

# PENGUJIAN

## PENGUJIAN PRESTASI SISTEM



**MENERANGKAN AKTIVITI-AKTIVITI PENGUJIAN PRESTASI SISTEM APLIKASI YANG MERANGKUMI  
METODOLOGI PENGUJIAN PRESTASI DAN LAPORAN PENGUJIAN PRESTASI**

# PENGENALAN PENGUJIAN PRESTASI DAN KEPENTINGANNYA

TAKLIMAT

01



## OBJEKTIF

- Menerangkan mengenai latarbelakang dan kepentingan melaksanakan pengujian prestasi..

## PENGUJIAN PRESTASI (*PERFORMANCE TEST*)

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- Test conducted to **identify the system behavior** and **performance** under **a given workload** for **a specific timeframe**
- To **identify** the **area for improvements** of the systems such as
  - resource bottleneck issue
  - server configuration issue
  - application configuration issue
  - errors and exceptions

There are **better** ways to do load testing.

Software and Load Testing Services





## PENGUJIAN TEKANAN (*STRESS TEST*)

- **Overload** the system **beyond its expected number of users** or transactions
- To overload the existing resources in an **attempt to break the system down**
- To **identify** the **system behavior** and **performance** and **identify the system breaking points**
- Determine the **maximum number of concurrent users** supported by application

## KEPENTINGAN PENGUJIAN PRESTASI

### a. Simulate production environment



# KEPENTINGAN PENGUJIAN PRESTASI

## b. Application/ Server Crash



ePaper Events Exhibitions R.AGE mStar StarProperty iBilik StarCherish StarCarsifu myStarjob Kuali Kuntum SuriaFM

#JustStayAt Home For You News Business Sport Metro Lifestyle Food Tech Education Opinion Vid

**NATION**

Wednesday, 20 Nov 2019

By MENG YEW CHOONG

[f](#)
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[in](#)
[r](#)
[e](#)

[f](#)

[b](#)

KUALA LUMPUR: KTM Bhd (KTMB) attributed “overwhelming demand” for ETS tickets that caused its ticketing servers to crash on Monday, frustrating tens of thousands of commuters.

The deluge, according to KTMB chief executive officer Datuk Kamarulzaman Zainal, came from the combination of demand associated with year-end school holidays, Christmas, Chinese New Year and Thaipusam, all of which was taking place from December until the end of February.

“We used to sell our tickets on a month-to-month basis but as we managed to secure a confirmed schedule from the contractor of the Klang Valley Double Track (KVDT) rehabilitation, we decided to open up the sale for the three-month block,” he told a press conference.

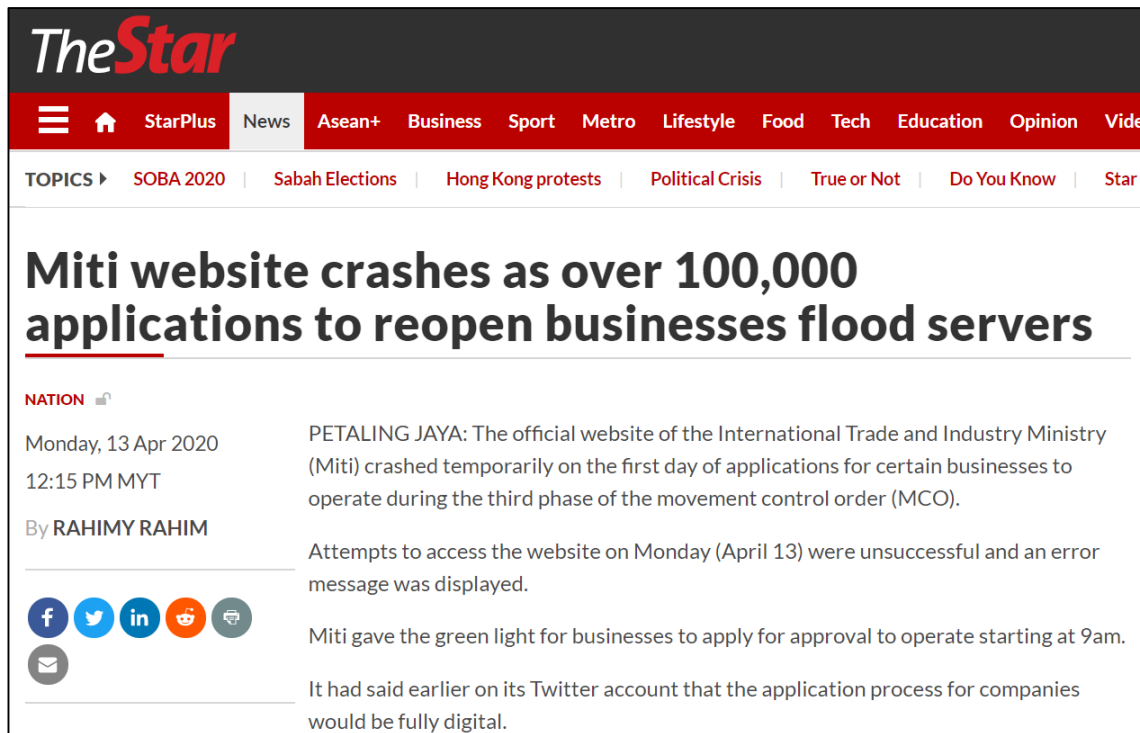
The KVDT rehabilitation is a massive project that had caused severe disruption to KTMB’s services running within the Klang Valley over the past few years as cargo, intercity, Komuter and ETS trains share either a pair of tracks and at work bottlenecks, only a single track.

Kamarulzaman said KTMB did its calculations before opening for the three-month block for sale on Monday.

“By our estimation, the ticketing system is supposed to be able to deal with the load,” he said adding that KTMB was also saddled with a “legacy” IT infrastructure that was

## KEPENTINGAN PENGUJIAN PRESTASI

### b. Application/ Server Crash



**TheStar**

TOPICS > SOBA 2020 | Sabah Elections | Hong Kong protests | Political Crisis | True or Not | Do You Know | Star

### Miti website crashes as over 100,000 applications to reopen businesses flood servers

**NATION**

Monday, 13 Apr 2020  
12:15 PM MYT

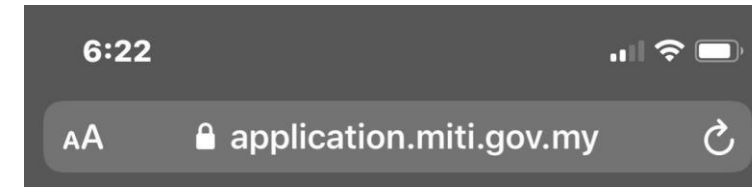
By RAHIMY RAHIM

PETALING JAYA: The official website of the International Trade and Industry Ministry (Miti) crashed temporarily on the first day of applications for certain businesses to operate during the third phase of the movement control order (MCO).

Attempts to access the website on Monday (April 13) were unsuccessful and an error message was displayed.

Miti gave the green light for businesses to apply for approval to operate starting at 9am.

It had said earlier on its Twitter account that the application process for companies would be fully digital.



Kementerian Perdagangan Antarabangsa Dan Industri

## Ralat 500

Aliran trafik sangat tinggi, sila cuba sebentar lagi.

[Kembali ke laman utama](#)

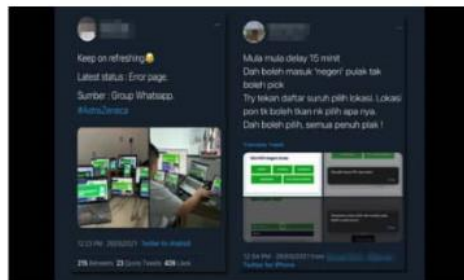
# KEPENTINGAN PENGUJIAN PRESTASI

## c. Unexpected Traffic Volume

### Pengguna kesal pendaftar AstraZeneca berdepan masalah teknikal

MUHAMMAD YUSAINI MOHAMAD YUNUS  
26 MAY 2021

A- A+



Gambar kiri: Antara persediaan rakyat Malaysia untuk mendaftar vaksin Gambar kanan: Antara luahan di Twitter terhadap pendaftaran vaksin AstraZeneca

SHAH ALAM – Gara-gara diserbu oleh jutaan pengguna bagi mendapatkan slot vaksinasi pusingan dua vaksin AstraZeneca, laman web tersebut telah berdepan dengan pelbagai masalah teknikal.

Proses pendaftaran yang dijadualkan dibuka pada pukul 12 tengah hari dilanjutkan 15 minit kemudian.

### Pemohon vaksin AstraZeneca fasa kedua alami isu teknikal selama 30 minit

Nailah Huda  
Mei 23, 2021 06:10 MYT



Tinjauan Astro AWANI di Twitter mendapati beberapa pemohon berdepan isu teknikal ketika memilih Pusat Pemberian Vaksin (PPV) dan tarikh janji temu.

**KUALA LUMPUR:** Pemohon janji temu bagi fasa kedua program vaksin COVID-19 buatan AstraZeneca mengalami masalah teknikal selama 30 minit selepas dibuka pukul 12 tengah hari ini.

Jawatankuasa Khas Jaminan Akses Bekalan Vaksin COVID-19 (JKJAV) menerusi Twitter bagaimanapun menjelaskan bahawa isu teknikal tersebut telah diatasi.

8:10

### Khairy minta maaf berhubung masalah teknikal sistem daftar AstraZeneca

Astro Arena  
Mei 27, 2021 11:05 MYT



Khairy menjelaskan, akan bertanggungjawab kepada semua pihak yang mengalami masalah membuat tempahan vaksinasi AstraZeneca pusingan kedua tersebut. - Astro AWANI

**KUALA LUMPUR:** Khairy Jamaluddin memohon maaf susulan masalah teknikal ketika permohonan pusingan kedua janji temu vaksin AstraZeneca yang dibuka pada Rabu.

Menteri Penyelaras Program Imunisasi COVID-19 Kebangsaan (PICK) itu menjelaskan, akan bertanggungjawab kepada semua pihak yang mengalami masalah membuat tempahan vaksinasi AstraZeneca pusingan kedua tersebut.



III O <

8:09



NASIONAL

### Khairy mohon maaf isu daftar vaksin AstraZeneca

Muhammad Yusri Muzamir dan Ahmad Suhael Adnan  
bhnews@bh.com.my  
May 27, 2021 @ 6:18pm



Kakitangan Swasta, Muhammad Danial Sapari, 21, semalam kecewa ketika melihat tempahan untuk slot janji temu Vaksin AstraZeneca yang telah ditutup melalui telefon bimbitnya. - Foto NSTP / Zulfadhli Zulkifli

**KUALA LUMPUR:** Menteri Penyelaras Program Imunisasi COVID-19 Kebangsaan (PICK) Khairy

III O <



## KEPENTINGAN PENGUJIAN PRESTASI

### c. Unexpected Traffic Volume

Banyak syarikat gagal akses sistem permohonan dalam talian MITI

Bernama  
April 13, 2020 20:27 MYT



MITI dalam kenyataan terbaharunya memaparkan kerja-kerja konfigurasi sistem yang masih berjalan.

Banyak syarikat dalam sektor tambahan yang mahu beroperasi pada fasa ketiga Perintah Kawalan Pergerakan (PKP) kecewa kerana mereka masih tidak dapat mengakses sistem aplikasi operasi perniagaan walaupun selepas 4 petang semalam.

Permohonan itu telah dibuka mulai Isnin, dari jam 9 pagi.



Ministry of International Trade and Industry, Malaysia  
16 Julai 2015 Jam 3:30 PG · 🌐

Adalah dimaklumkan bahawa Portal MITI tidak dapat diakses pada masa ini disebabkan masalah teknikal berkaitan rangkaian (network). Kami sedang mengambil tindakan dan akan maklumkan apabila Portal boleh diakses semula. Mohon maaf di atas segala kesulitan.



