FASA PENGUJIAN

KRISA

PANDUAN KEJURUTERAAN
SISTEM APLIKASI SEKTOR AWAM

BPI BAHAGIAN PERUNDINGAN ICT

PENGUJIAN

PENGUJIAN PRESTASI SISTEM

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

FASA **PENGUJIAN**

TAKLIMAT

01

PENGENALAN
PENGUJIAN PRESTASI DAN KEPENTINGANNYA

OBJEKTIF

- Menerangkan mengenai latarbelakang dan kepentingan melaksanakan pengujian prestasi..

PENGUJIAN PRESTASI (*PERFORMANCE TEST*)

- 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

PENGUJIAN BEBANAN (*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 For You News Business Sport Metro Lifestyle Food Tech Education Opinion Vid

NATION

Wednesday, 20 Nov 2019

By MENG YEW CHOONG

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.

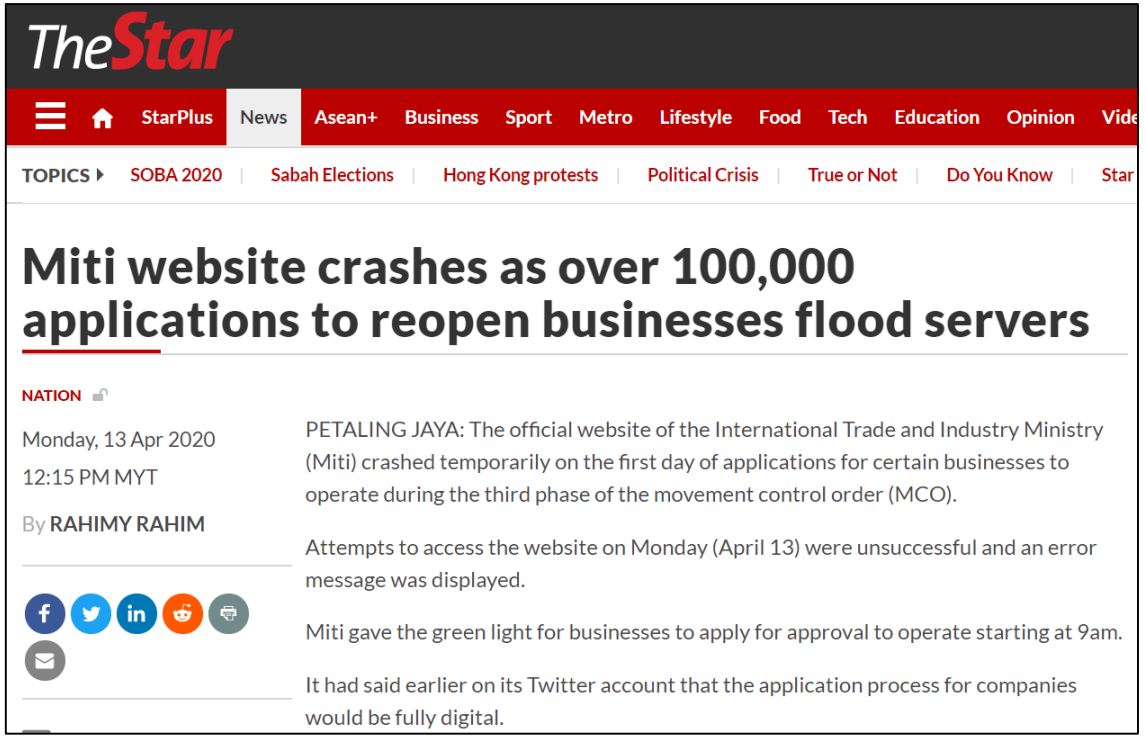
The KVDT rehabilitation is a massive project that had caused severe disruption to KTMB's services running within the Klang Valley over the past few years as cargo, intercity, Komuter and ETS trains share either a pair of tracks and at work bottlenecks, only a single track.

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

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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.

6:22

AA application.miti.gov.my

Kementerian Perdagangan Antarabangsa Dan Industri

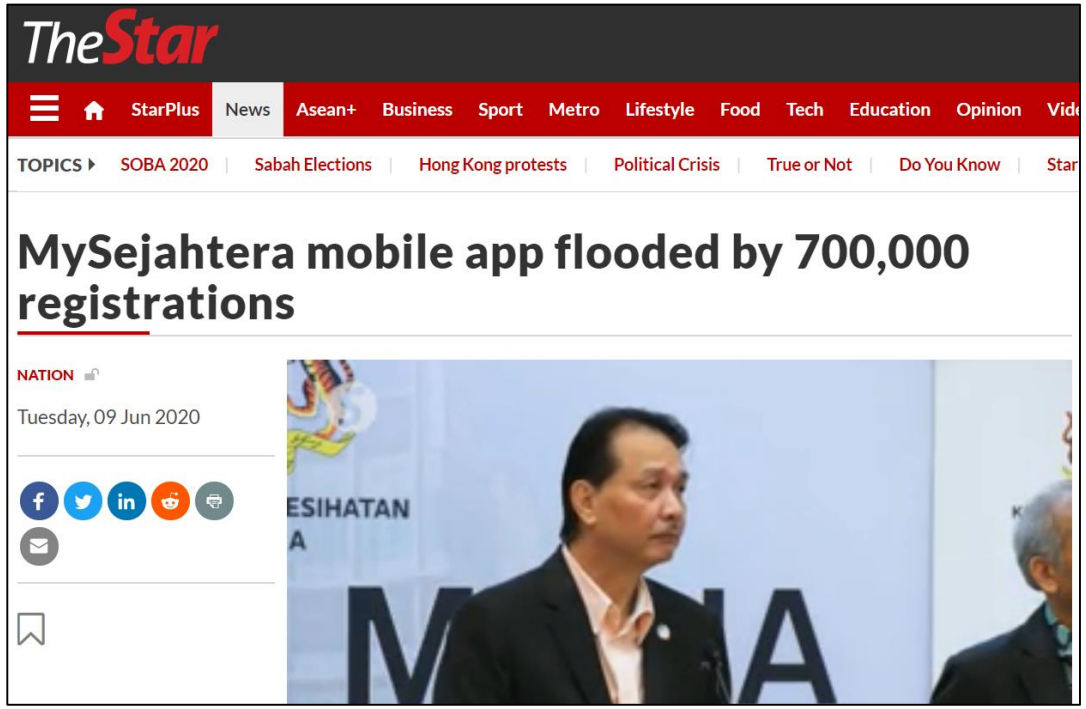
Ralat 500

Aliran trafik sangat tinggi, sila cuba sebentar lagi.

