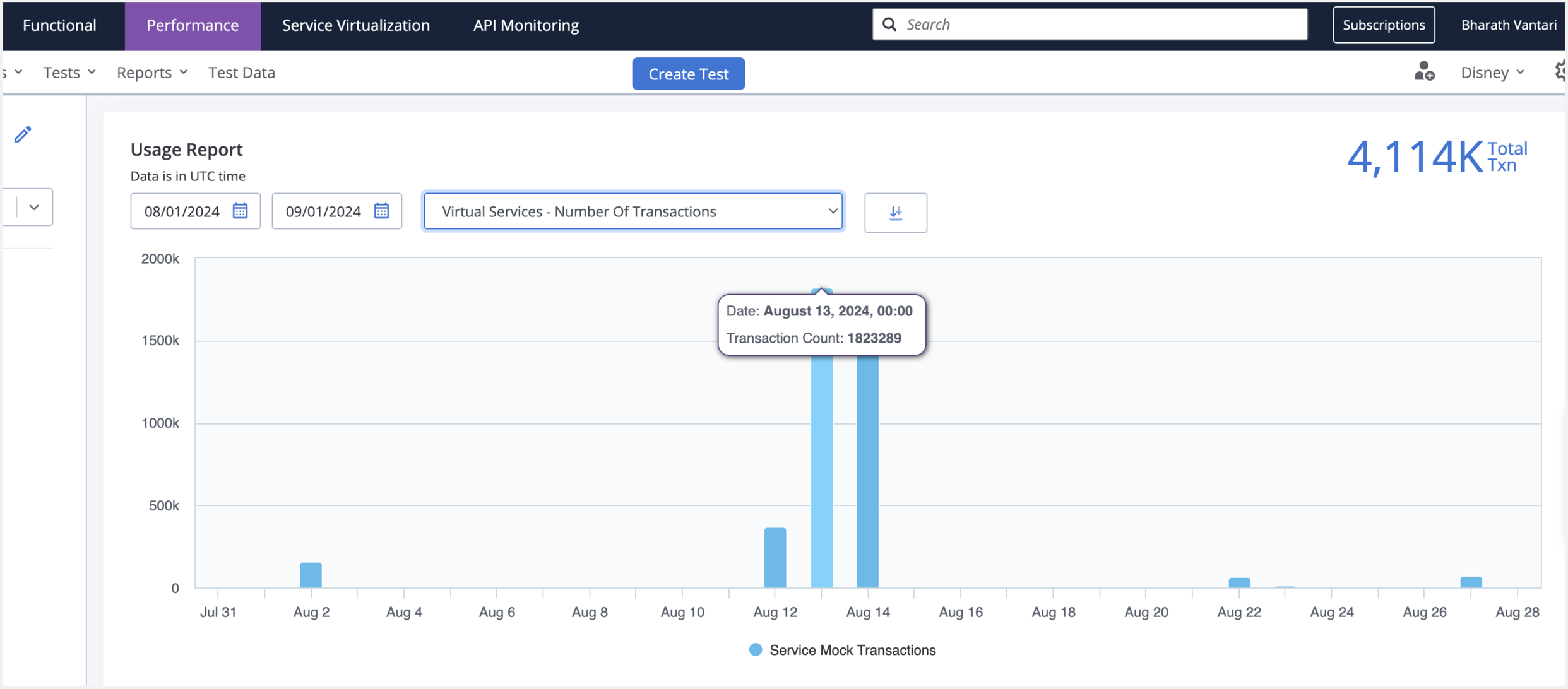
Select a Workspace | Select a location

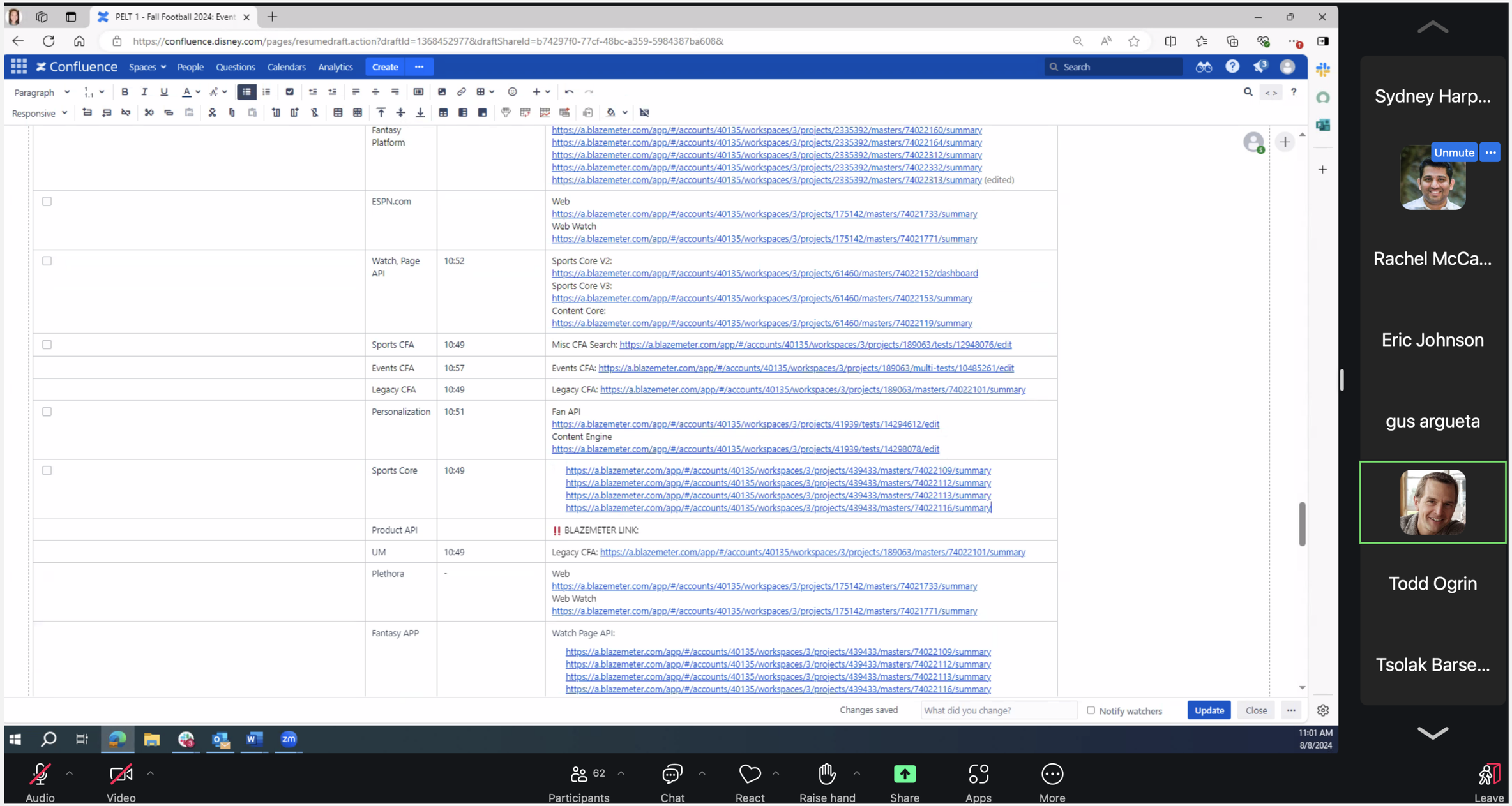
	Test Name	Test Type	Project	Workspace	Virtual Us...	Total Engi...	Start Time	Duration	Ran By	Locations
●	Prod: FFL Chat Last Read	JMeter	Fantasy Football 2024	Disney	120000	240	Aug 15, 10:48 AM	300 Min	T	US West (Oregon, AWS)
■	Prod: FFL Read	JMeter	Fantasy Football 2024	Disney	85000	170	Aug 15, 10:48 AM	300 Min	T	US West (Oregon, Google)
●	Shield Hitlog 2024	JMeter	DMED Platform Distribut...	Disney	5000	11	Aug 15, 10:45 AM	120.167 Min	V	US East (Virginia, AWS) (+1)
●	Kona FFL 2023	JMeter	ESPN Fantasy	Disney	10000	20	Aug 15, 10:45 AM	121.017 Min	S	US East (Virginia, AWS) (+1)
●	ESPN App Fall Football & TC 2023- Mult...	JMeter	ESPN APP Product API	Disney	16500	33	Aug 15, 10:32 AM	3000 Min		US East (Virginia, AWS) (+1)