Ramai peniaga di Pasar Harian Selayang dikatakan tidak dapat berniaga kerana tidak dapat akses CIMS untuk kebenaran pergerakan. - Foto hiasan NSTP

KUALA LUMPUR: Kerajaan digesa segera menyelesaikan isu berbangkit berhubung pengoperasian COVID-19 Intelligent Management System (CIMS 3.0).

517,144 syarikat mendaftar di bawah CIMS 3.0 setakat tengah hari ini - MITI

Bernama  
Jun 1, 2021 08:28 MYT



95,142 syarikat memperoleh kelulusan untuk beroperasi semasa Perintah Kawalan Pergerakan (PKP) dengan pematuhan ketat kepada Prosedur Operasi Standard (SOP) baharu. - Gambar fail

KUALA LUMPUR: Sebanyak 517,144 syarikat dengan sejumlah 9.67 juta tenaga kerja mendaftar di bawah COVID-19 Intelligent Management System (CIMS) 3.0 yang ditadbir oleh Kementerian Perdagangan Antarabangsa dan Industri (MITI) setakat 12 tengah hari ini.

Kementerian itu dalam satu kenyataan hari ini berkata 95,142 syarikat memperoleh kelulusan untuk beroperasi semasa Perintah Kawalan Pergerakan (PKP) dengan pematuhan ketat kepada Prosedur Operasi Standard (SOP) baharu.

# KEPENTINGAN PENGUJIAN PRESTASI

## c. Unexpected Traffic Volume

### Laman web UPUOnline ada masalah, tidak boleh diakses?

Ridauddin Daud  
Jun 15, 2021 05:14 MYT



Ramai berkongsikan gambar ini dan mendakwa mereka tidak dapat masuk ke dalam laman web berkenaan.

**KUALA LUMPUR:** Hari ini, bermulalah fasa baharu yang akan mencorak perjalanan seterusnya buat lepasan Sijil Pelajaran Malaysia (SPM) 2020/2021 apabila mereka boleh mula mengisi borang permohonan UPUOnline.

Berdasarkan pemerhatian di laman Twitter, ramai yang teruja namun perasaan mereka itu terbantut seketika apabila ramai mendakwa laman web UPUOnline menghadapi masalah.

mobile.twitter.com

Search Twitter

Log in Sign up

**UPU** @tw\_tupu · Jul 20, 2020  
[ PEMAKLUMAN MASALAH MENAKSES PORTAL UPUONLINE ]

"KENAPA SAYA TIDAK DAPAT AKSES PORTAL UPU??" erghhh !!

Sabar, tenang2 ! Untuk makluman semua, Portal Rasmi UPUOnline mengalami masalah teknikal yang tidak dapat dielakkan.

Pihak UPU akan segera menyelesaikan isu tersebut.

56 213 301

**Replies**

@n0anaaa · Jul 20, 2020  
Replying to @tw\_tupu  
saya tidak boleh bertenang. hahahaha. pat kit bela. berejam aku duk ngadap website down depa.

6

# KEPENTINGAN PENGUJIAN PRESTASI

## c. Unexpected Traffic Volume



## MYSEJAHTERA APP

- It was developed by the Malaysian Government to manage the COVID-19 outbreak
- It helps users with health assessment & monitoring

### REGISTRATION STEPS

1. Scan the QR Code/visit [mysejahtera.malaysia.gov.my](https://mysejahtera.malaysia.gov.my)
2. Key in your mobile phone number/e-mail address
3. Click the 'Submit' button to receive a one-time PIN (OTP) code via SMS from MySMS 63839/e-mail
4. Key in the OTP & click 'Send'
5. Fill up the registration details & click 'Send'. You will receive a 'Successful Registration' message
6. Download the MySejahtera app & log in

Download the free app from:

Download on the

Download on

Source: [mysejahtera.malaysia.gov.my](https://mysejahtera.malaysia.gov.my) Published: 22/4/2020  
Bernama Infographics

# KEPENTINGAN PENGUJIAN PRESTASI

## c. Unexpected Traffic Volume



BERITA | MALAYSIA

### Ratusan penumpang terjejas akibat masalah sistem AirAsia

Bernama | 19 Disember 19, 2015 23:50 MYT



Jurucakap AirAsia memberitahu syarikat penerbangan itu mengalami pertambahan jumlah penumpang yang mendadak pada musim cuti persekolahan akhir tahun sehingga menyebabkan kesesakan di klia2. - Foto BERNAMA

**SEPANG:** Beratus-ratus penumpang di Lapangan Terbang Antarabangsa Kuala Lumpur (klia2) terjejas dipercayai akibat sistem daftar masuk syarikat penerbangan tambang murah AirAsia Bhd mengalami masalah pagi tadi.

Jurucakap Malaysia Airports Holding Bhd (MAHB) berkata masalah itu berlaku kira-kira 10 pagi namun dapat diatasi 30 minit kemudian.

**"Penumpang bukan terkandas, tetapi bilangannya yang bertambah menyebabkan masalah dalam sistem daftar masuk," katanya ketika dihubungi Bernama di sini, hari ini.**

Sementara itu, jurucakap AirAsia memberitahu syarikat penerbangan itu mengalami pertambahan jumlah penumpang yang mendadak pada musim cuti persekolahan akhir tahun sehingga menyebabkan kesesakan di klia2.



Ratusan penumpang terjejas akibat sistem AirAsia



### Ratusan penumpang terjejas akibat sistem AirAsia

**SEPANG -** Beratus-ratus penumpang di Lapangan Terbang Antarabangsa Kuala Lumpur (KLIA2) terjejas dipercayai akibat sistem daftar masuk syarikat penerbangan tambang murah AirAsia Bhd mengalami masalah pagi tadi.

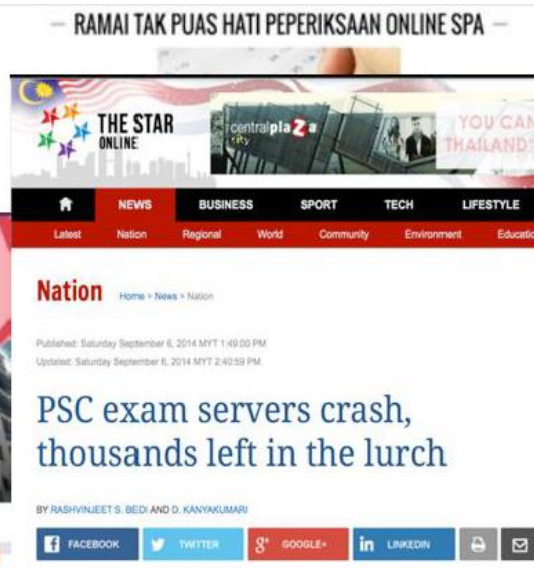
SINARHARIAN.COM.MY

## KEPENTINGAN PENGUJIAN PRESTASI

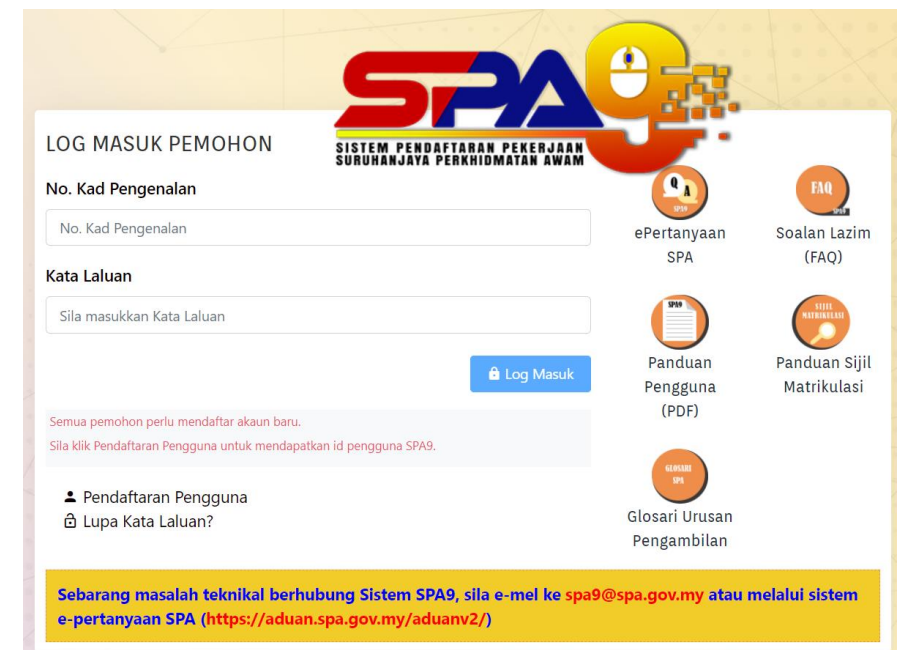
### d. Online application rollout

5 Ogos semalam telah diadakan Peperiksaan Online SPA bagi jawatan Penolong Penguasa Kastam Gred W27. Adakah anda salah seorang darinya? Dengarnya, ramai yang tidak berpuas hati. Betul ke?

SPA memaklumkan seramai 21,254 calon telah menduduki exam online tersebut dengan jayanya. Dengan menyediakan jalur lebar yang disediakan JARING Communications Sdn Bhd berkapasiti 100Mbps yang membolehkan sehingga 100,000 calon menduduki peperiksaan ini, sepatutnya calon tidak akan menghadapi masalah teknikal sehingga laman tidak boleh diakses.



### Penambahbaikan



## KEPENTINGAN PENGUJIAN PRESTASI

### e. Launching new application



### E-Procurement



A system that allows the Government to conduct procurement activities electronically

# KEPENTINGAN PENGUJIAN PRESTASI

## f. Application does not scale

### Ministry's slow online system riles teachers

November 7, 2015

Union: Some stay up until 2am or 3am just to fill in student data in ministry's electronic system



KANGAR: The National Union of the Teaching Profession has urged the education ministry to quickly resolve the problem of internet access into the E-system faced by teachers nationwide.

Union secretary-general Lok Yim Pheng said there had been no improvement made by the ministry to date and the problem was becoming increasingly critical.

"I get complaints from teachers in every state that they cannot access the system during peak hours to manage student data, they have to wait because the server is very slow, this is all wasting time," she said yesterday after attending the launch of the World Teachers' Day celebrations by state education

Kementerian Pendidikan Malaysia added 5 new photos.  
12 January at 14:22 · 🌐

Intipati yang diumumkan oleh YB Dato' Seri Mahdzir Khalid, Menteri Pendidikan Malaysia sewaktu ucapan beliau pada Perutusan Tahun Baharu 2016 Kementerian Pendidikan Malaysia sebentar tadi;

- 1) Pertukaran guru duka lara dibuat secara berkala, tidak hanya untuk Januari dan Jun. Permulaan untuk Sabah dan Sarawak, akan dibuka pada 15-25 Januari ini.
- 2) Bagi memastikan guru lebih berfokus kepada tugas hakiki, Kementerian akan mengkaji keperluan beberapa aplikasi dalam talian bagi mengelakkan kesesakan trafik data, kemasukan data akan "decentralize". Pihak sekolah dan PPD akan dipertanggungjawab untuk aplikasi yang melibatkan operasi seperti kehadiran murid.
- 3) NPQEL akan dipermudahkan, tidak perlu sebagai syarat utama untuk lantikan guru besar dan pengetua, lantik dahulu, baru hadir berkursus.
- 4) UPSR bakal menjadi seperti PT3, tidak hanya seperti sekarang yang 100% berasaskan peperiksaan.
- 5) Tiada istilah "siapalah kami", dengan merujuk warga pendidik dengan KPM. KPM mahu wujudkan hubungan dua hala.
- 6) Pengurusan tertinggi KPM adalah "servant" kpd pihak sekolah.