Kembali ke laman utama

KEPENTINGAN PENGUJIAN PRESTASI

c. Unexpected Traffic Volume



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

MySejahtera mobile app flooded by 700,000 registrations

NATION

Tuesday, 09 Jun 2020

KEPENTINGAN PENGUJIAN PRESTASI

c. Unexpected Traffic Volume

astro AWANI | BERITA | FOTO | VIDEO | LIVE TV | RANCANGAN | APPS | LAGI...

MALAYSIA | DUNIA | BISNES | SUKAN | HIBURAN | TEKNOLOGI | GAYA HIDUP | POLITIK | PERSPEKTIF

BERITA | MALAYSIA

Ratusan penumpang terjejas akibat masalah sistem AirAsia

Bernama | 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 system 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.

Sinar Harian
8 mins ·

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.

— RAMAI TAK PUAS HATI PEPERIKSAAN ONLINE SPA —

KEPENTINGAN PENGUJIAN PRESTASI

e. Launching new application

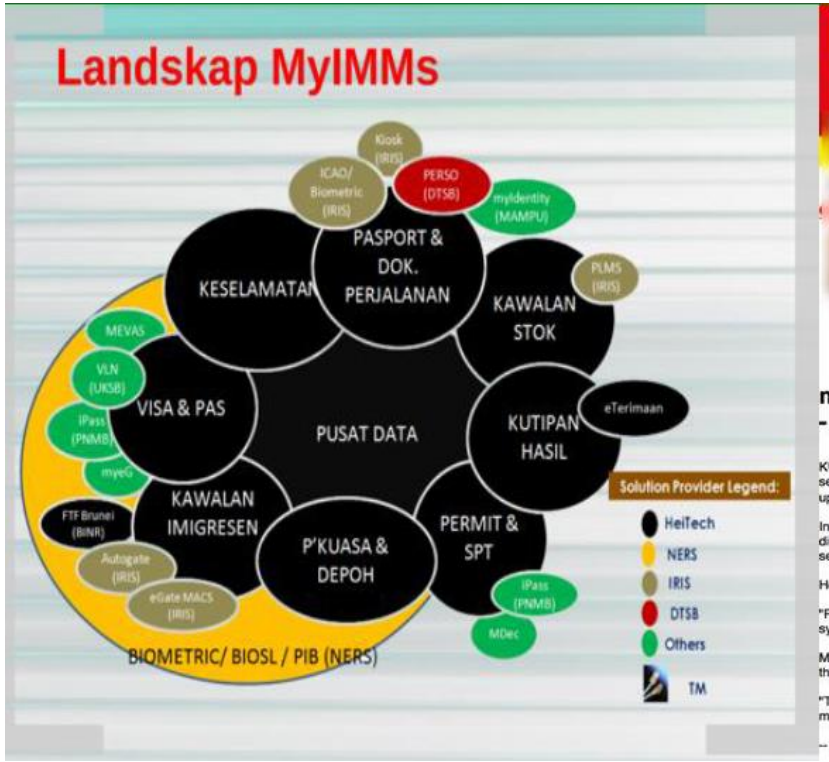
E-Procurement

A system that allows the Government to conduct procurement activities electronically

11

KEPENTINGAN PENGUJIAN PRESTASI

e. Launching new application



BERNAMA.com

English | Malay | Mandarin | عربي | Español

myIMMs System Disrupted Since Wednesday - Immigration Department

KUALA LUMPUR, Nov 20 (Bernama) -- The myIMMs system which supports the main services of the Immigration Department has been disrupted since Nov 18, due to upgrading and streamlining of data.

In a statement issued here today, director-general Datuk Seri Mustafa Ibrahim said the disruption had caused the myIMMs system not to function online, affecting its main services in all branches nationwide.

However, he said these main services were still operational offline and manually.

"Renewal and streamlining of data are the department's efforts to improve the system's security features and efficiency.

Mustafa advised the public to go to the department early and not at the last minute for the services.

"The department apologises for the inconveniences incurred by customers. Preventive measures are being taken to prevent a recurrence."

-- BERNAMA

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

- 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

TAKLIMAT 02

KAEDAH MELAKSANAKAN PENGUJIAN PRESTASI

OBJEKTIF

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

MASA YANG SESUAI MELAKUKAN PENGUJIAN PRESTASI

- **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*)

- **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*)

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.	**BizTxn 1:** Kemaskini Bidang Pengkhususan	10	10	50	100	200
2.	**BizTxn 2:** Tambah Penglibatan Projek	30	30	150	300	600
3.	**BizTxn 3:** Senarai, Papar dan Kemaskini Penglibatan Projek	30	30	150	300	600
4.	**BizTxn 4:** Laporan	30	30	150	300	600
	Total	**100**	**100**	**500**	**1000**	**2000**

PELAKSANAAN PENGUJIAN PRESTASI (CONTOH – CYCLE 2)