HELP CENTER

Locations Utilization




Functional
Performance
Service Virtualization
API Monitoring
Search
Subscriptions
Bharath Vantari
Tests
Reports
Test Data
Create Test
Disney
Usage Report
Data is in UTC time
08/01/2024
09/01/2024
Virtual Services - Number Of Transactions
4,114K Total Txn
2000k
1500k
1000k
500k
0
Date: August 13, 2024, 00:00
Transaction Count: 1823289
Jul 31
Aug 2
Aug 4
Aug 6
Aug 8
Aug 10
Aug 12
Aug 14
Aug 16
Aug 18
Aug 20
Aug 22
Aug 24
Aug 26
Aug 28
Service Mock Transactions

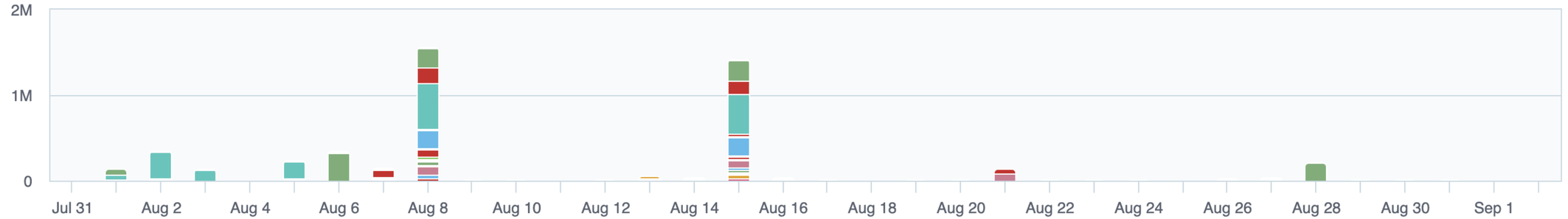

PELT 1 - Fall Football 2024: Event
https://confluence.disney.com/pages/resumedraft.action?draftId=1368452977&draftShareId=b74297f0-77cf-48bc-a359-5984387ba608&
Confluence
Spaces
People
Questions
Calendars
Analytics
Create
Search
Paragraph
Responsive
Fantasy Platform
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/2335392/masters/74022160/summary
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/2335392/masters/74022164/summary
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/2335392/masters/74022312/summary
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/2335392/masters/74022332/summary
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/2335392/masters/74022313/summary (edited)
ESPN.com
Web
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/175142/masters/74021733/summary
Web Watch
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/175142/masters/74021771/summary
Watch, Page API
10:52
Sports Core V2:
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/61460/masters/74022152/dashboard
Sports Core V3:
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/61460/masters/74022153/summary
Content Core:
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/61460/masters/74022119/summary
Sports CFA
10:49
Misc CFA Search: https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/189063/tests/12948076/edit
Events CFA
10:57
Events CFA: https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/189063/multi-tests/10485261/edit
Legacy CFA
10:49
Legacy CFA: https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/189063/masters/74022101/summary
Personalization
10:51
Fan API
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/41939/tests/14294612/edit
Content Engine
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/41939/tests/14298078/edit
Sports Core
10:49
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/439433/masters/74022109/summary
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/439433/masters/74022112/summary
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/439433/masters/74022113/summary
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/439433/masters/74022116/summary
Product API
BLAZEMETER LINK:
UM
10:49
Legacy CFA: https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/189063/masters/74022101/summary
Plethora
-
Web
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/175142/masters/74021733/summary
Web Watch
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/175142/masters/74021771/summary
Fantasy APP
Watch Page API:
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/439433/masters/74022109/summary
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/439433/masters/74022112/summary
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/439433/masters/74022113/summary
https://a.blazemeter.com/app/#/accounts/40135/workspaces/3/projects/439433/masters/74022116/summary
Changes saved
What did you change?
Notify watchers
Update
Close
11:01 AM
8/8/2024
Sydney Harp...
Unmute
Rachel McCa...
Eric Johnson
gus argueta
Todd Ogrin
Tsolak Barse...
Audio
Video
62
Participants
Chat
React
Raise hand
Share
Apps
More
Leave

Usage Report

Data is in UTC time

5,102K Total VUH

08/01/2024 | 09/01/2024 | Group By: User | Virtual User Hours



carlos.vivas.-nd@disney.com
juan.d.acevedo.-nd@disney.com
yao.chau.yu.-nd@disney.com
franklin.fideles.-nd@disney.com
anthony.h.huang@disney.com
oscar.h.morales.-nd@disney.com
stephanie.m.stockwell@disney.com
tsolak.barseghyan@disney.com

robert.chang@disney.com
thierry.mathias@disney.com
brian.pellizzari@globant.com
nihar.kabinittal@disney.com
justin.s.kibler@disney.com
eric.johnson2@disney.com
yuto.takedai@disney.com
todd.ogrin@disney.com

edmir.alagic@disney.com
brian.cheng2@disney.com
grant.d.gill@disney.com
grace.m.mallett@disney.com
gus.argueta@disneystreaming.com
matthew.m.costigan@disney.com
devina.parihar@disney.com
jesid.x.durango.-nd@disney.com