## KEBAIKAN MELAKSANAKAN PENGUJIAN PRESTASI

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- A **smooth** and **low risk production** rollout
- **Identify the bottlenecks** and **area for improvements** during the test
- Perform basic **analysis** and **fault domain isolation**
- Conduct **post mortem** and **root cause analysis** to pinpoint the slow performing or problematic lines of code that causing errors and exception





## KAEDAH MELAKSANAKAN PENGUJIAN PRESTASI

TAKLIMAT  
02



### OBJEKTIF

- Menerangkan mengenai kaedah melaksanakan pengujian prestasi sistem dan amalan terbaik.

## MASA YANG SESUAI MELAKUKAN PENGUJIAN PRESTASI

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- **Before system Go Live** or open for production
- **After** completion of User Acceptance Test (**UAT**)
- **During** Provisional Acceptance Test (**PAT**) phase
- **After** Penetration or **Security Test**



## KEPERLUAN (REQUIREMENTS)

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- **Hardware and tools** for performance test simulation
- **Development environment** for preparation work and scripting
- **Test accounts** for concurrent access
- **Dummy data** for test simulation
- Enabling system and component **monitoring**



## PENANDA ARAS KRITERIA KUALITI PENILAIAN

### ❑ Number of concurrent user

- ✓ 10% from number of registered user or
- ✓ 10% from expected user using the system or
- ✓ 20% for critical system

### ❑ Response time

- ✓ 2 - 4 secs – Simple transaction (login, landing, info display)
- ✓ 5 - 9 secs – Medium transaction (search, form submission)
- ✓ 10 - 15 secs – Complex (monthly reports generations)

### ❑ Transaction failure rate

- ✓ less than 2 % error rate from overall transaction

### ❑ Hardware resources

- ✓ less than 80 % utilization of CPU and RAM usage



## PELAKSANAAN PENGUJIAN PRESTASI (TESTING OVERVIEW)

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### 1. Smoke Test

- **Smoke test** conducted upon completion of test scripts

### 2. Load Test

- There will be total of **two (2) cycles** for load testing
- Each cycle will have **three (3) iterations** for different loads such as (200, 500, 1000)
- **Five (5) business processes** will be scripted for load testing

### 3. Stress Test

- Upon completion of all load test cycles and fine tuning on system, a stress test will be conducted **if needed**

## PELAKSANAAN PENGUJIAN PRESTASI (CONTOH – CYCLE 1)

No	Business Transactions	Load Distribution (%)	No. of Concurrent User			
			Iteration 1	Iteration 2	Iteration 3	Stress Test
1.	<b>BizTxn 1:</b> Kemaskini Bidang Pengkhususan	10	10	50	100	200
2.	<b>BizTxn 2:</b> Tambah Penglibatan Projek	30	30	150	300	600
3.	<b>BizTxn 3:</b> Senarai, Papar dan Kemaskini Penglibatan Projek	30	30	150	300	600
4.	<b>BizTxn 4:</b> Laporan	30	30	150	300	600
	<b>Total</b>	<b>100</b>	<b>100</b>	<b>500</b>	<b>1000</b>	<b>2000</b>

## PELAKSANAAN PENGUJIAN PRESTASI (CONTOH – CYCLE 2)

No	Business Transactions	Load Distribution (%)	No. of Concurrent User	
			Iteration 3	Stress Test
1.	<b>BizTxn 1:</b> Kemaskini Bidang Pengkhususan	10	100	200
2.	<b>BizTxn 2:</b> Tambah Penglibatan Projek	30	300	600
3.	<b>BizTxn 3:</b> Senarai, Papar dan Kemaskini Penglibatan Projek	30	300	600
4.	<b>BizTxn 4:</b> Laporan	30	300	600
	<b>Total</b>	<b>100</b>	<b>1000</b>	<b>2000</b>

Iteration 1 dan 2 tidak diulangi kerana telah lulus semasa Cycle 1

## KRTITERIA PENILAIAN PENGUJIAN PRESTASI

- Transaction **response time**
- **Failure rate**
- User load over performance and **resource usage**
- System **performances**
- **Errors and exceptions**





## TOOLS PENGUJIAN PRESTASI

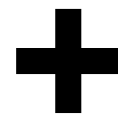
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## AMALAN TERBAIK PENGUJIAN PRESTASI

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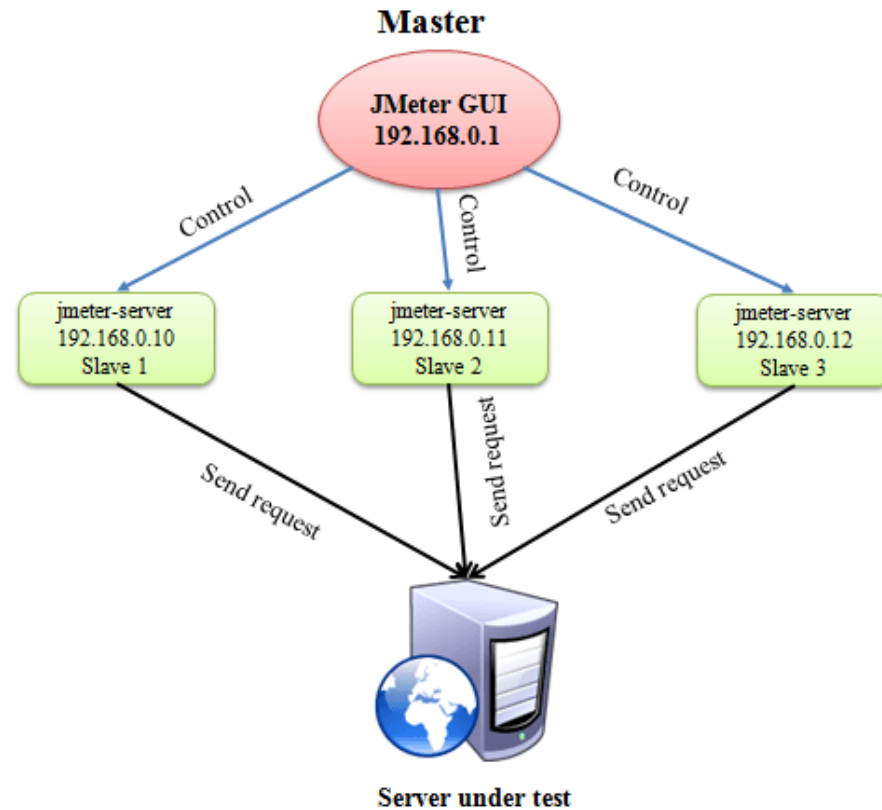
### Performance Test Tools



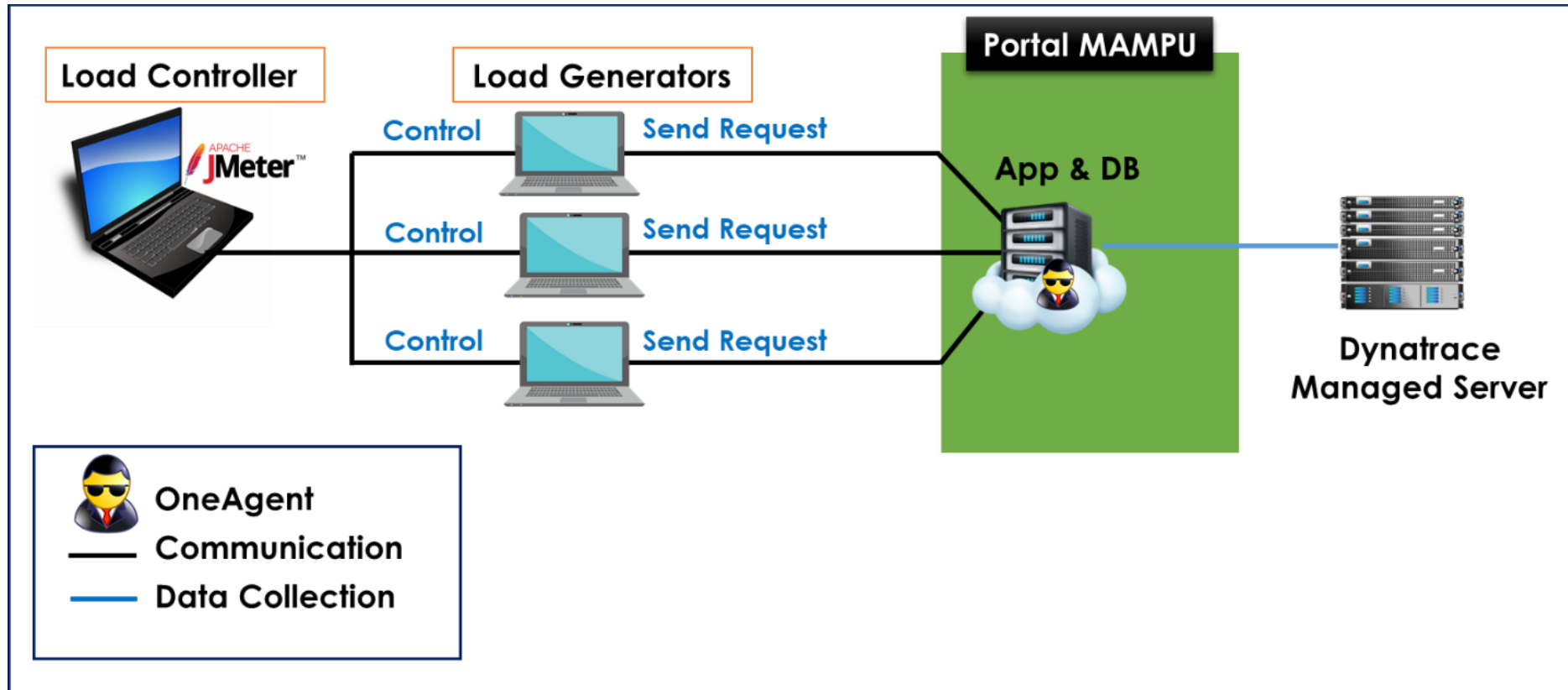
### Application Performance Monitoring Tools

- Using Artificial Intelligent to analyze root cause of problem

## CONTOH KAEDAH PENGUJIAN PRESTASI - JMETER



# CONTOH KAEDAH PENGUJIAN PRESTASI - JMETER



## SKOP PENGUJIAN PRESTASI

TAKLIMAT  
03



### OBJEKTIF

- Menerangkan mengenai semasa melaksanakan pengujian prestasi sistem.