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

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

KRITERIA PENILAIAN PENGUJIAN PRESTASI

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

TOOLS PENGUJIAN PRESTASI

AMALAN TERBAIK PENGUJIAN PRESTASI

Performance Test Tools

NeoLoad

APACHE JMeter™

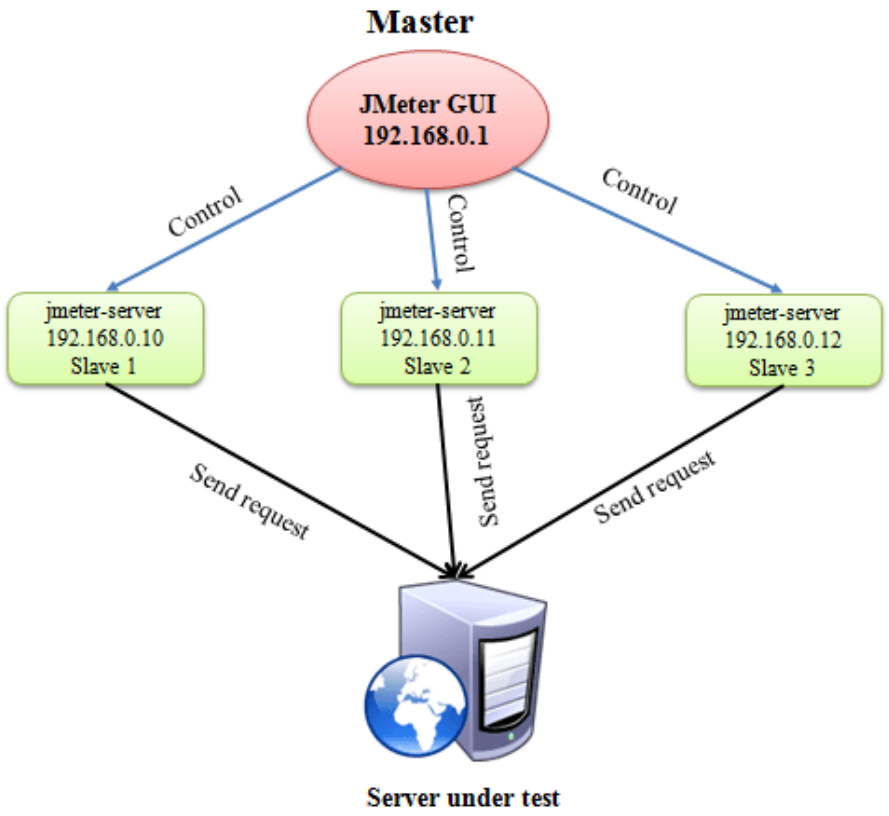
+

Application Performance Monitoring Tools

dynatrace

- Using Artificial Intelligent to analyze root cause of problem

CONTOH KAEDAH PENGUJIAN PRESTASI - JMETER



TAKLIMAT 03

SKOP PENGUJIAN PRESTASI

OBJEKTIF

- Menerangkan mengenai semasa melaksanakan pengujian prestasi sistem.