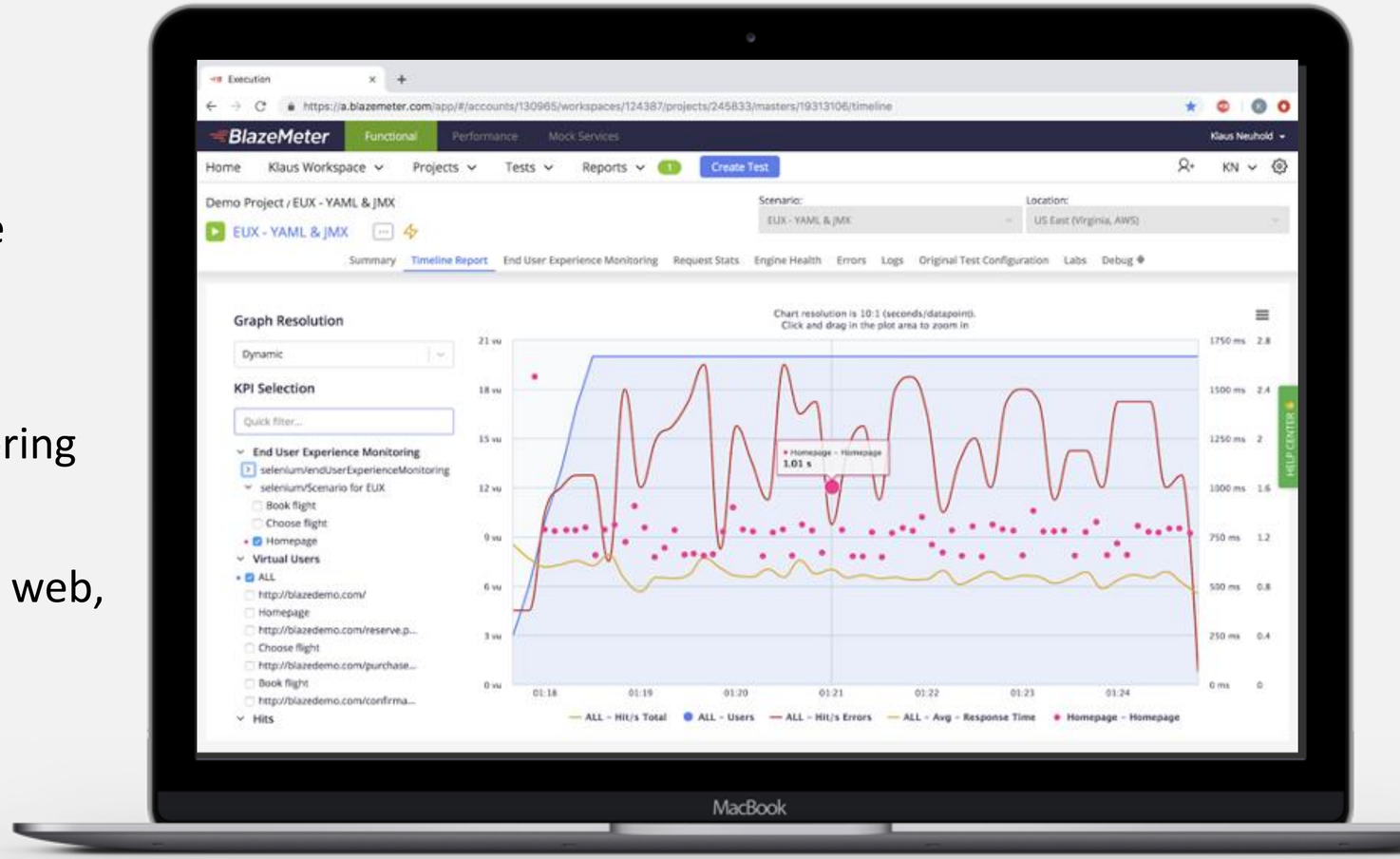
adam.ahndan@disney.com
trevor.mullaney@disney.com
f-resiliency-kitster@disney.com
cesar.cardon.-nd@disney.com
hssine.maaoui.-nd@disney.com
martin.rafael.x.torres.timal.-nd@disney.com
jonathan.henry@disney.com
zulekha.b.flexwala@disney.com

1/2

Some APAC Customers

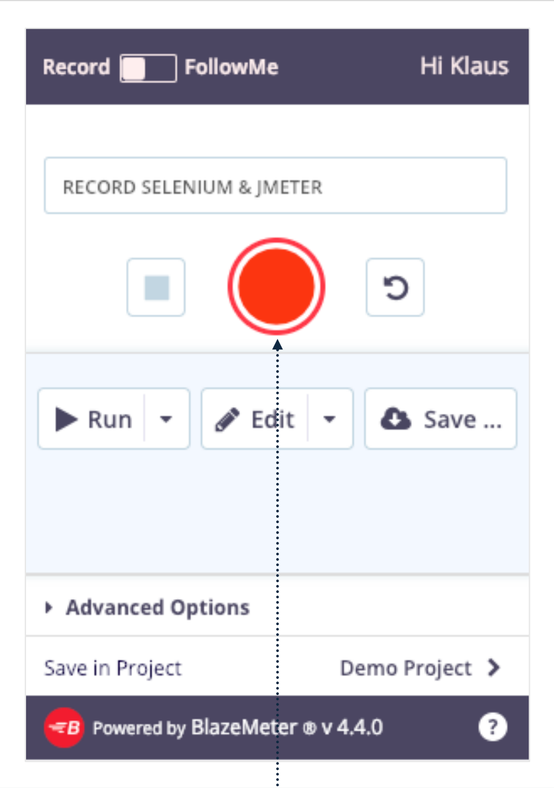
Built On Open Source for Developers

- Supports all major open source frameworks
- API & GUI driven, integrated with IDEs of choice
- Seamless integrations with CI/CD pipeline
- Instant TTV: sign up & start using right away
- API Testing with built-in diagnostics, API monitoring
- Test data and virtual services
- Test early and often with easy access to mobile, web, functional, load and integration testing

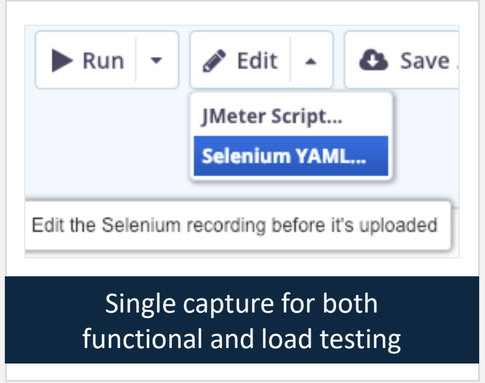


APACHE JMeter™ Gatling Taurus cucumber Se WM

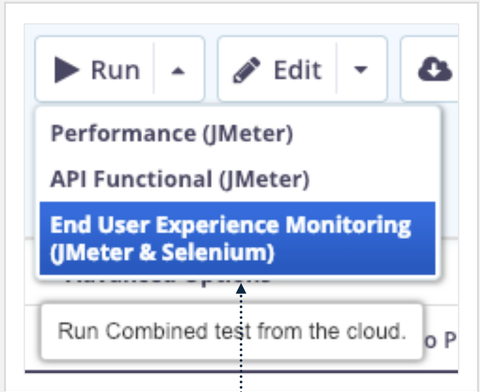
2. One Recording, Multiple Tests



Create tests with the built in recorder



Single capture for both functional and load testing



Then reuse script for UX testing.

No scripting required.

Create tests with the lightweight recorder.

One test for all.*

One recording works for functional, load, and UX testing.

Save time.

No need to create and maintain multiple recordings.

Reduce maintenance time and complexity.

Web-Scale Performance and Load Testing

Market-leading load and performance testing

100% open source compatible (JMeter, Selenium, Gatling, etc).