## SKOP PENGUJIAN

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- Number of concurrent user
- Response time
- Not more than 5 business process
- Entry and exit criteria

## SKOP PASUKAN PENGUJIAN PRESTASI

---

- shall **script** and **conduct the performance test**
- shall **advise** and ensure that the performance test covers key areas of the system
- shall **advise** on types of **monitoring to enable** during performance test
- provide a performance **assessment report** after each test cycle
- monitor and report any **performance issue** or system bottleneck

## SKOP PASUKAN PEMBANGUN APLIKASI

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- shall **identify** and inform which **business processes** to test
- shall **prepare the environment** to conduct the performance test
- shall **enable the monitoring** as advised by MyTCoE to monitor the performance and resource usage
- shall **provision** for required desktops, hardware, network connectivity and other operations requirements
- **fine tune** or resolve the performance issues in the system as identified



## CADANGAN JADUAL PENGUJIAN PRESTASI

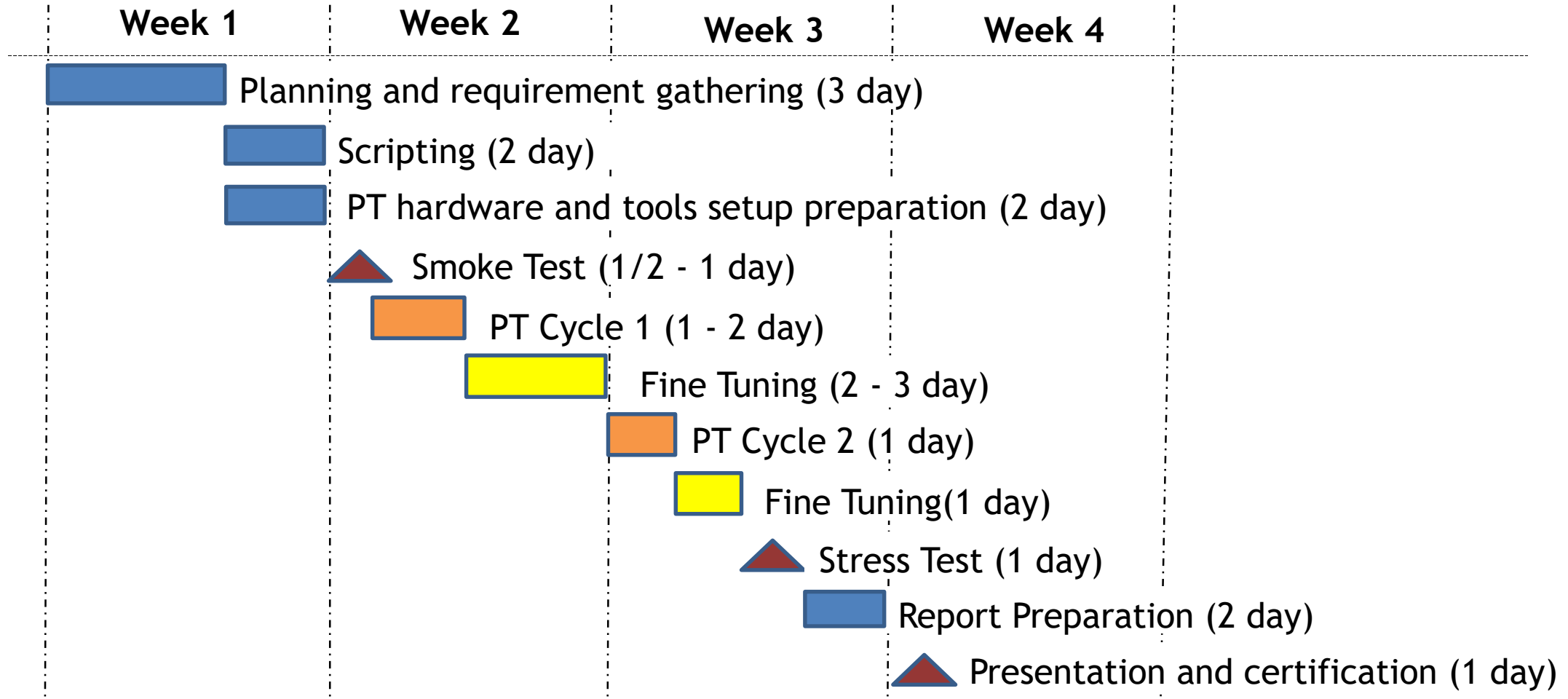
TAKLIMAT  
04



### OBJEKTIF

- Menerangkan mengenai cadangan jadual pelaksanaan bagi melaksanakan pengujian prestasi sistem dengan mengambil kira semua aktiviti.

## CADANGAN JADUAL PENGUJIAN PRESTASI



## AKTIVITI PENGUJIAN PRESTASI SECARA TERPERINCI

No.	Activity	Description	Duration (Day)
1.	Identify Performance Requirements	Identify the performance requirements with application team	0.5
2.	Review Test Scenarios	Review, prioritize and finalize test scenarios for execution with application team	0.5
3.	Verify Pre-requisite Items	Verify the availability of all pre-requisite items	0.5
4.	Prepare Test Plan	Prepare detailed performance test plan (including detailed scenarios, workloads, timeline, environment info and etc.)	2
5.	Prepare Test Script	Prepare test script based on test scenarios	2
6.	Conduct Smoke Test	Verified that system is fit for testing before actual performance testing starts	0.5

## AKTIVITI PENGUJIAN PRESTASI SECARA TERPERINCI

No.	Activity	Description	Duration (Day)
7.	Execute Test	Run and monitor tests. Validate test data and results collection.	1
8.	Capture Defects	Defects, if any, are capture in Test Management Tool	0.5
9.	Analyze Result and Generate Report	Consolidate and share results	3
10.	Submission of Full Report	Full report	3

## CADANGAN PENAMBAHBAIKAN

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- Include scope for Performance Testing in **tender specification document**
- Establish **SLA** for performance and response time in **project contract**
- Seek **advice from MyTCoE** for performance testing exercise



## PERKONGSIAN PENGALAMAN PENGUJIAN PRESTASI OLEH MYTCOE, MAMPU

TAKLIMAT  
**05**



### OBJEKTIF

- Menerangkan mengenai pengalaman melaksanakan projek pengujian prestasi sistem dalaman MAMPU dan JANM.

# SISTEM PEMANTAUAN LAMAN WEB DAN SERVIS KERAJAAN (SPLASK)



## Sistem Pemantauan Laman Web dan Servis Kerajaan (SPLaSK)

Login to your account

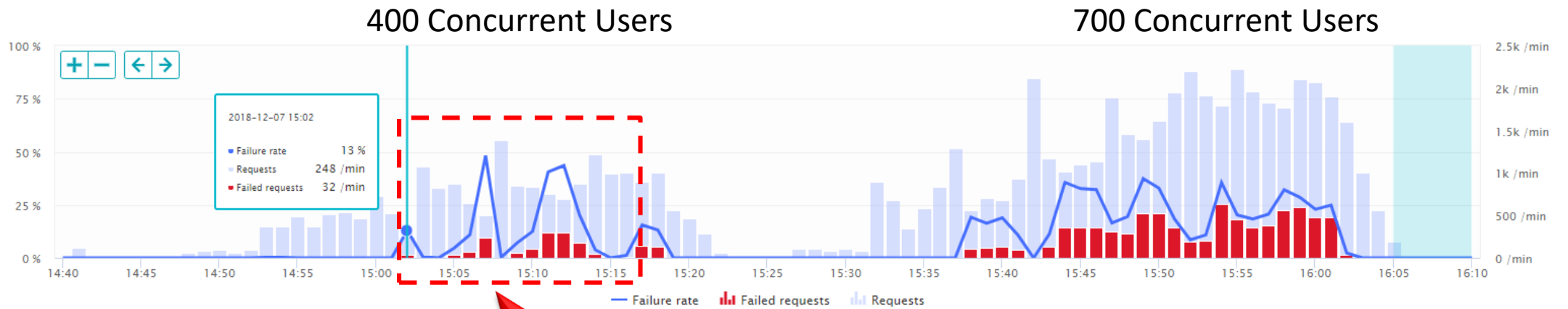
E-MAIL  
Your Email

PASSWORD  
Your Password

Login [Forgot Password?](#)

# Failure Rate

Failure rate

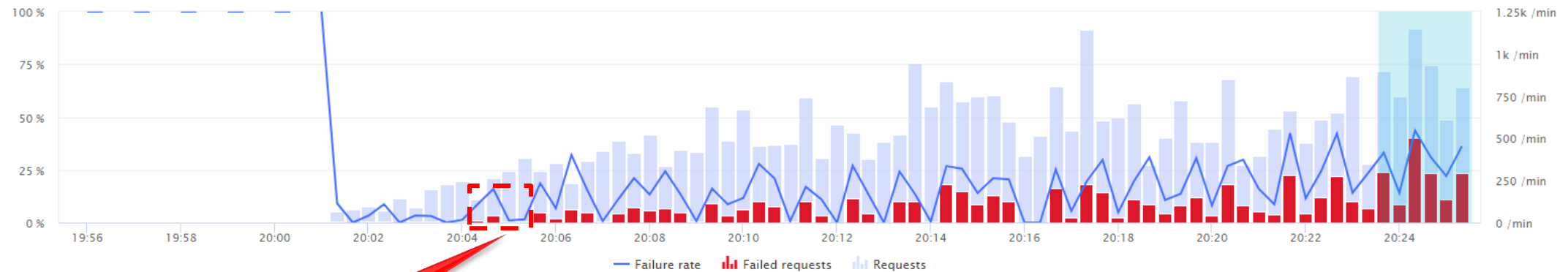


Errors was found in middle test of 400 concurrent users




# Failures in App Tier (PHP on FPM pool www)

Failure rate



Error 429 starts at 50 concurrent users

# Failed requests in App Tier

 683  
Failed requests

## Reasons for failed requests

Following are the reasons for failed requests. Click a specific reason to view the exception message and code-level details.

Reasons for failed requests

Failed requests

PHP error / HTTP Response status code set to *****	100 %	683
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## Requests that failed with PHP error / HTTP Response status code set to \*\*\*\*\*

Failed requests ▼

/api/v1/dashboard/numbers	205
/api/v1/dashboard/gos	183
/api/v1/dashboard/user-satisfaction	179
/api/v1/dashboard/top-transaction	48
/status	29
/api/v1/dashboard/compliance	24
/lists/getMinistries	6
/lists/getAgencies	5
/home	1
/assessments/web/data	1

Most of the failed requests are api calls

# Root cause of failed requests

Potential root causes for requests that failed with [PHP error / HTTP Response status code set to \\*\\*\\*\\*\\*](#)

93.6 % likely failed due to an `Illuminate\Http\Exceptions\ThrottleRequestsException`

[Details](#)

4.25 % likely failed due to a `Symfony\Component\HttpKernel\Exception\NotFoundHttpException`

[Details](#)

2.2 % likely failed due to an `Illuminate\Contracts\Encryption\DecryptException`

[Details](#)

2.05 % likely failed due to an `Illuminate\Auth\AuthenticationException`

[Details](#)

0.15 % likely failed due to an Error

[Details](#)

Exception messages of `Illuminate\Http\Exceptions\ThrottleRequestsException`

Too Many Attempts.