SKOP PENGUJIAN

- 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

- 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

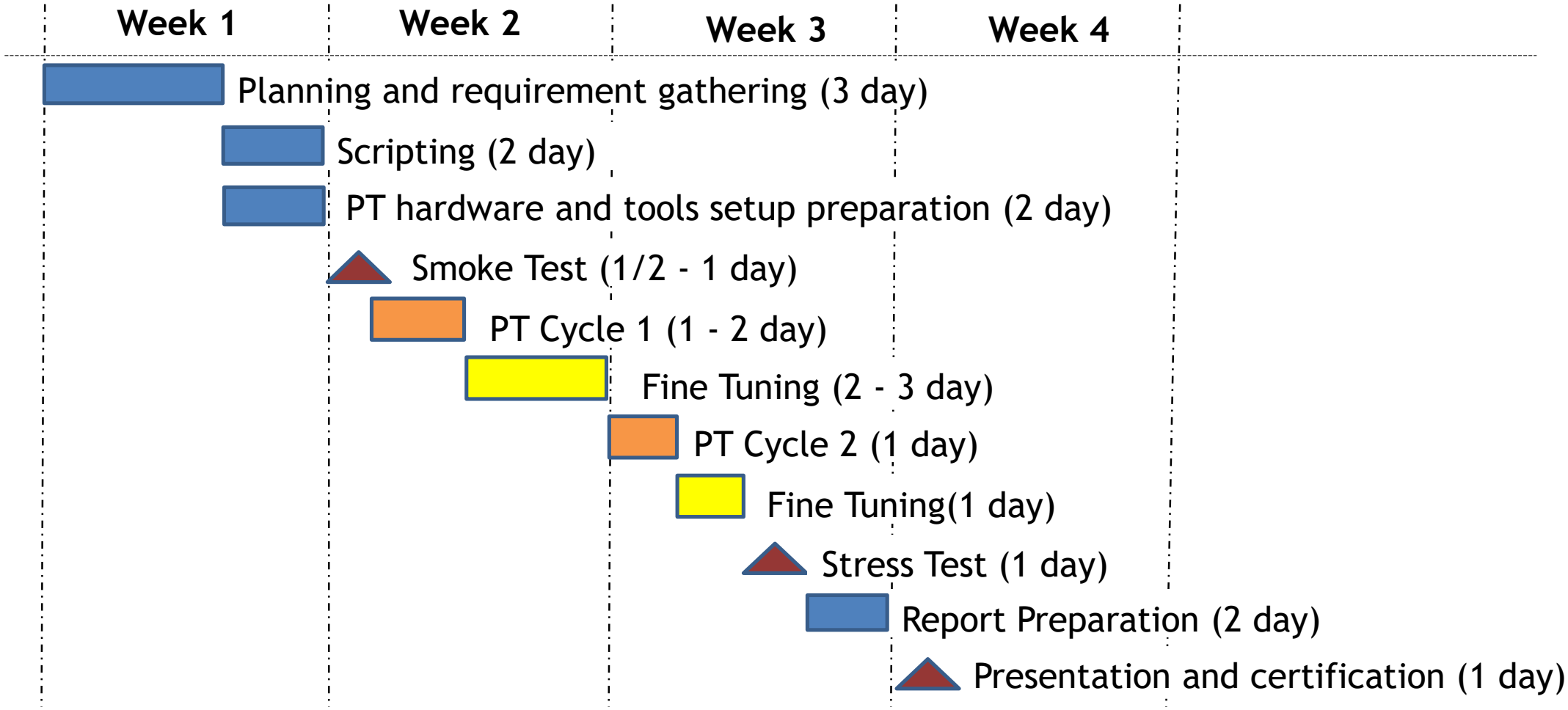
TAKLIMAT
04

CADANGAN JADUAL PENGUJIAN PRESTASI

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

- 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

FASA **PENGUJIAN**

TAKLIMAT

05

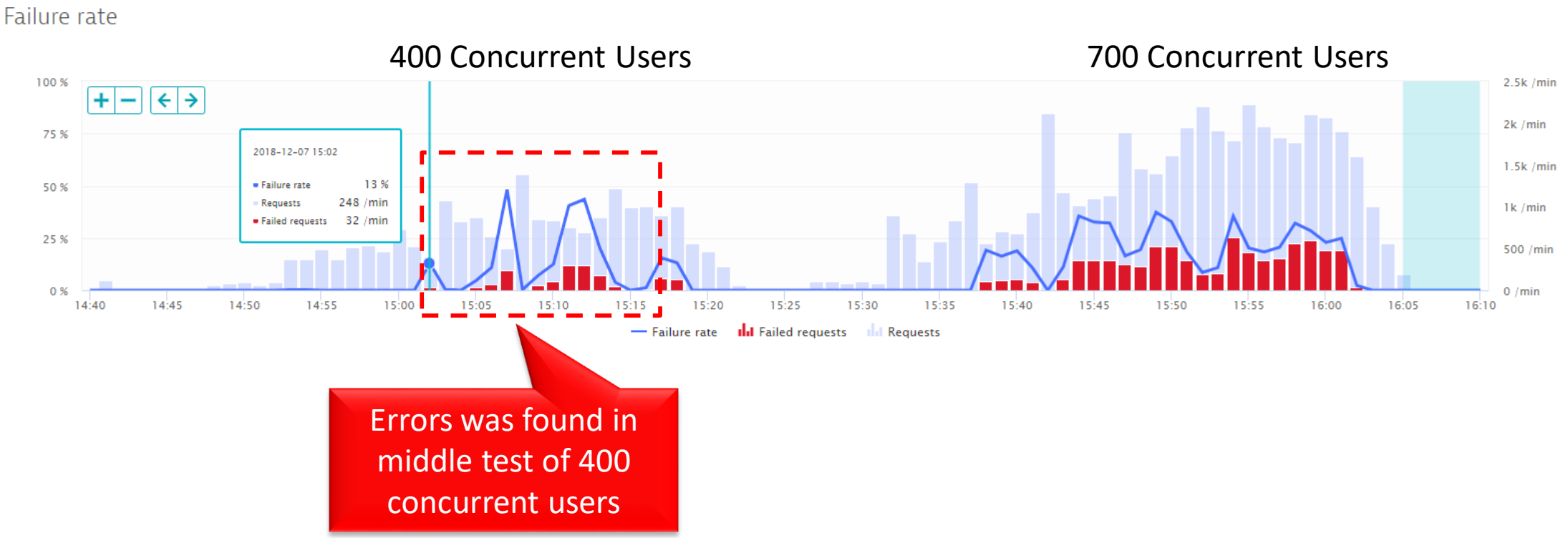
PERKONGSIAN PENGALAMAN PENGUJIAN PRESTASI OLEH MYTCOE, MAMPU

OBJEKTIF

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

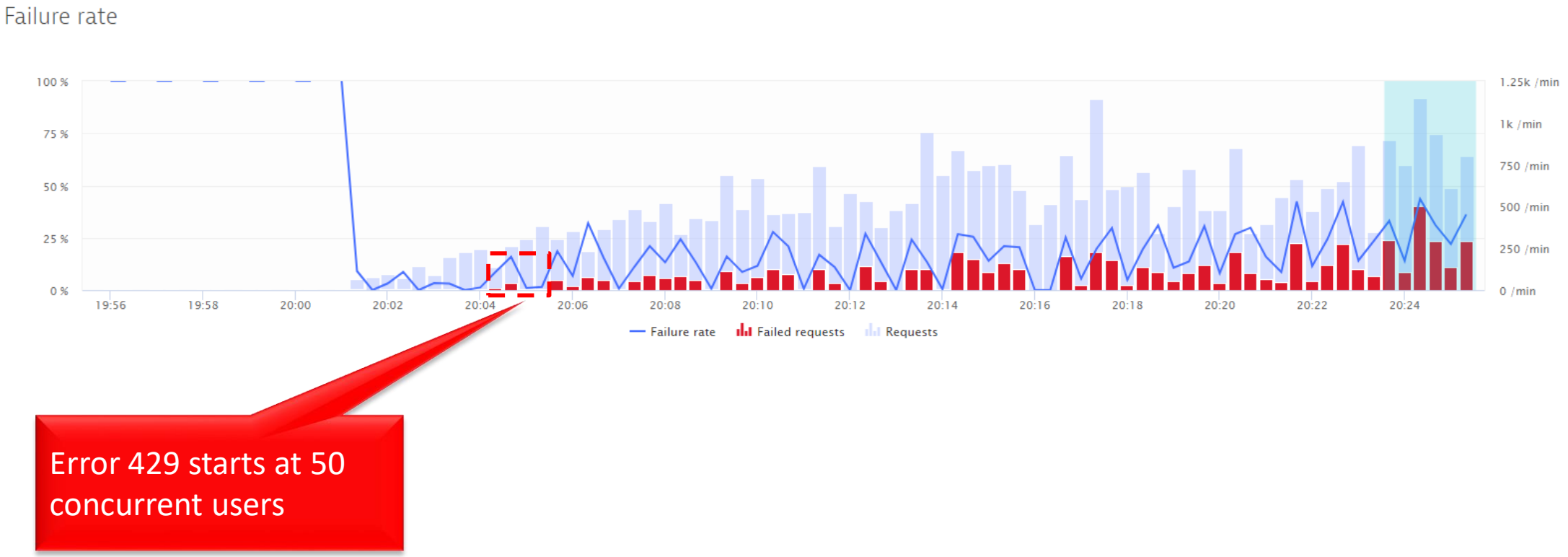
SISTEM PEMANTAUAN LAMAN WEB DAN SERVIS KERAJAAN (SPLASK)