Enterprise scale

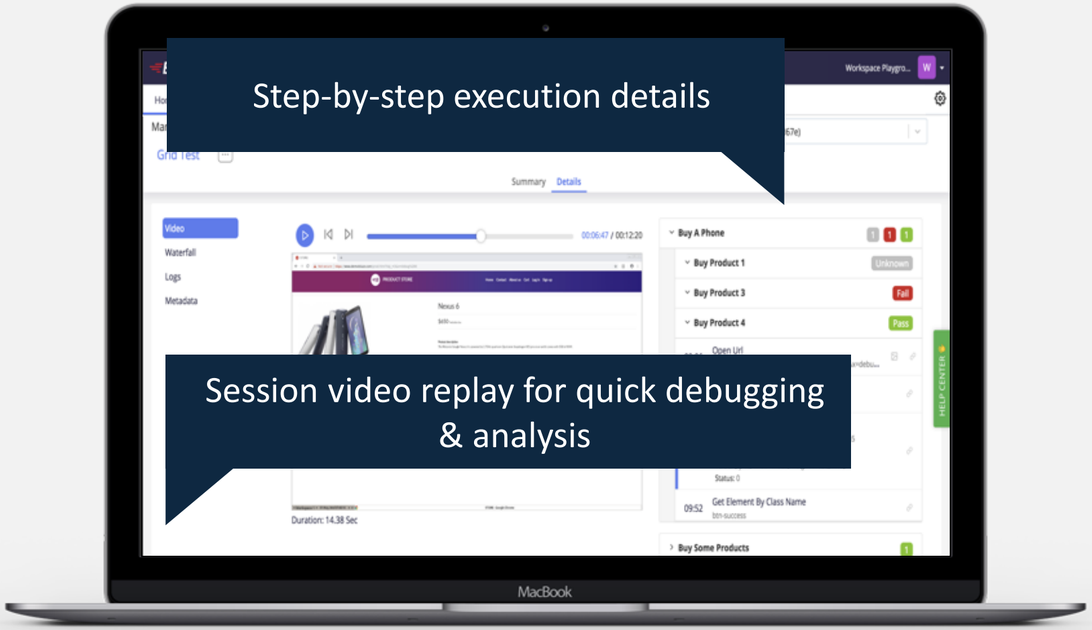
Broadest geo distributed load generation (AWS, Azure, GCP, and/or behind firewall). Rich enterprise protocol support.

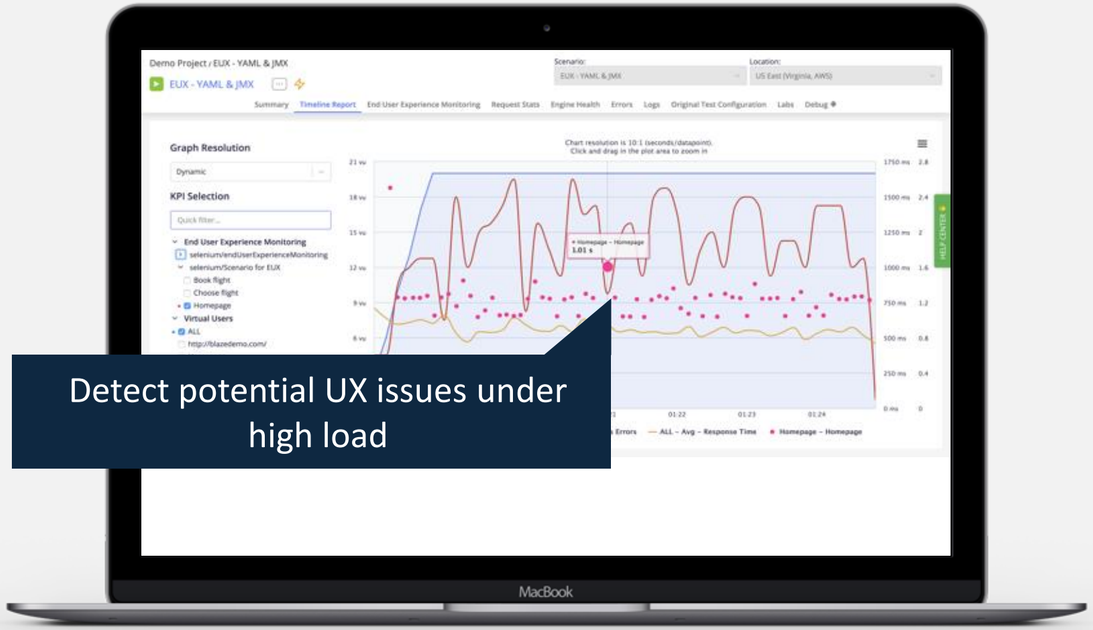
Center of Excellence Transformation

As code, UI, Load Runner Script Convertor.

Developer-friendly, shift-left leader

User Experience Testing





Test UX under real-world conditions in a single test run

Instantly understand how the UI performs under high load.

Nothing to configure

Run together, see combined graphs and analytics. SaaS solution – click to set up and use.

One recording

Creates tests for functional UI and performance.

Instantly see combined results from a single test run.

API Testing and Monitoring

Create in minutes

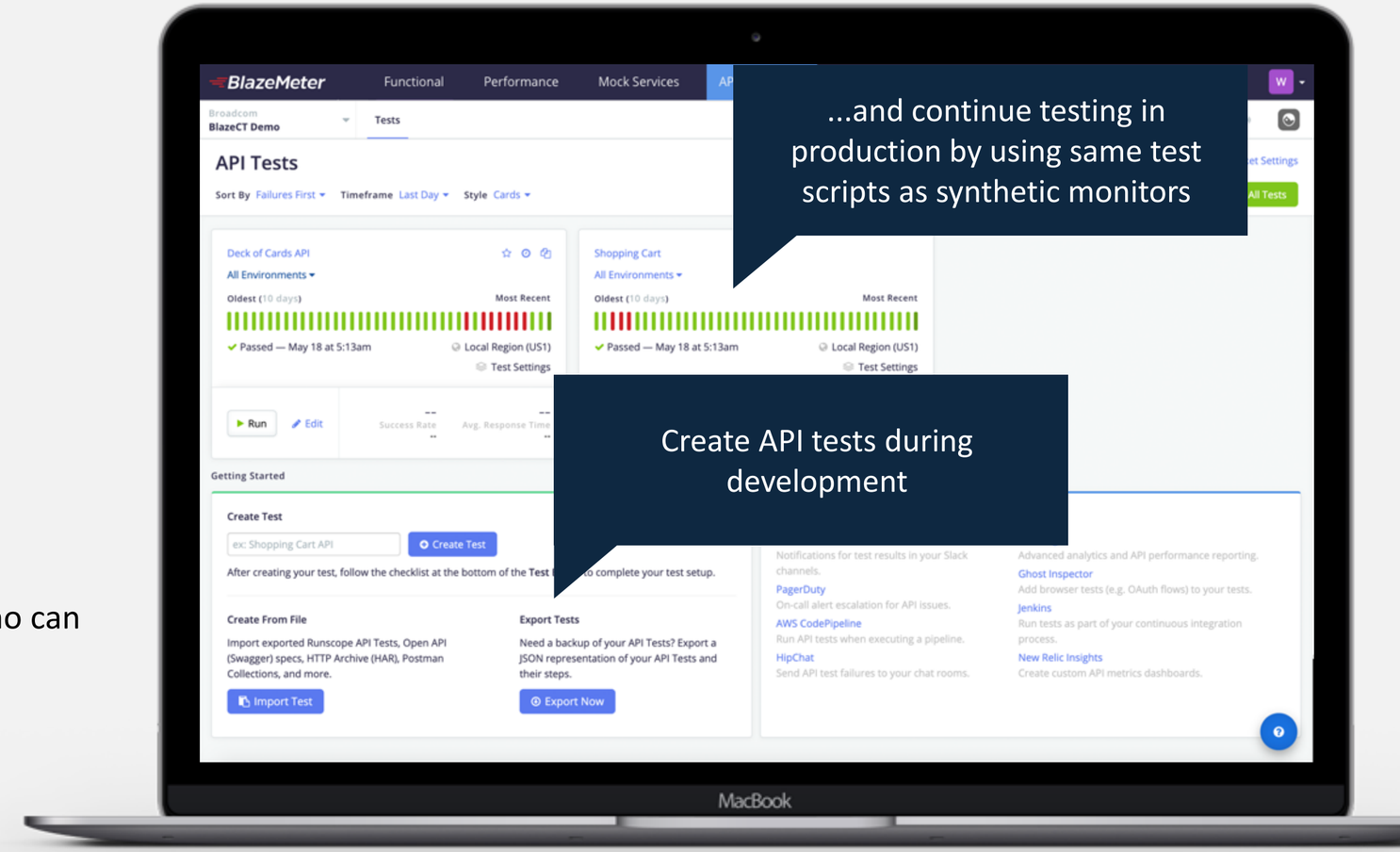
Dev creates API tests during development.