Stacktraces of exceptions

▾ `Illuminate\Routing\Middleware\ThrottleRequests.buildException` (`ThrottleRequests.php:122`) [+]

▾ `Illuminate\Routing\Middleware\ThrottleRequests.handle` (`Pipeline.php:151`)

▾ `Illuminate\Pipeline\Pipeline.Illuminate\Pipeline\{closure}` (`Pipeline.php:53`)

▾ `Illuminate\Routing\Pipeline.Illuminate\Routing\{closure}` (`Pipeline.php:104`)

▾ `Illuminate\Pipeline\Pipeline.then` (`Router.php:667`)

▾ `Illuminate\Routing\Router.runRouteWithinStack` (`Router.php:642`)

▾ `Illuminate\Routing\Router.runRoute` (`Router.php:608`)

▾ `Illuminate\Routing\Router.dispatchToRoute` (`Router.php:597`)

`Illuminate\Routing\Router.dispatch` (`Kernel.php:176`)

Exception message  
"Too many attempts"  
shown

# Implications

The screenshot shows the SPLaSK (Sistem Pemantauan Laman Web dan Servis Kerajaan) dashboard. The top navigation bar includes the user 'pentester\_admin' (MAMPU Administrator) and a 'Logout' button. The main content area is divided into several sections:

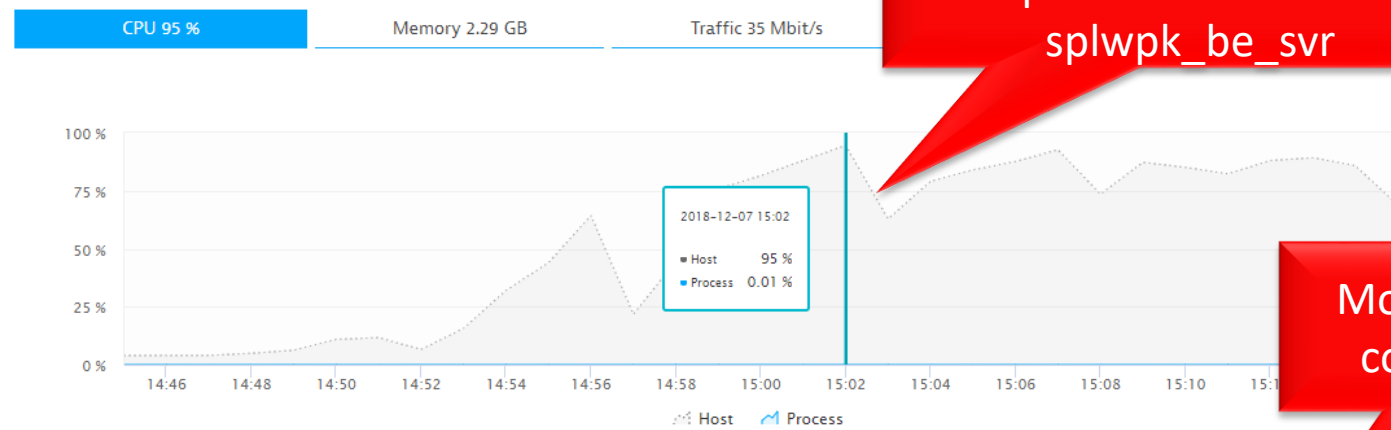
- Summary Cards:** Four cards showing counts for WEBSITES, SERVICES, AGENCIES, and USER, all of which are 0. Each card has a 'Show More' link.
- Filters:** Dropdown menus for MINISTRY (set to '-All Ministries-'), AGENCY (set to '-All Agencies-'), and YEAR (set to 2018). There are 'Reset' and 'Report' buttons below the filters.
- Prioritization Matrix:** A 2x2 matrix with 'Compliance Of Dimension' on the y-axis. The quadrants are labeled: 'Areas to Maintain' (top-left), 'Strength to Build on' (top-right), 'Secondary Priority' (bottom-left), and 'Key Priorities for Action' (bottom-right). A legend on the right lists dimensions: Reliability (pink), Responsiveness (yellow), Quality Of Content (blue), Accessibility (orange), Security & Privacy (teal), and Ease Of Use (purple).

A red callout box on the right side of the dashboard contains the text: "Data missing on website, implication of failed requests with error 429".

# High CPU Usage found in Server splwpk\_be\_svr

## Processes

showing values from today, 15:02

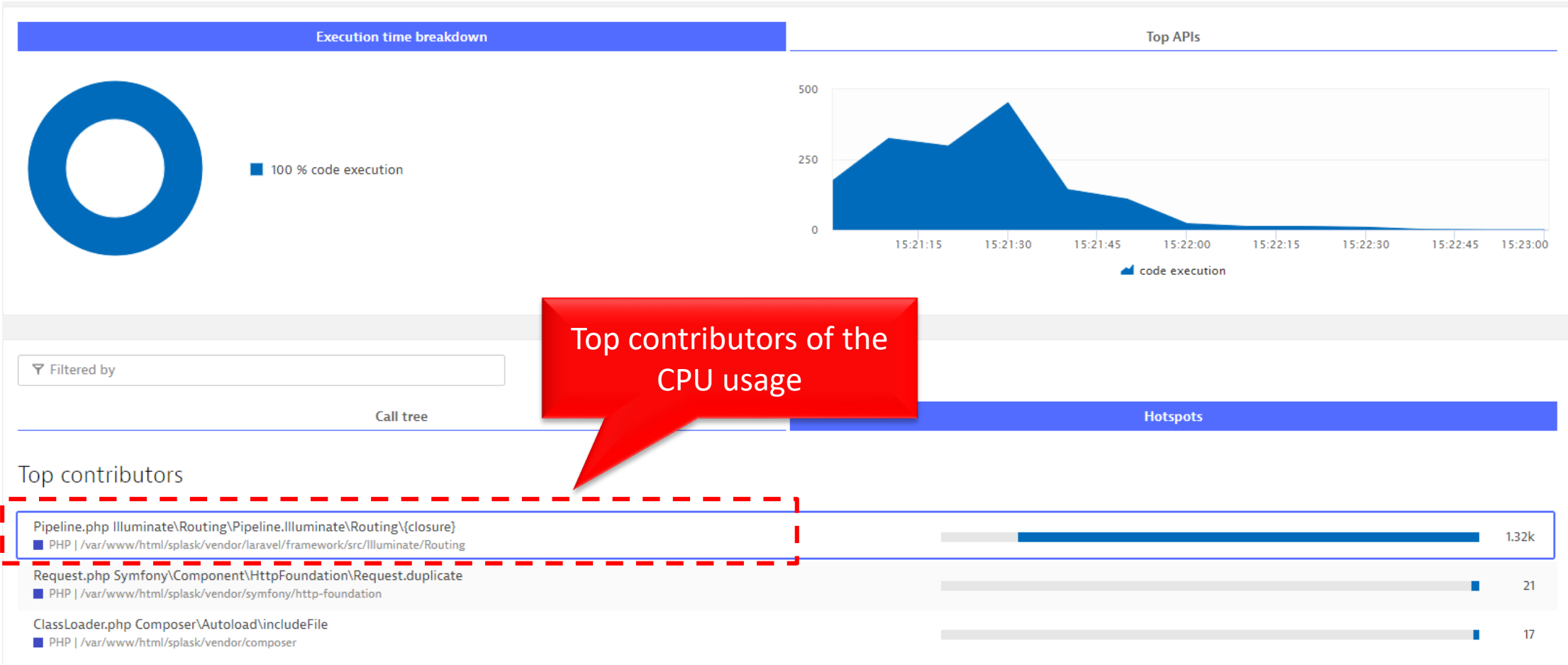


High CPU usage was spiked up to 95% in server splwpk\_be\_svr

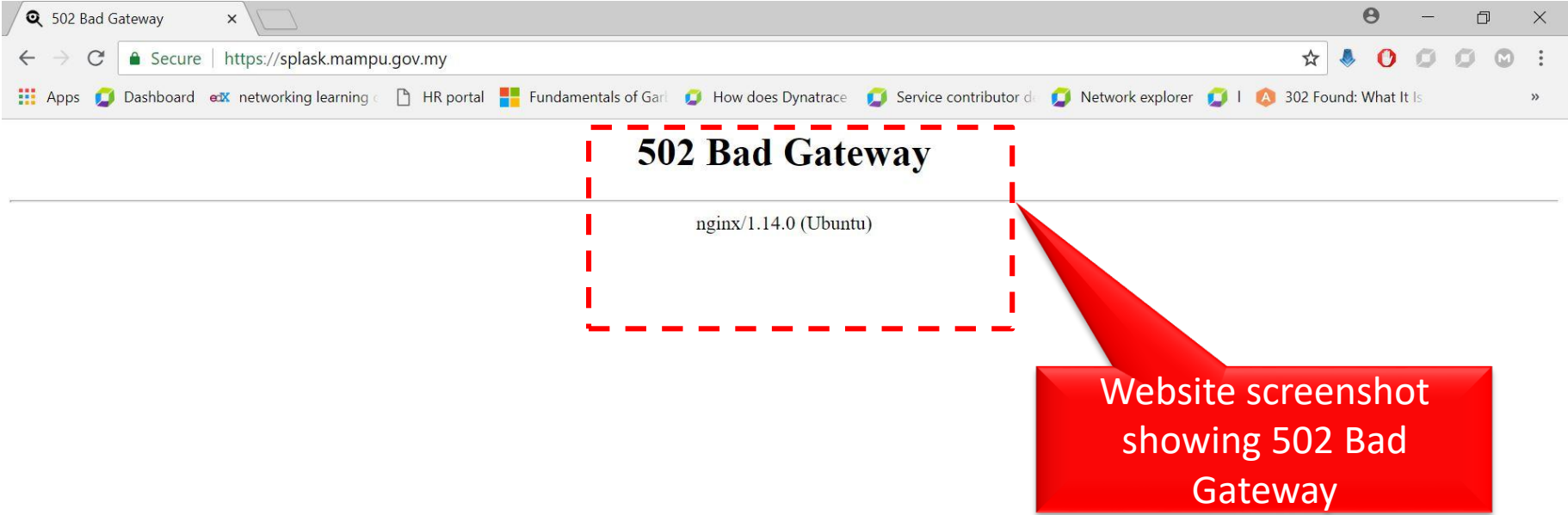
Most of the CPU resource consumed by PHP-FPM

Process	Type	CPU	Memory	Traffic	Retransmissions	Connectivity
PHP-FPM	PHP	90 %	489 MB	26.3 Mbit/s	0 %	100 %
nginx	Nginx	0.66 %	130 MB	2.69 Mbit/s	0 %	100 %
OneAgent network monitoring	Dynatrace	0.53 %	50.6 MB	-	-	-
OneAgent system monitoring	Dynatrace	0.23 %	55.8 MB	8.39 kbit/s	0 %	100 %
OneAgent log analytics	Dynatrace	0.07 %	17.3 MB	3.72 kbit/s	0 %	100 %
PHP-CLI	PHP	0.06 %	87.4 MB	-	-	-
ruby	Ruby	0.04 %	1.18 GB	-	-	-

# CPU Usage Hotspots in PHP-FHM



# Implication



## SISTEM PENGURUSAN KERJAYA SEKTOR AWAM (SPK)



Sistem Pengurusan Kerjaya Sektor Awam atau dikenali sebagai SPK dibangunkan bertujuan untuk :

- ✓ Mengukuhkan pengurusan sumber manusia dengan menambahbaik skim semasa personel ICT dari mula lantikan sehingga penamatan perkhidmatan supaya pengurusan dan kemajuan kerjaya adalah lebih komprehensif;
- ✓ Mengukuhkan kemajuan kerjaya dengan pengwujudan sistem pengurusan dan perancangan kemajuan kerjaya personel ICT yang sistematik;
- ✓ Mengurus dan mengiktiraf personel ICT profesional yang berkemampuan, berprestasi tinggi serta berdaya saing; dan
- ✓ Mengukuhkan tadbir urus dan pengurusan perkhidmatan ICT di peringkat agensi pusat dan agensi sektor awam.

Untuk sebarang pertanyaan, aduan dan keterangan lanjut, sila hubungi pihak usus setia melalui e-mel di alamat [spk\\_admin\[at\]mampu.gov.my](mailto:spk_admin[at]mampu.gov.my)

[LOG MASUK SISTEM](#)

### MAKLUMAT TERKINI

#### Kemaskini Data HRMIS

Fungsi 'Kemaskini Data HRMIS' ditutup buat sementara waktu sehingga kerja-kerja penstrukturan kod organisasi HRMIS selesai  
01/10/2019

#### SPK - Aplikasi Sistem Pengurusan Kerjaya

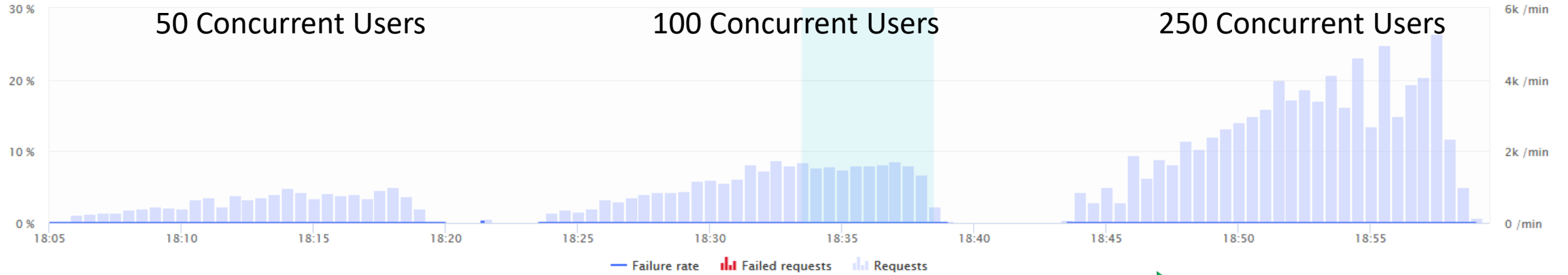
SPK hanya boleh dilayari menggunakan Google Chrome dan Mozilla Firefox dengan paparan resolusi 1024x768.