Failure Rate

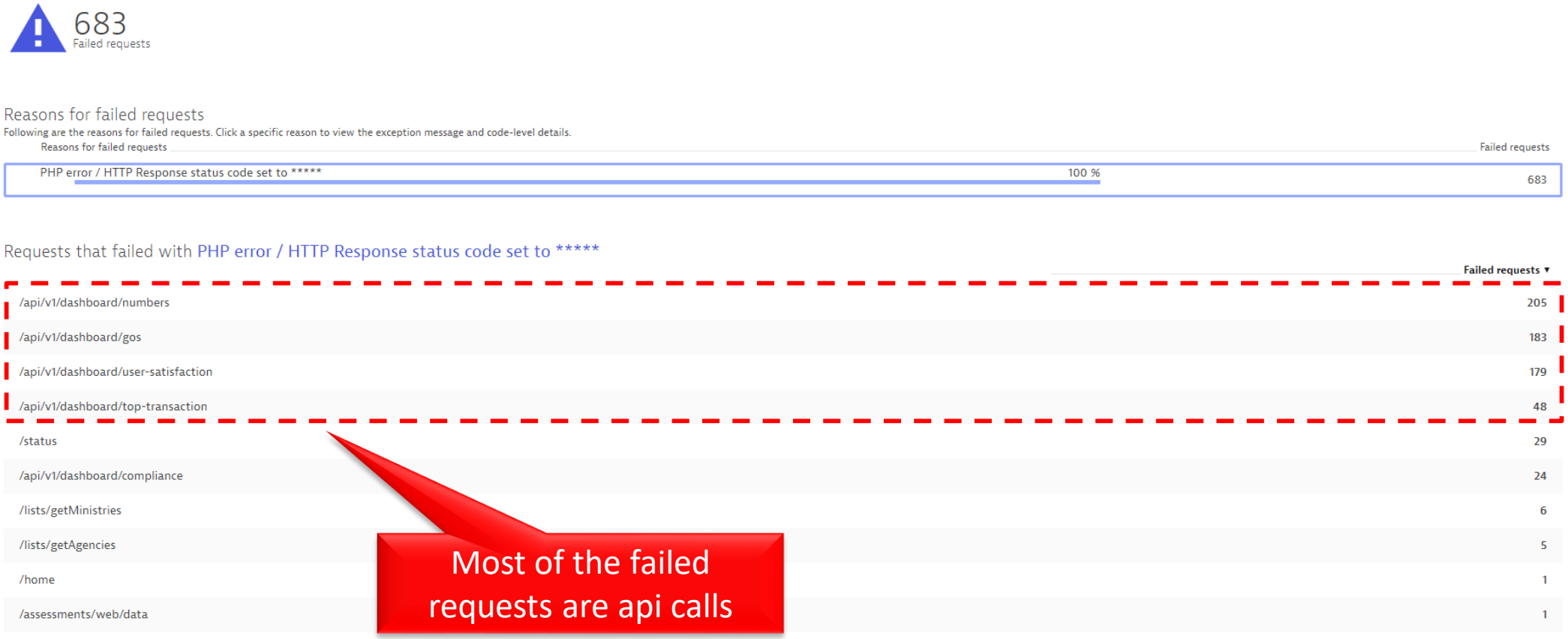


Errors was found in middle test of 400 concurrent users

Failures in App Tier (PHP on FPM pool www)



Failed requests in App Tier



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

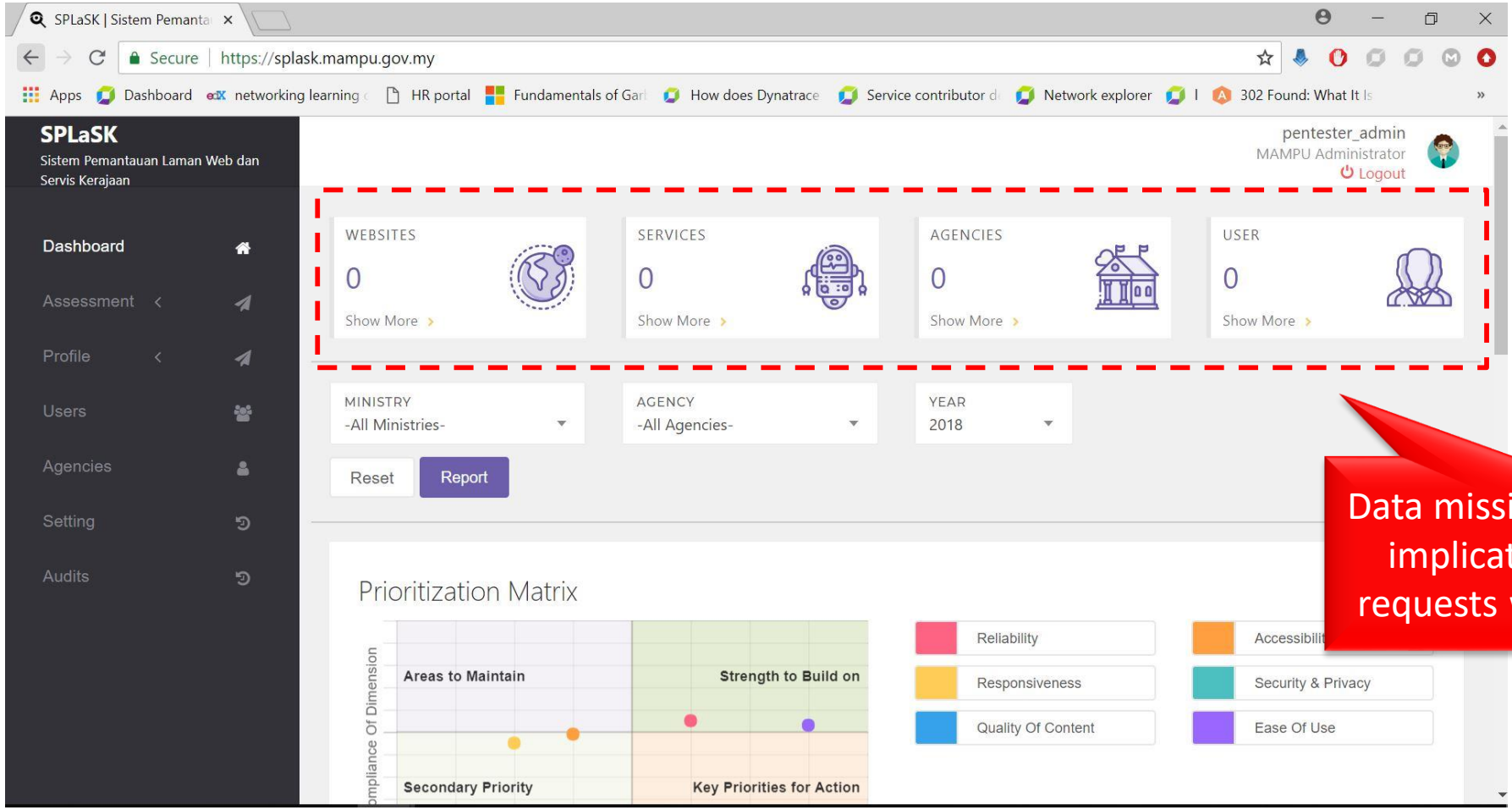
Too Many Attempts.