Use same script for monitoring

Agile teams use the same script to monitor service in production.
Ensure a ★★★★★ customer experience.

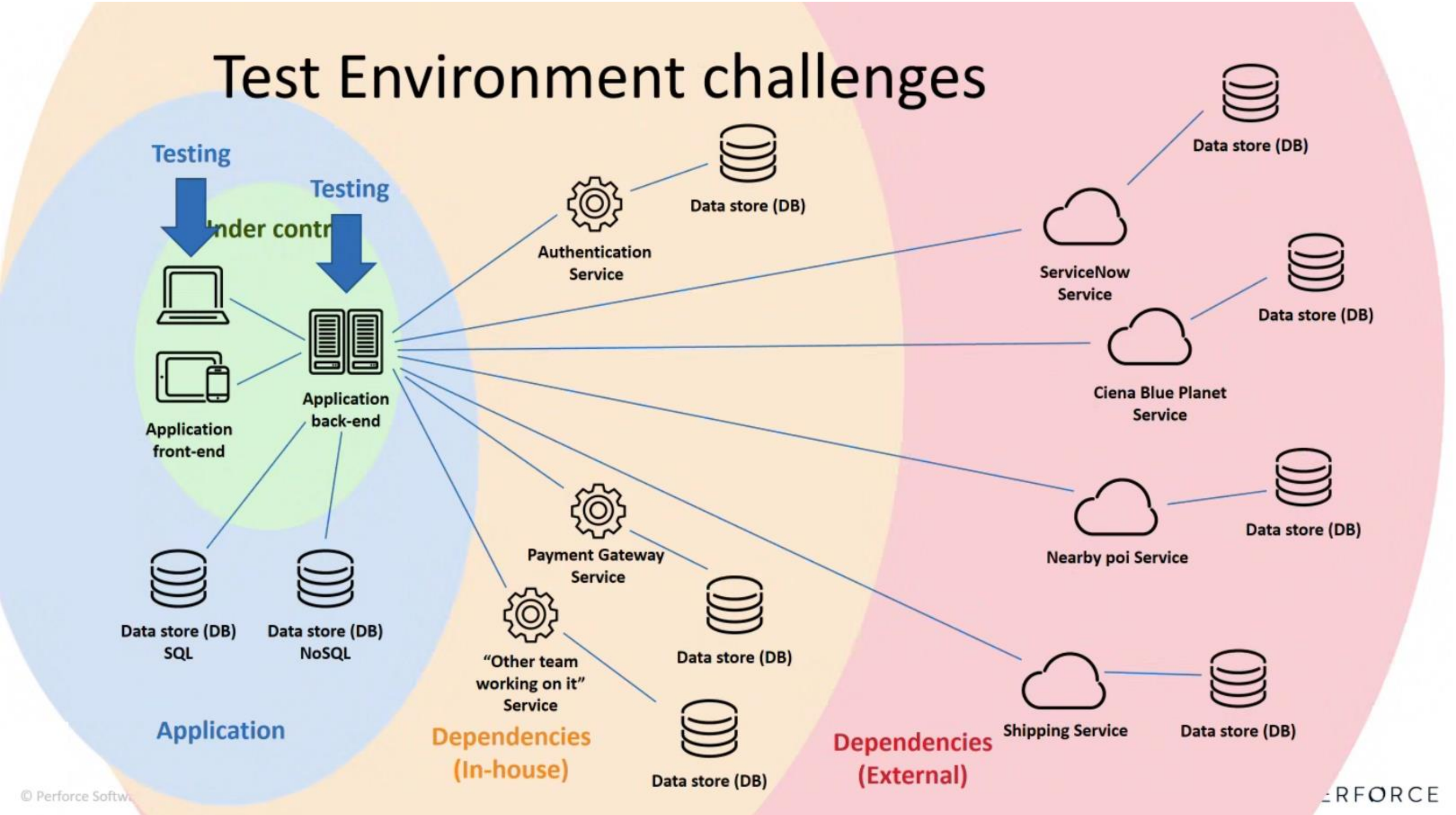
Complete feedback loop

Everyone owns quality, faster MTTR, instantly know the expert who can address any issues.



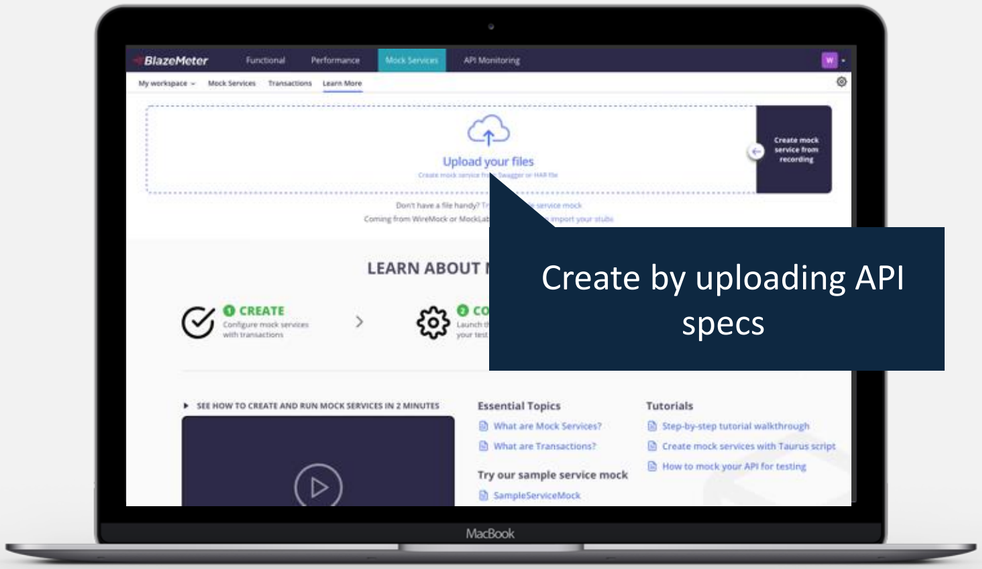
Agile teams own quality from dev through production.