07/05/2019



# Failure Rate ( Catalina/localhost (/spk2) )

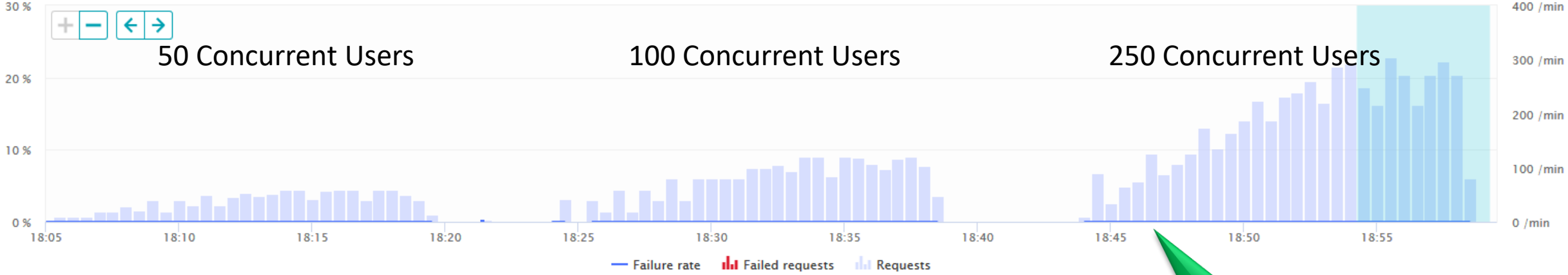
Failure rate



No failure occurred

# Failure Rate (hrmis-integration (/hrmis))

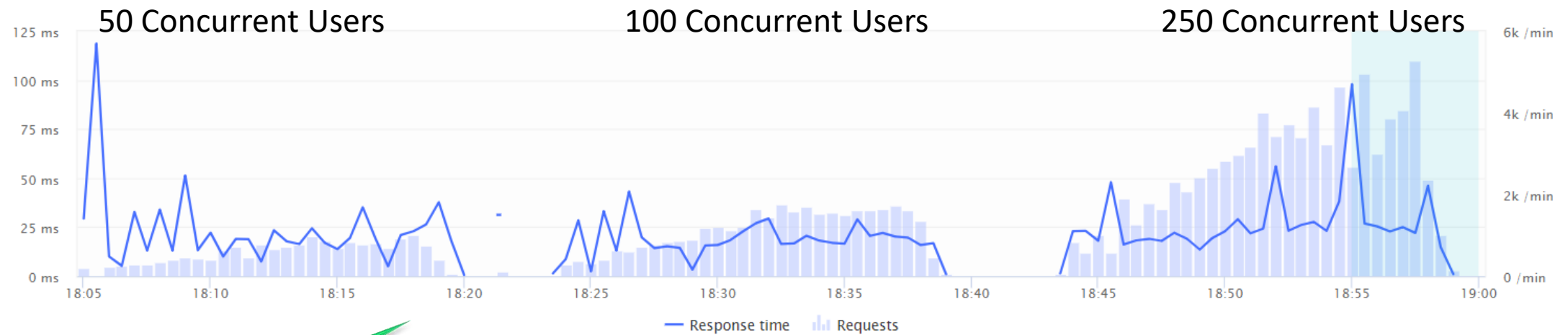
Failure rate



No failure occurred

# Response Time ( Catalina/localhost (/spk2) )

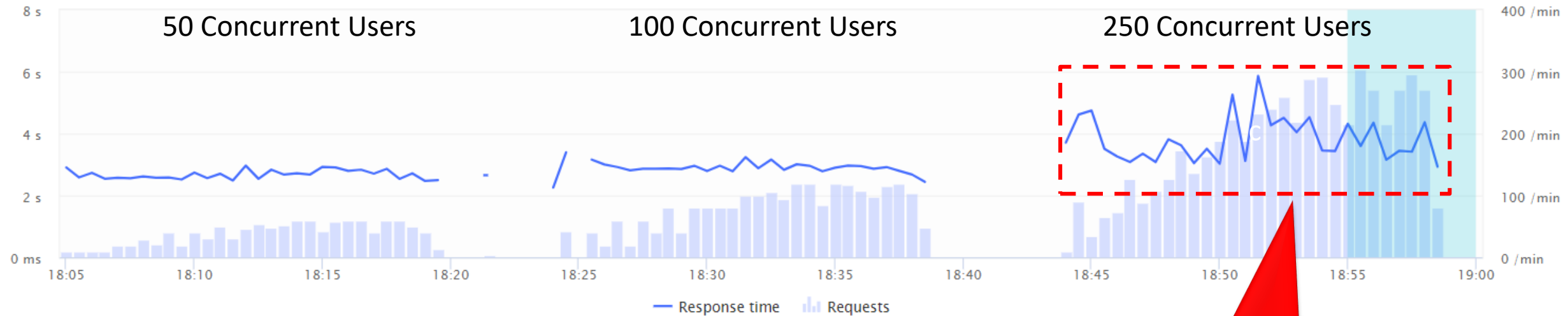
Response time



Low response time observed on the frontend

# Response Time (hrmis-integration (/hrmis))

Response time



Response time spikes up to 6s on hrmis-integration service

# PurePaths Detail

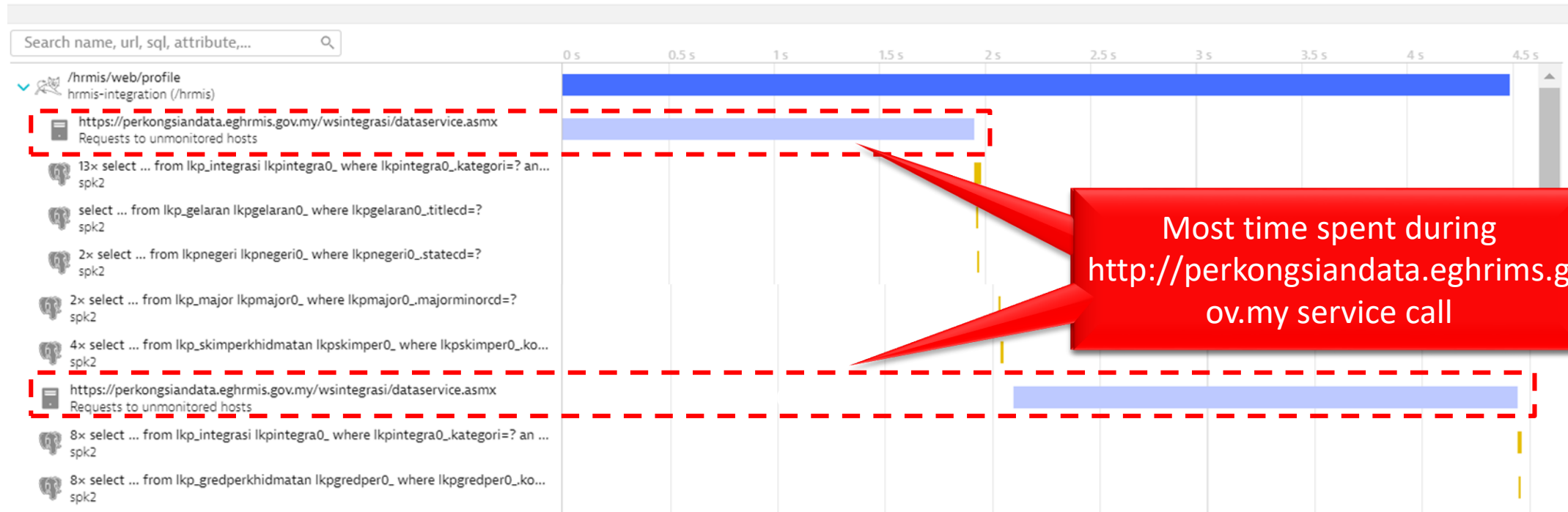
## 'hrmis-integration (/hrmis)' PurePath

Start time  
2018 December 20 18:53:56  
Response time  
4.49 s  
Total processing time  
4.49 s