Stacktraces of exceptions

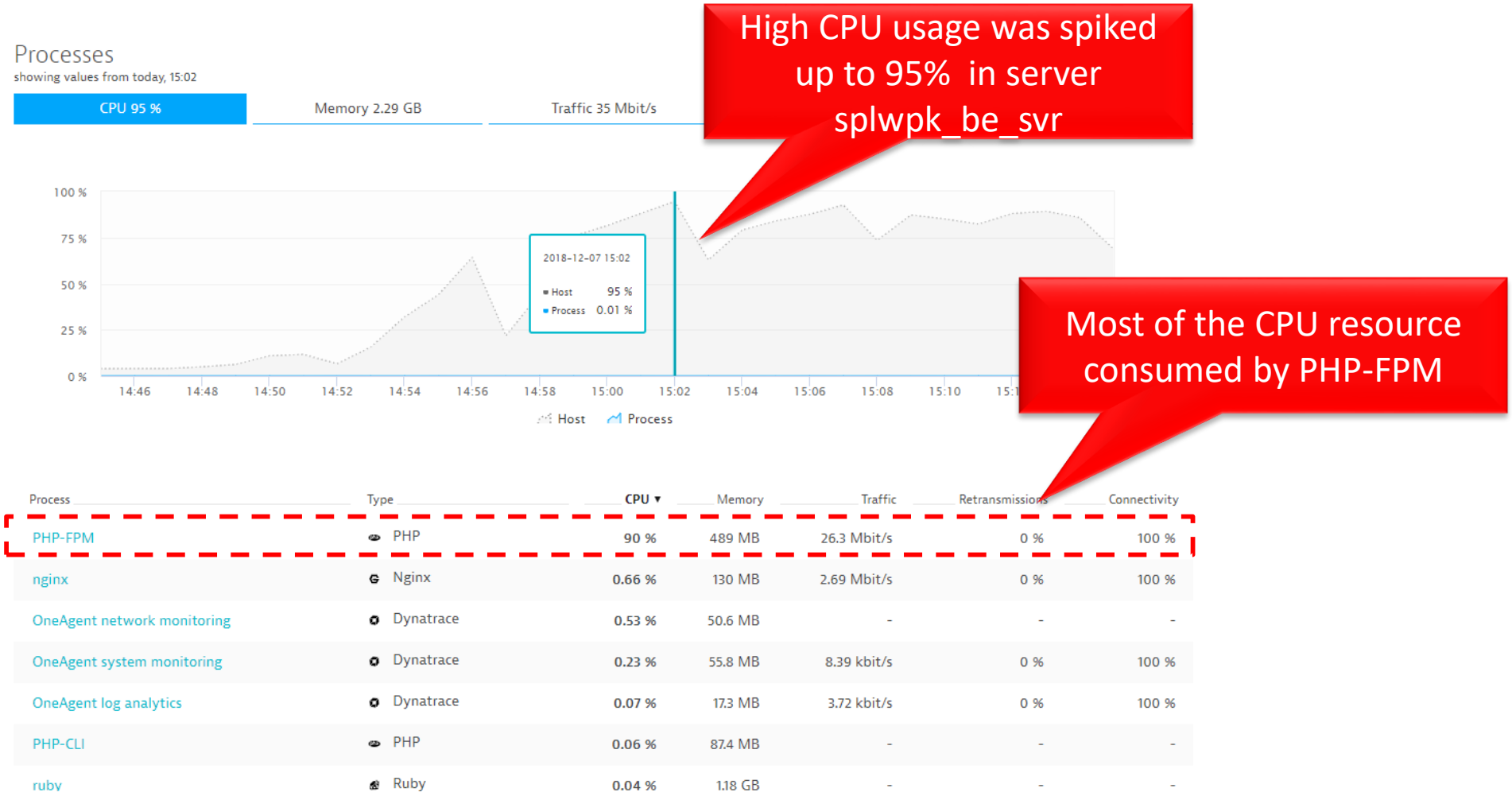
- Illuminate\Routing\Middleware\ThrottleRequests.buildException (ThrottleRequests.php:122) [+]
- Illuminate\Routing\Middleware\ThrottleRequests.handle (Pipeline.php:151)
- Illuminate\Pipeline\Pipeline.Illuminate\Pipeline\{closure} (Pipeline.php:53)
- Illuminate\Routing\Pipeline.Illuminate\Routing\{closure} (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