Test Environment challenges

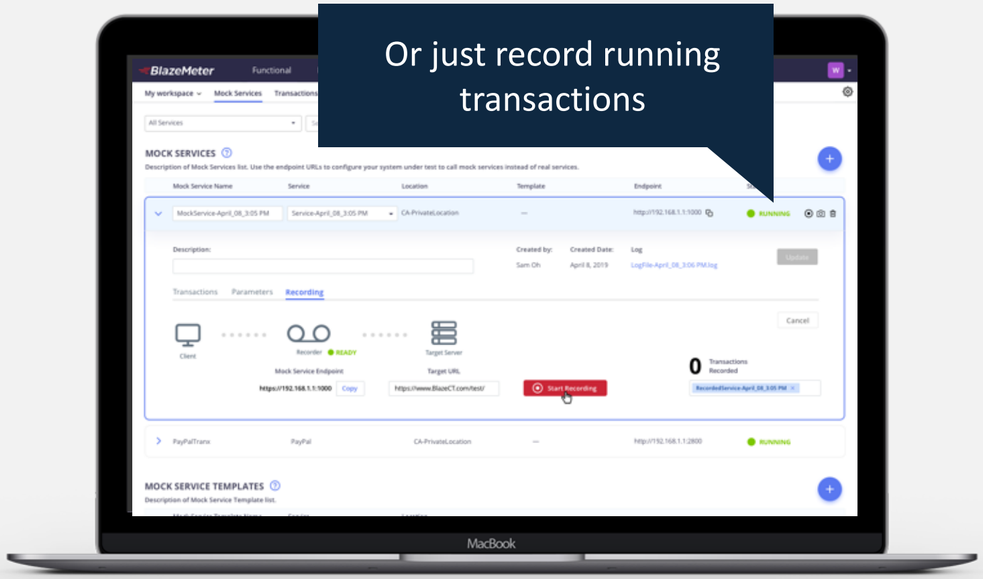


© Perforce Softw

Eliminate Environment Delays with Virtual Services



Create by uploading API specs



Or just record running transactions

Empower developers to create & collaborate

Create with open source (eg Wirevirtual), API specs (eg Swagger & .har files), no code UI. Share in virtual catalogue.

Virtual Services >Mocks

Test negative responses, poor performance, random output, happy path.

Run

Launch manually through APIs, and through self-defined tests.

Eliminate delays in test set up, test completely for better quality.

Test Data for every test

Compliant test data on demand

Create synthetic test data from inside BlazeMeter

Use across any test, service, or SUT

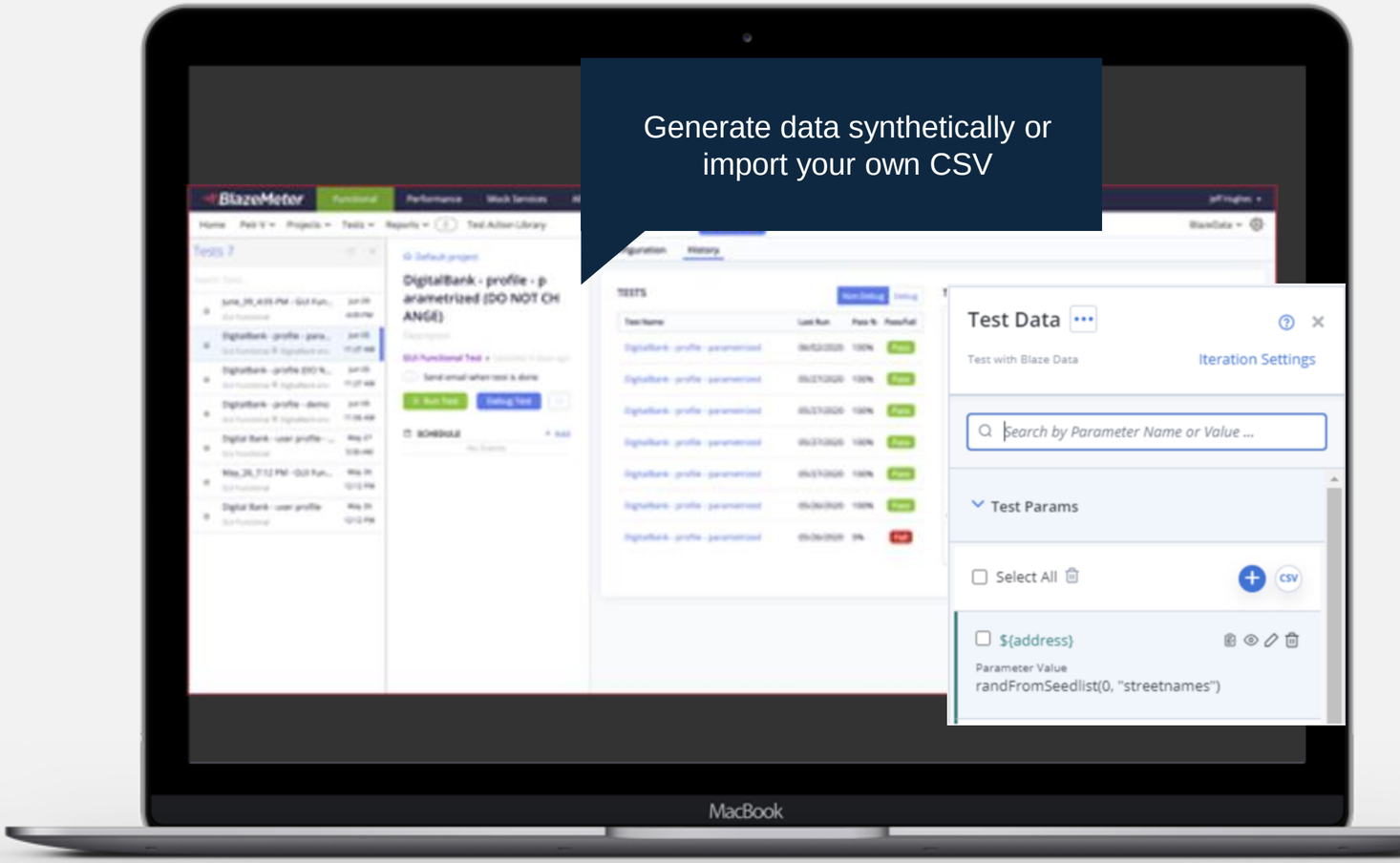
Test data stays synchronized across every test type.