### Breakdown of PurePath processing time



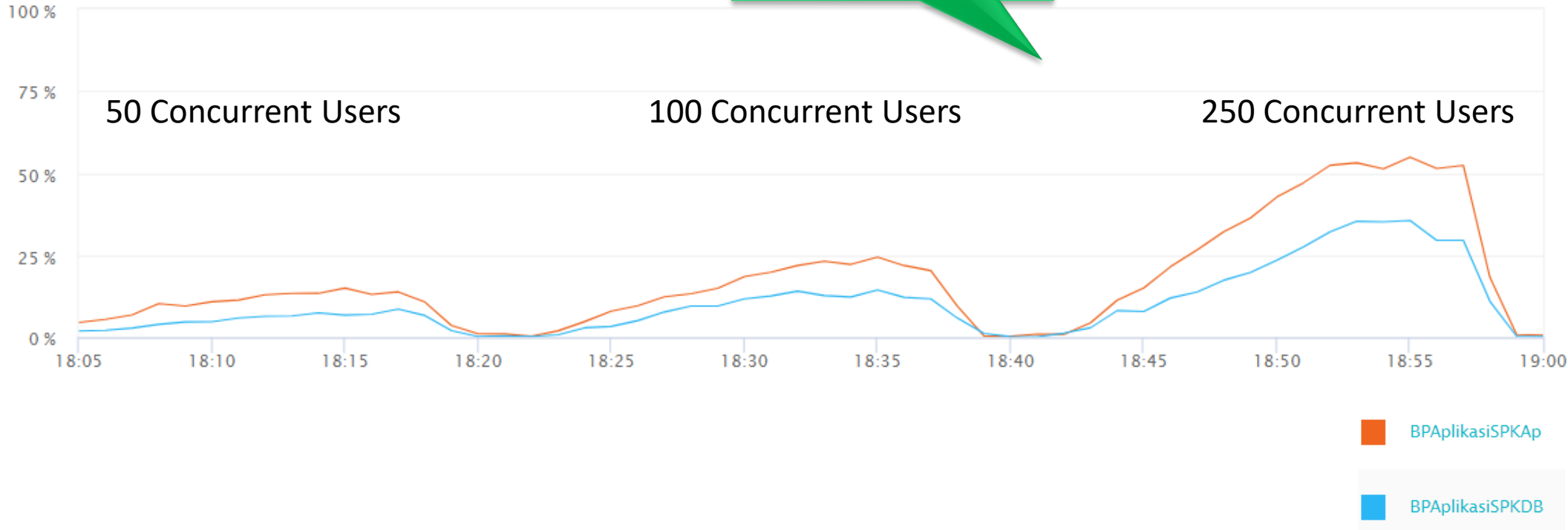
### Top findings



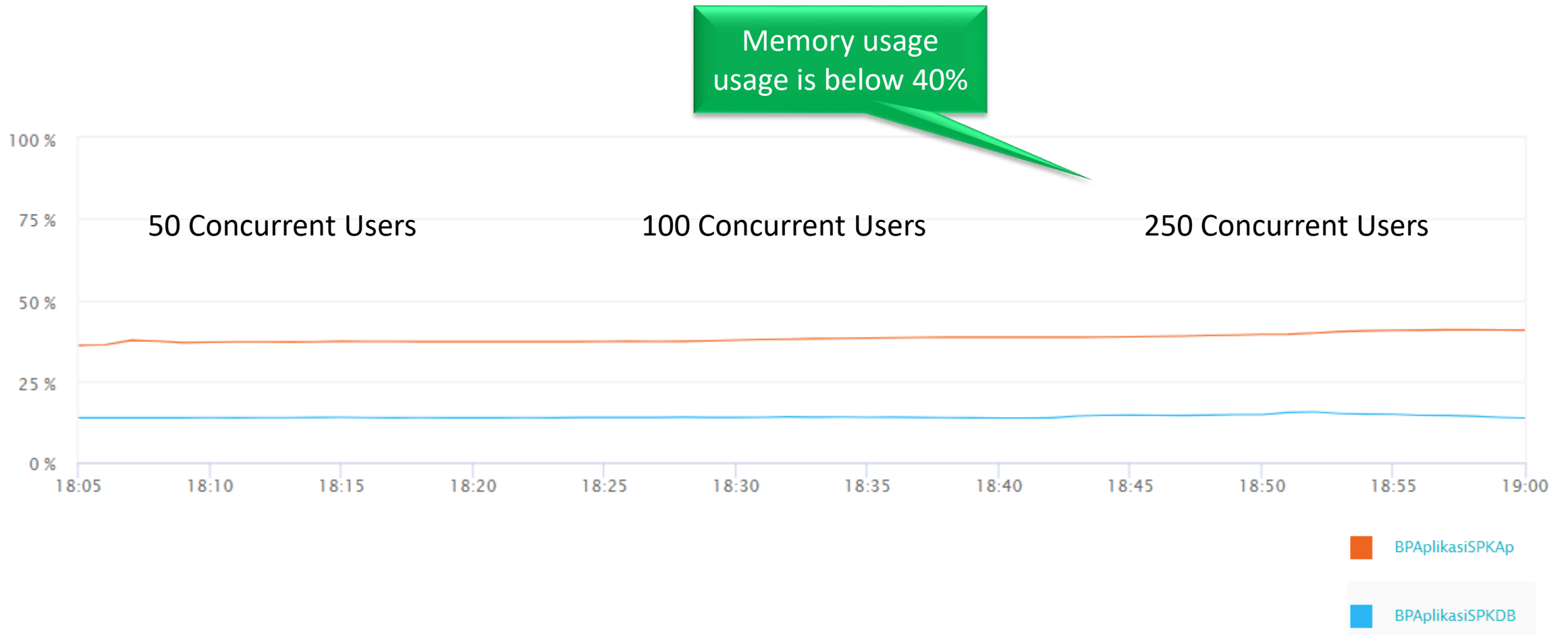
Most time spent during [http://perkongsiantdata.eghrmis.gov.my](http://perkongsiantdata.eghrmis.gov.my/wsintegrasi/dataservice.asmx) service call

# CPU usage

CPU usage is below 55%



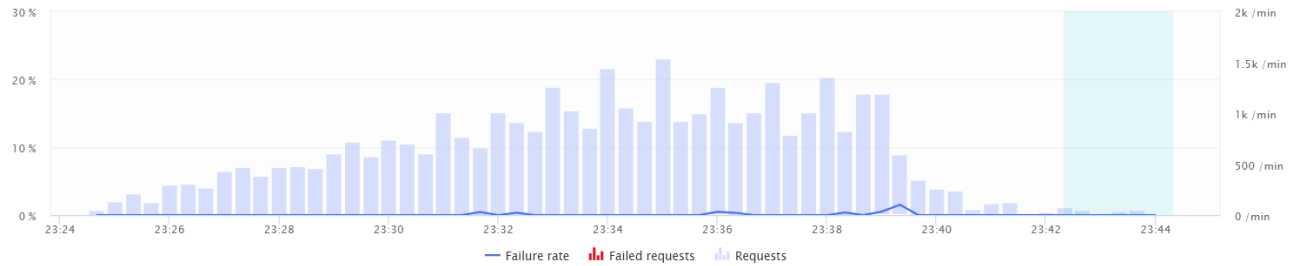
# Memory usage



# Failure rate Catalina/localhost (/spk2)

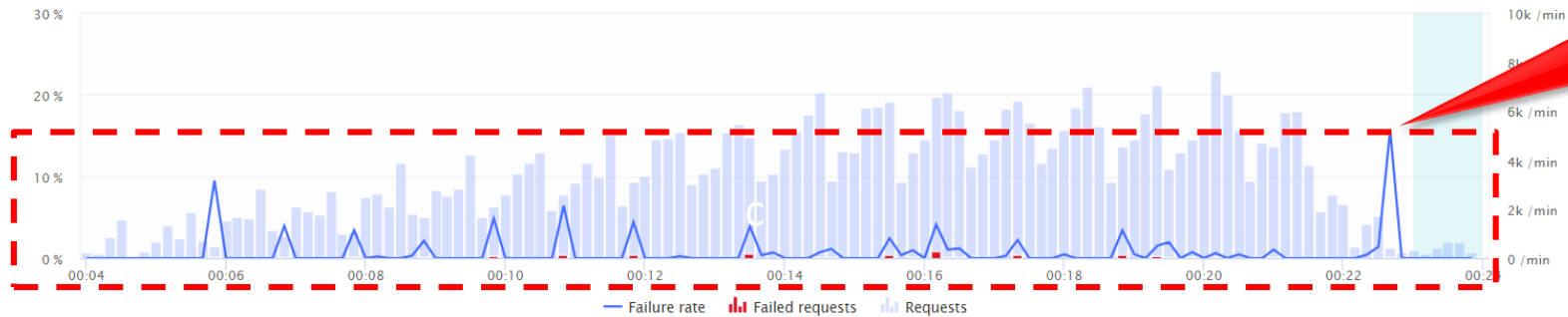
## 100 Concurrent Users

Failure rate



## 500 Concurrent Users

Failure rate



Failure rate observed on second iteration



# HTTP 5xx Catalina/localhost (/spk2)

HTTP errors



HTTP 5xx observed

# Failed requests

Requests that failed with HTTP 500 - Internal Server Error

	Failed requests ▼
/spk2/spk2/penglibatanProjek	239
/spk2/spk2/newLaporanKepakaranIndividu	48
/spk2/spk2/profilePegawai	37

List of failed requests

# Failed SQL queries

These specific requests of `spk2-pls` failed with "org.postgresql.util.PSQLException":

```
select this_id_kriteria as id1_58_0, this_id_kategori as id2_58_0, this_jenis as jenis58_0, this_min as min58_0, this_maks as maks58_0, this_nama as nama58_0, this_markah as markah58_0, this_status as status58_0 from public.lkp_kriteria this_ where this_id_kriteria in (?, ?)
```

```
select this_id_pengiktirafan_kerja as id1_157_1, this_id_profil_pegawai as id2_157_1, this_peringkat_pengiktirafan_kerja as peringkat3_157_1, this_bidang as bidang157_1, this_nama_pengiktirafan_kerja as nama5_157_1, this_date_pengiktirafan_kerja as date6_157_1, this_institusi_pengiktirafan_kerja as institusi7_157_1, this_image_pengiktirafan_kerja as image8_157_1,
```

```
select this_id_sumbangan as id1_132_1, this_peringkat_sumbangan as peringkat2_132_1, this_id_profil_pegawai as id3_132_1, this_bidang as bidang132_1, this_nama_sumbangan as nama5_132_1, this_tarikh_mula as tarikh6_132_1, this_tarikh_akhir as tarikh7_132_1, this_lokasi as lokasi132_1, this_nama_lokasi_negeri as nama9_132_1, this_nama_lokasi_negara as nama10_132_1, this_tajaan as tajaan132_1, this_tajaan_keterangan as tajaan12_132_1, this_draftflag_sumbangan as draftflag13_132_1, this_image_sumbangan as image14_132_1, this_image_sumbangan_date_created as image15_132_1, this_image_sumbangan_filename as image16_132_1, this_image_sumbangan_filesize as image17_132_1, this_image_sumbangan_rename as image18_132_1, profil1_id_profil_pegawai as id1_40_0, profil1_jabatan as jabatan40_0, profil1_negarapejabat as negarape3_40_0, profil1_statusbumi as statusbumi40_0, profil1_negaralahir as negarala5_40_0, profil1_negeripejabat as negeripe6_40_0, profil1_kementerian as kementerian7_40_0, profil1_agama as agama40_0, profil1_statuskahwin as statuska9_40_0, profil1_jantina as jantina40_0, profil1_negerilahir as negeril11_40_0, profil1_nama as nama40_0, profil1_gelaran as gelaran40_0, profil1_pangkat as pangkat40_0, profil1_tarikhlahir as tarikh115_40_0, profil1_umur as umur40_0, profil1_notelbimbit as notelbi17_40_0, profil1_email as email40_0, profil1_no_ic as no19_40_0, profil1_alamatpejabat as alamatp20_40_0, profil1_poskodpejabat as poskodp21_40_0, profil1_notelpejabat as notelpe22_40_0, profil1_tops_flag as tops23_40_0, profil1_deleteflag as deleteflag40_0, profil1_peribadi_draftflag as peribadi25_40_0, profil1_f_service_draftflag as f26_40_0, profil1_image_gambar as image27_40_0, profil1_image_gambar_date_created as image28_40_0, profil1_image_gambar_filename as image29_40_0, profil1_image_gambar_filesize as image30_40_0, profil1_gred_gaji as gred31_40_0, profil1_status_lantikan as status32_40_0, profil1_tarikh_dalam_khidmat as tarikh33_40_0 from public.a_sumbangan this_ inner join public.a_profilpegawai profil1_ on this_id_profil_pegawai=profil1_id_profil_pegawai where profil1_id_profil_pegawai=? order by this_tarikh_mula desc  
select this_id_trekkepakaran as id1_39_0, this_trek_name as trek2_39_0, this_id_trekutama as id3_39_0, this_trek_flag as trek4_39_0 from public.lkp_trekkepakaran this_ where this_trek_name=? and this_trek_flag=?
```

# Exception message

## Specific exceptions


```
ERROR: current transaction is aborted, commands ignored until end of transaction block
```

## Stacktraces of exceptions

- ▼ org.postgresql.core.v3.QueryExecutorImpl.receiveErrorResponse (QueryExecutorImpl.java:2182) [+]
- ▼ org.postgresql.jdbc.PgStatement.executeUpdate (PgStatement.java:429)
- ▼ org.hibernate.engine.query.NativeSQLQueryPlan.performExecuteUpdate (NativeSQLQueryPlan.java:210) [+]
- ▼ com.mampu.bpi.spk2.server.servlet.PenglibatanProjekServiceImpl.tambahProjek (PenglibatanProjekServiceImpl.java:360)
- ▼ sun.reflect.GeneratedMethodAccessor812.invoke [+]
- ▼ java.lang.reflect.Method.invoke (Method.java:498)

## SISTEM SEMAKAN WANG TAK DITUNTUT (eGUMIS), JANM

The screenshot shows the top navigation bar of the eGUMIS website. It includes a search bar with the URL 'egumis.anm.gov.my', a star icon, an 'ABP' icon, a gear icon, and a 'Paused' button. Below the search bar, there are contact details: a phone number '(603) 2056 8000', an email address 'maklumbalas.tuntutan[at]anm.gov.my', and another email address 'akaun.bwtd[at]anm.gov.my'. There are also links for 'English', 'Log Masuk', and 'Pendaftaran'. The main header features the logo of the 'JABATAN AKAUNTAN NEGARA MALAYSIA' and the 'eGUMIS' logo. A navigation menu includes 'Halaman Utama', 'Serahan', 'Semakan', 'Soalan Lazim', 'Hubungi Kami', and 'Muat Turun'.