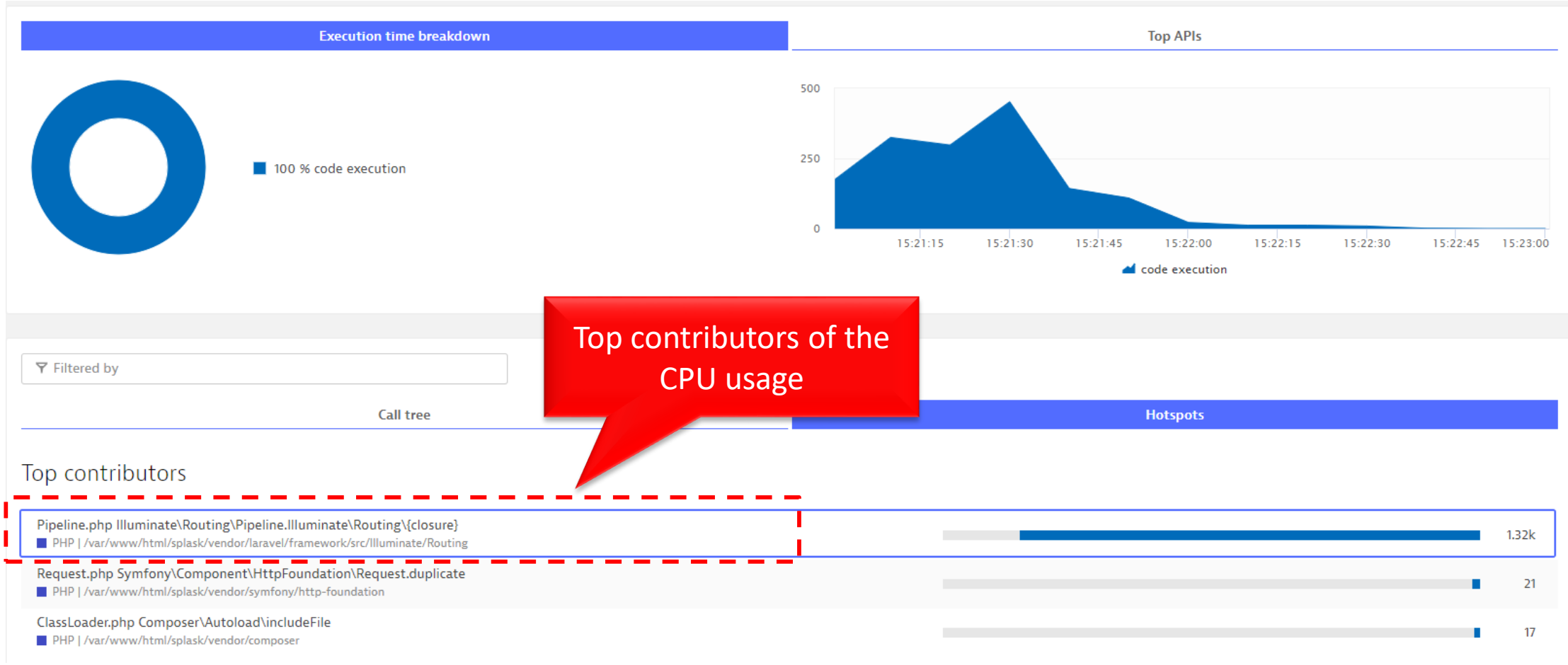


High CPU Usage found in Server splwpk_be_svr

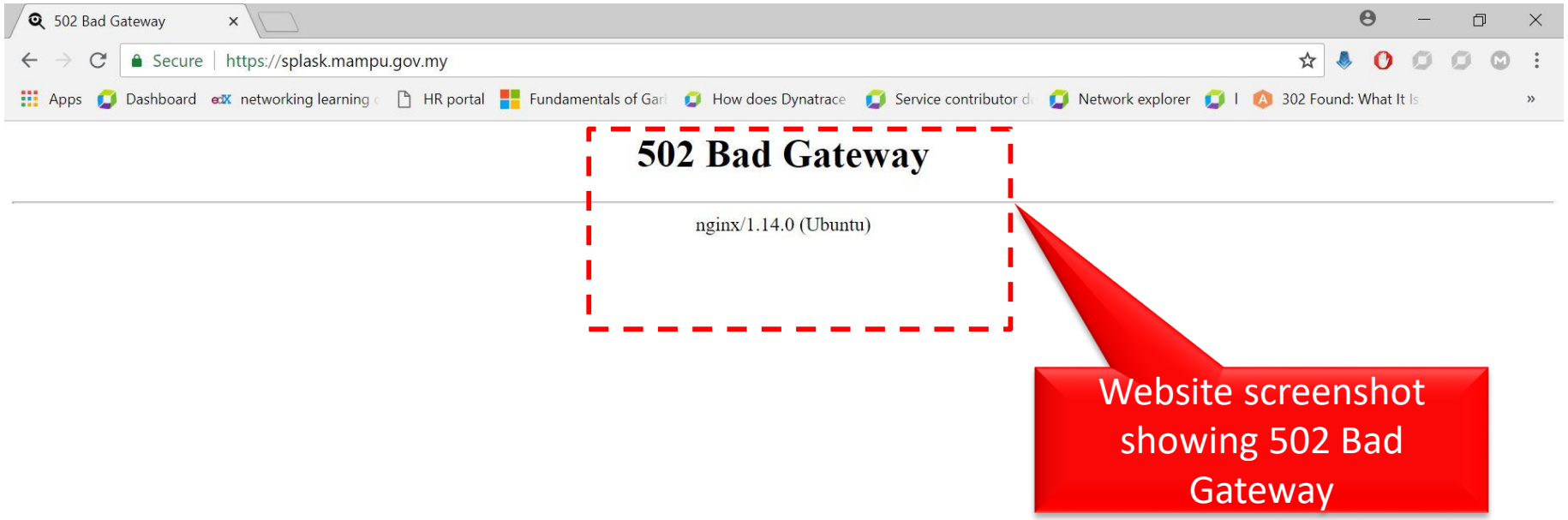


Process	Type	CPU ▾	Memory	Traffic	Retransmissions	Connectivity
PHP-FPM	PHP	90 %	489 MB	26.3 Mbit/s	0 %	100 %
nginx	Nginx	0.66 %	130 MB	2.69 Mbit/s	0 %	100 %
OneAgent network monitoring	Dynatrace	0.53 %	50.6 MB	-	-	-
OneAgent system monitoring	Dynatrace	0.23 %	55.8 MB	8.39 kbit/s	0 %	100 %
OneAgent log 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