Reuse test data

Reuse data for any test

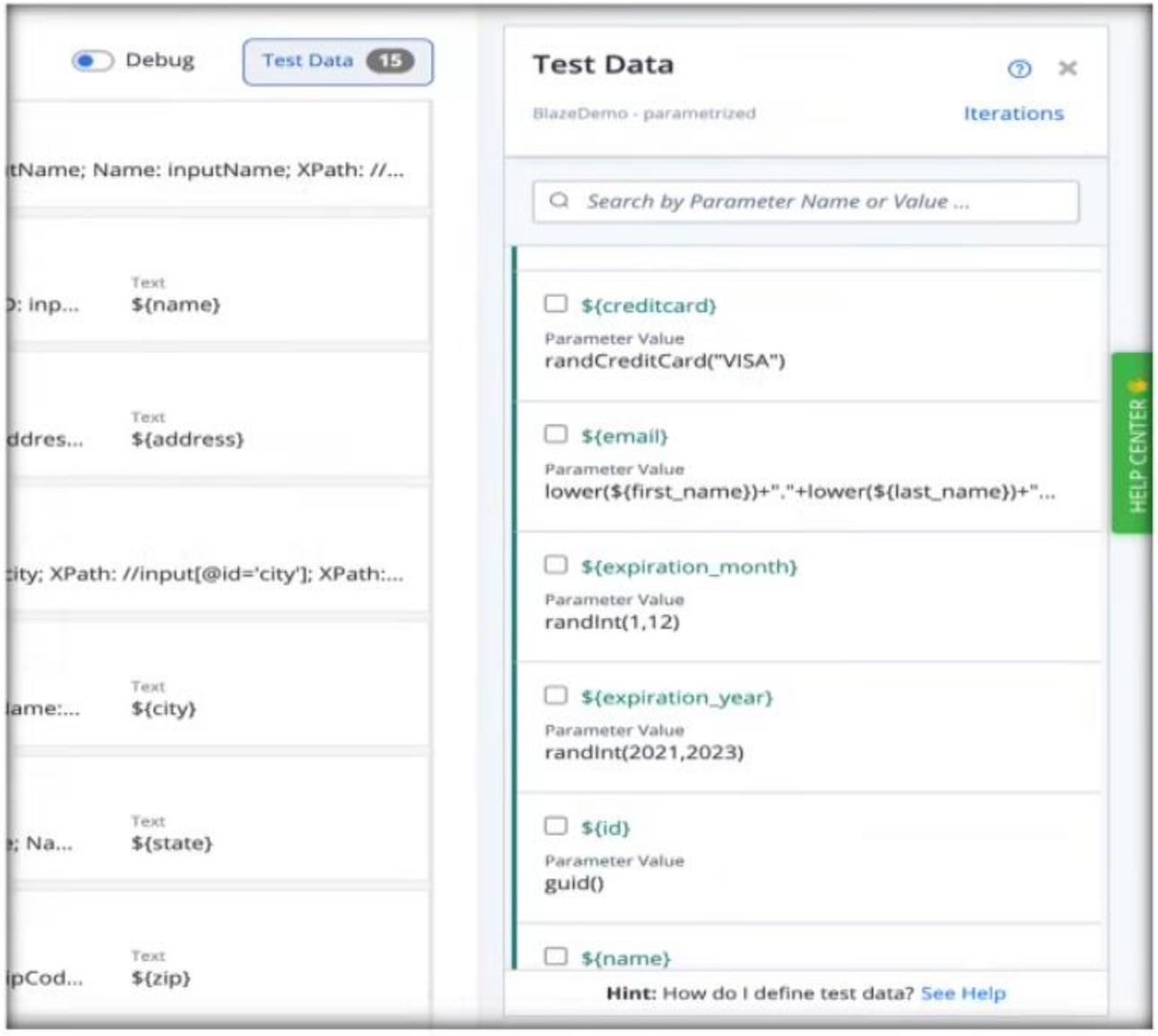
Shift-left test data

Agile teams can create their own test data



Address the #1 challenge to continuous testing with test data on demand.

BlazeMeter Test Data



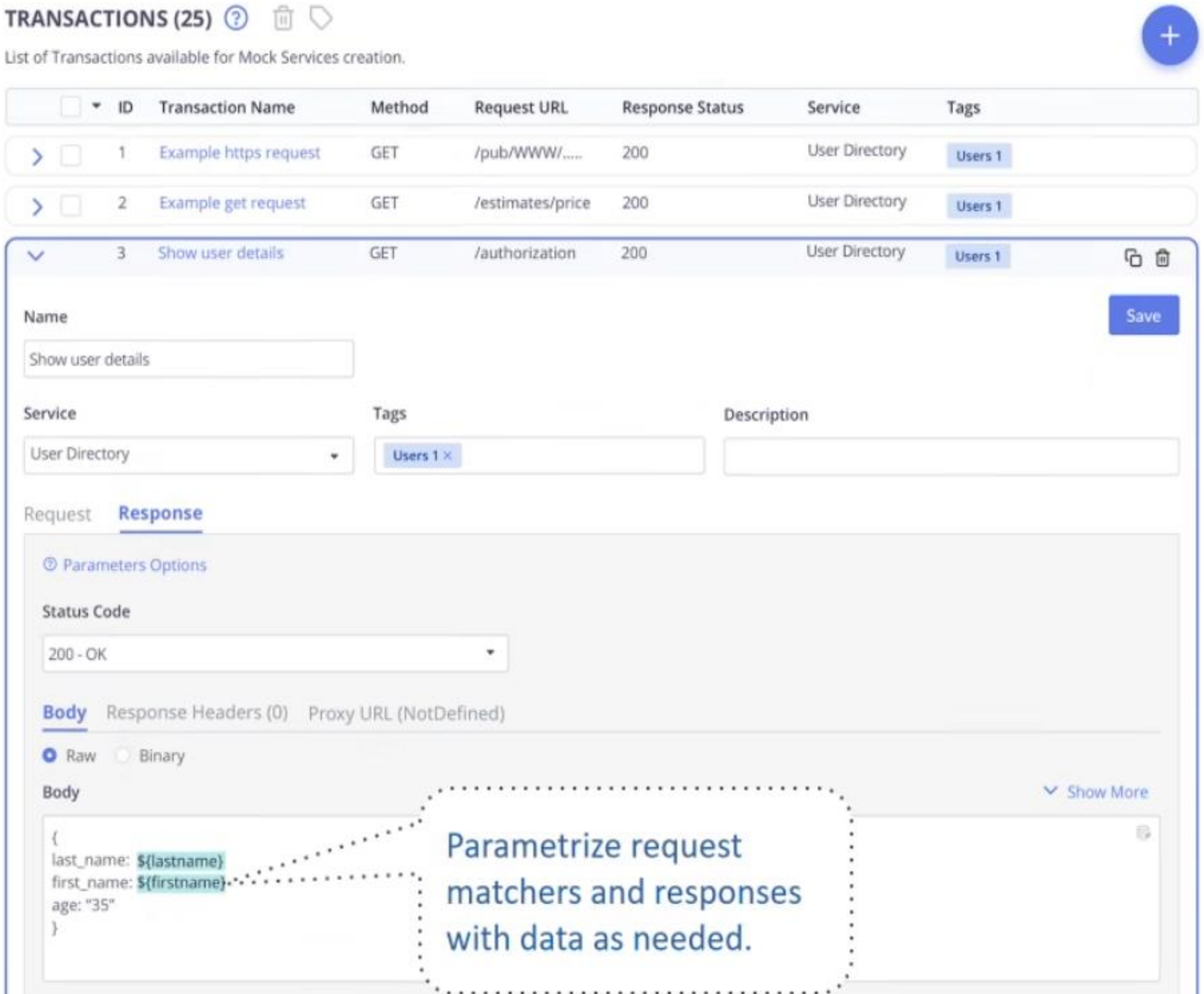
Do not waste time with manufacturing test data by hand (manually) – **focus on testing**