 Hebahan

### SERAHAN

Serahan WTD oleh syarikat/firma di bawah Seksyen 8 Akta WTD 1965.

### SEMAKAN

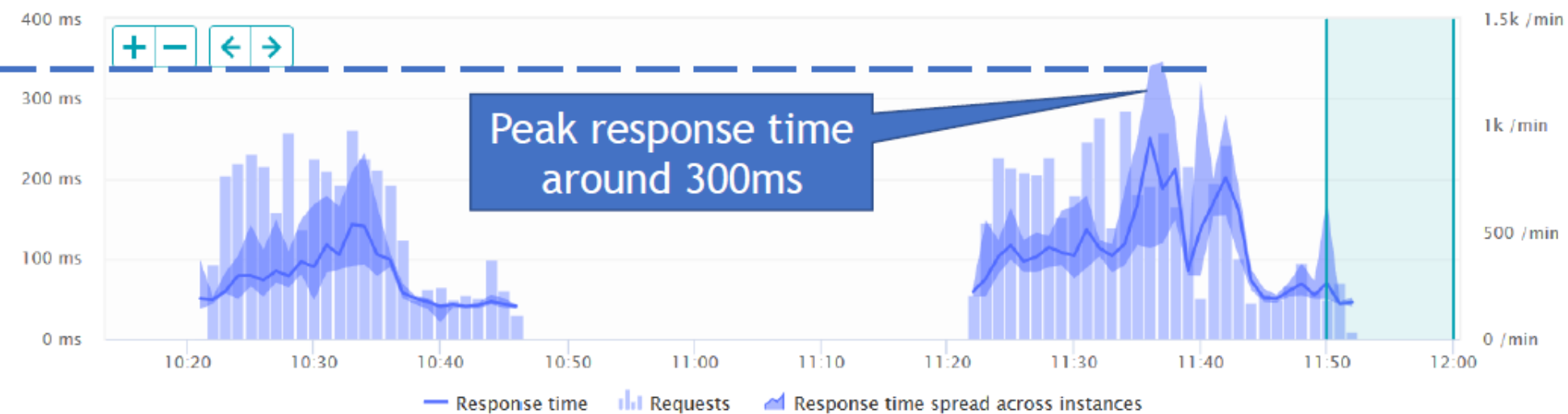
Carian Rekod WTD secara atas talian yang diserahkan oleh pihak Syarikat/Firma.  
Log masuk untuk Carian Rekod dan Tuntutan Wang Tak Dituntut (WTD) secara atas talian.

# #1 /updateProfile response time

Cycle 1

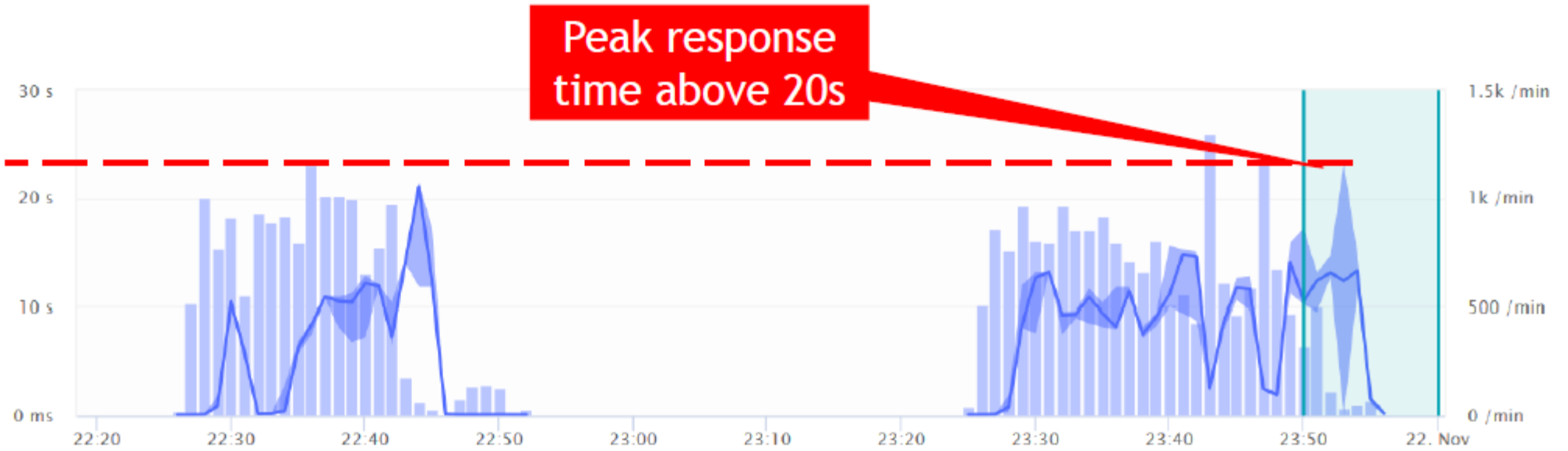


Cycle 2

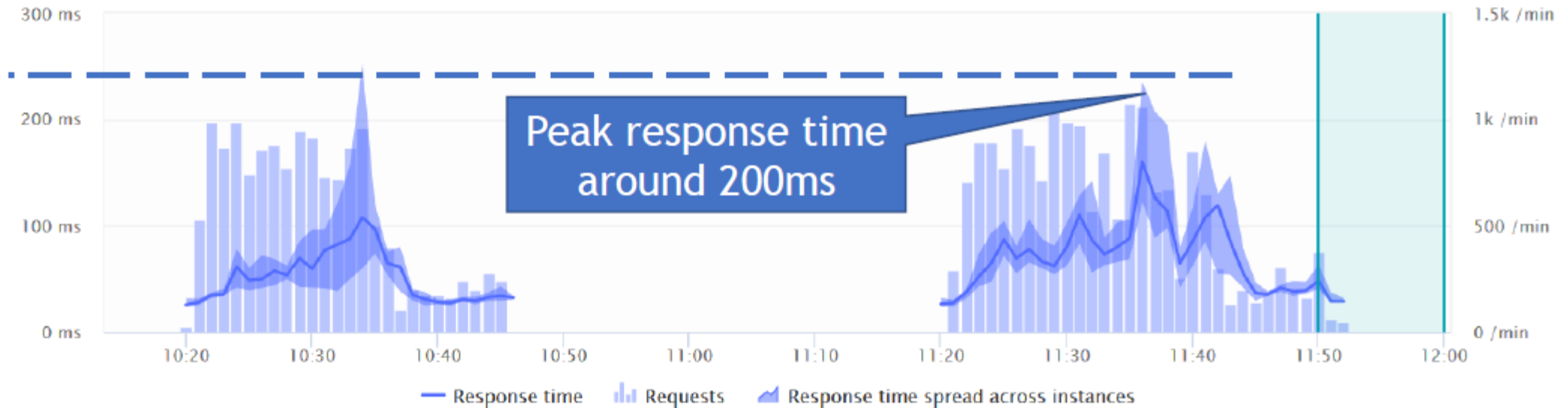


# #3 /register/saverefunduser response time

Cycle 1

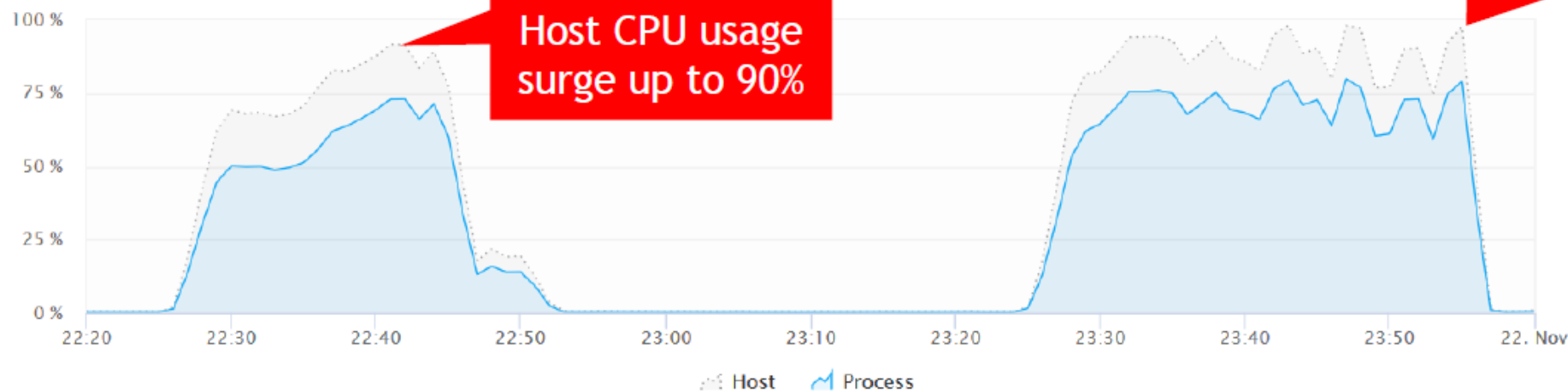


Cycle 2

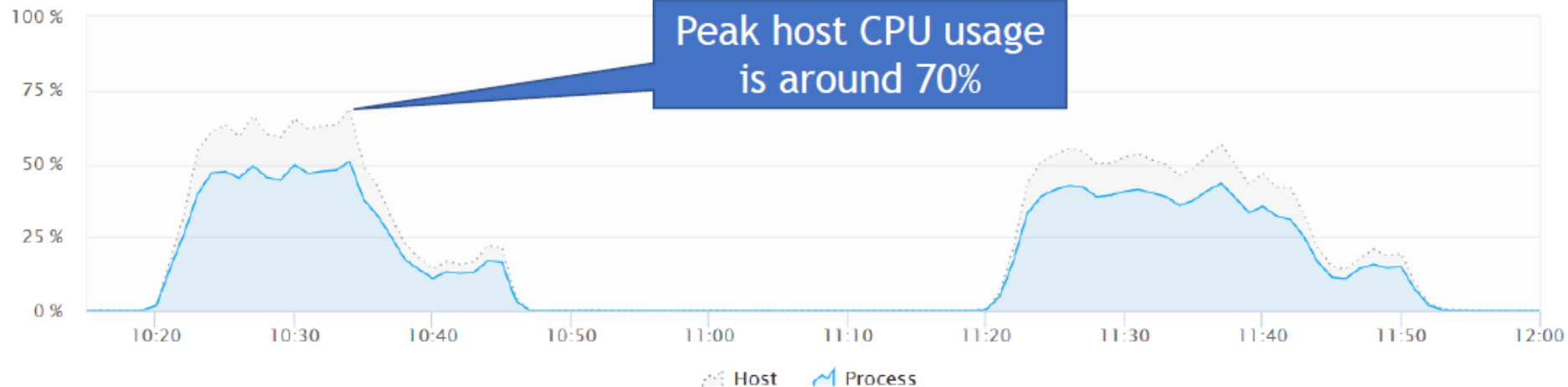


# prd-eg-app02.cluster.local

Cycle 1



Cycle 2





# Database statements' response time

Top database statements' response time are below 2ms

Statement	Response time	Response time	Slowest 10 %
<b>insert into</b> sec_user	1.28 s/min	1.64 ms	9.68 ms
<b>update</b> sec_user	3.92 s/min	1.63 ms	10.6 ms
<b>insert into</b> sec_audit_trail	2.13 s/min	1.53 ms	9.73 ms
<b>insert into</b> sec_audit_log	1.41 s/min	1.47 ms	9.48 ms
<b>insert into</b> app_rfd_search_trx	5 s/min	1.33 ms	8.93 ms



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**TERIMA  
KASIH**