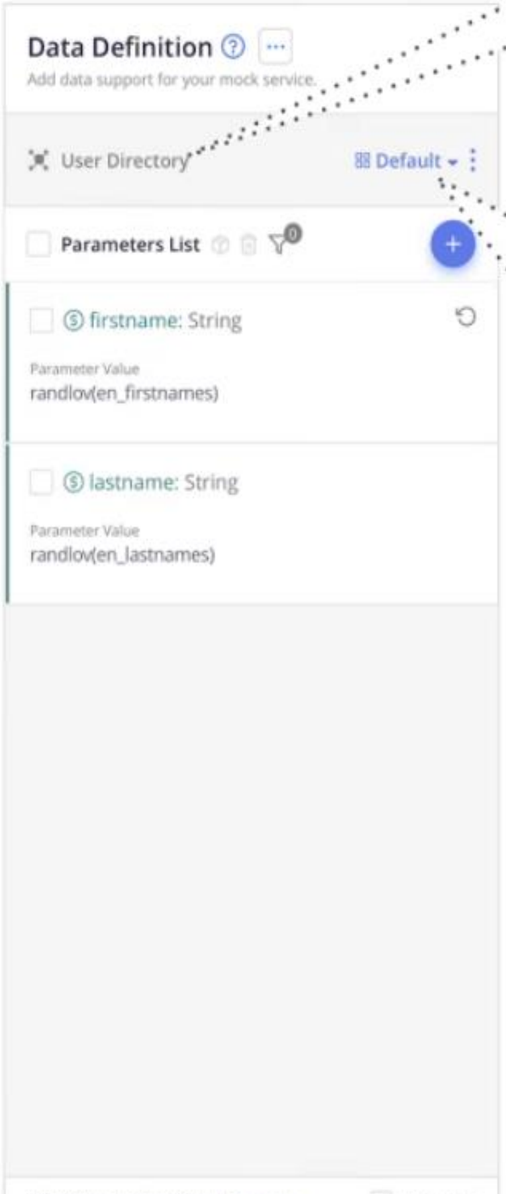
Get comprehensive test data with desired variety – **better and more robust tests**

Reuse data between **tests – leverage collaboration**

Ensure test data consistency – **simplify test environment setup**

Test Data – data-driven Mock Services

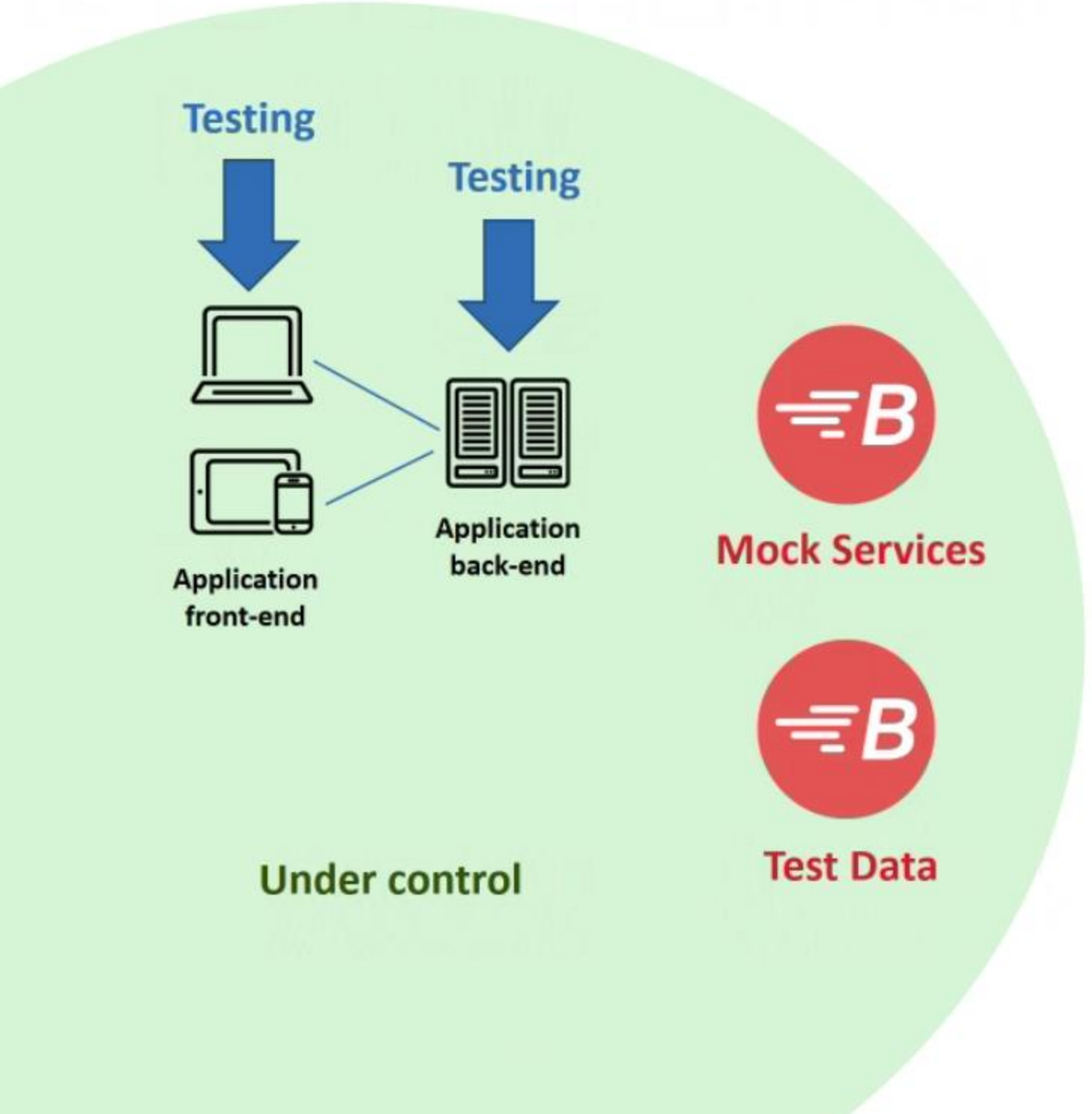




Build data model for services that will be mocked/virtualized.

Define various data sets to simulate different service behavior according to specific testing needs.

Typical App Environment Architecture + BlazeMeter



Get test data challenges and dependency constraints of tests under control with BlazeMeter Test Data & Mock Services

- Generate, reuse, access test data when needed
- Replace the real dependencies with virtual/mock ones

Case Study : Malaysian Government

High Traffic Demands

Government applications experience surges in traffic, especially during high-demand periods

Performance Bottlenecks

Applications often encounter performance degradation under high loads, impacting service quality

Limited Testing Capabilities:

Traditional testing methods did not provide real-world simulations or extensive load testing, resulting in unpredictable performance issues post-deployment.

Compliance and Data Security

Testing in a government environment requires strict adherence to data protection laws and cybersecurity standards.

Case Study: Healthcare Sector

35% Decrease in Inter-department Registry Bottleneck Occurence

OFISGATE

Case Study : Malaysian Government

Solution?

BlazeMeter by Perforce

Simulating High User Loads

BlazeMeter replicates real-world scenarios, allowing agencies to stress-test applications against user load spikes

End-to-End Testing

The platform provides functional, performance, and API testing in a unified environment

Cloud-Based Scalability

BlazeMeter’s cloud-based architecture enables massive scaling without requiring on-premises infrastructure investments

Enhanced Security

Data protection and compliance features ensure that testing adheres to local and international standards

OFISGATE

Solution Set

OFISGATE

DC Scalability &
Performance

Real User
Experience on
Mobile & Desktop

Delphix
by Perforce

Production-based
Data Management
(Masking, Compliance)

User Experience on Real Devices,
While Server is Under Load

WORKSOFT®

Packaged Application Testing
(SAP, Oracle, Salesforce etc)

at

OFISGATE
Thank You !
Visit Us At Our Booth
BlazeMeter
by Perforce