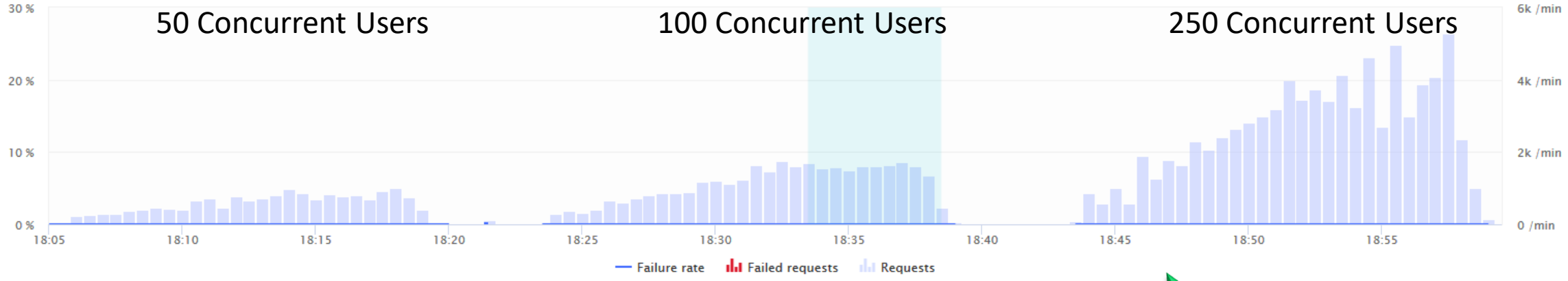
Implication



SISTEM PENGURUSAN KERJAYA SEKTOR AWAM (SPK)

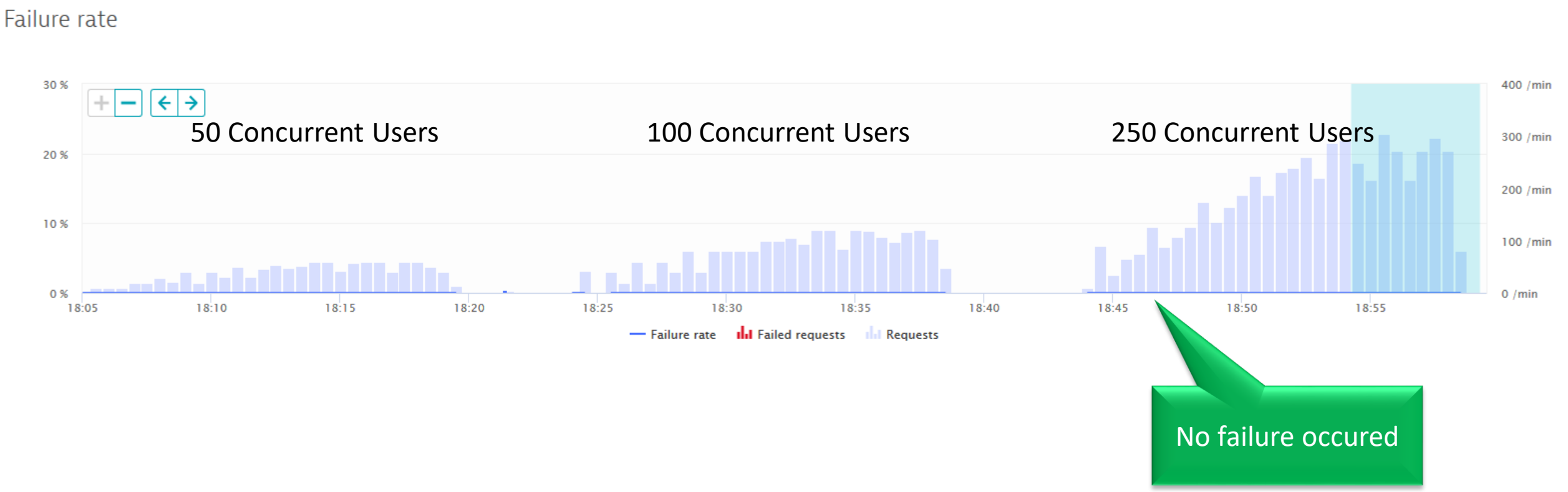
Failure Rate (Catalina/localhost (/spk2))

Failure rate

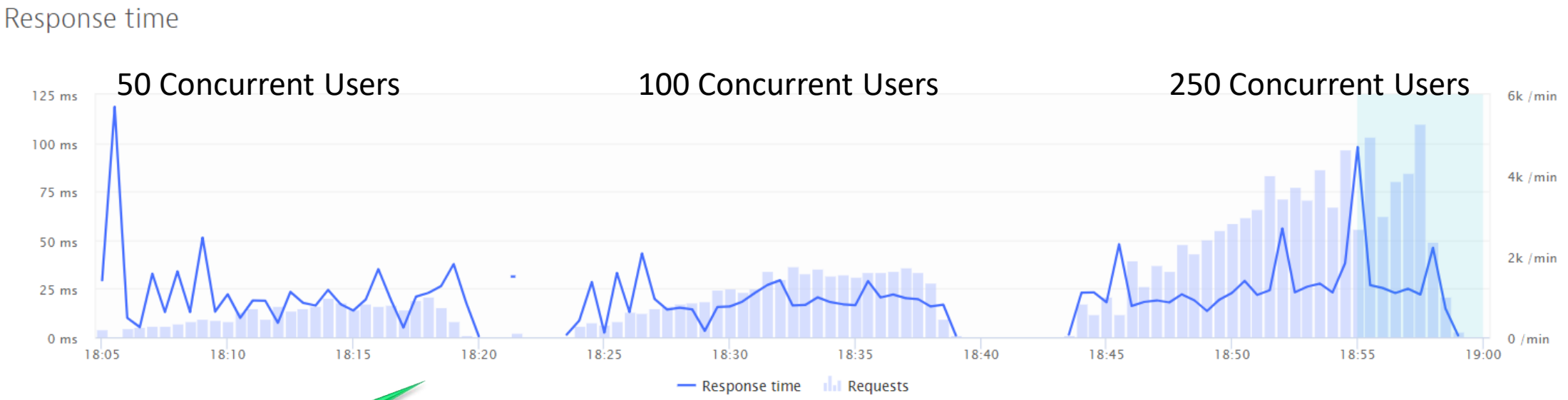


No failure occured

Failure Rate (hrmis-integration (/hrmis)

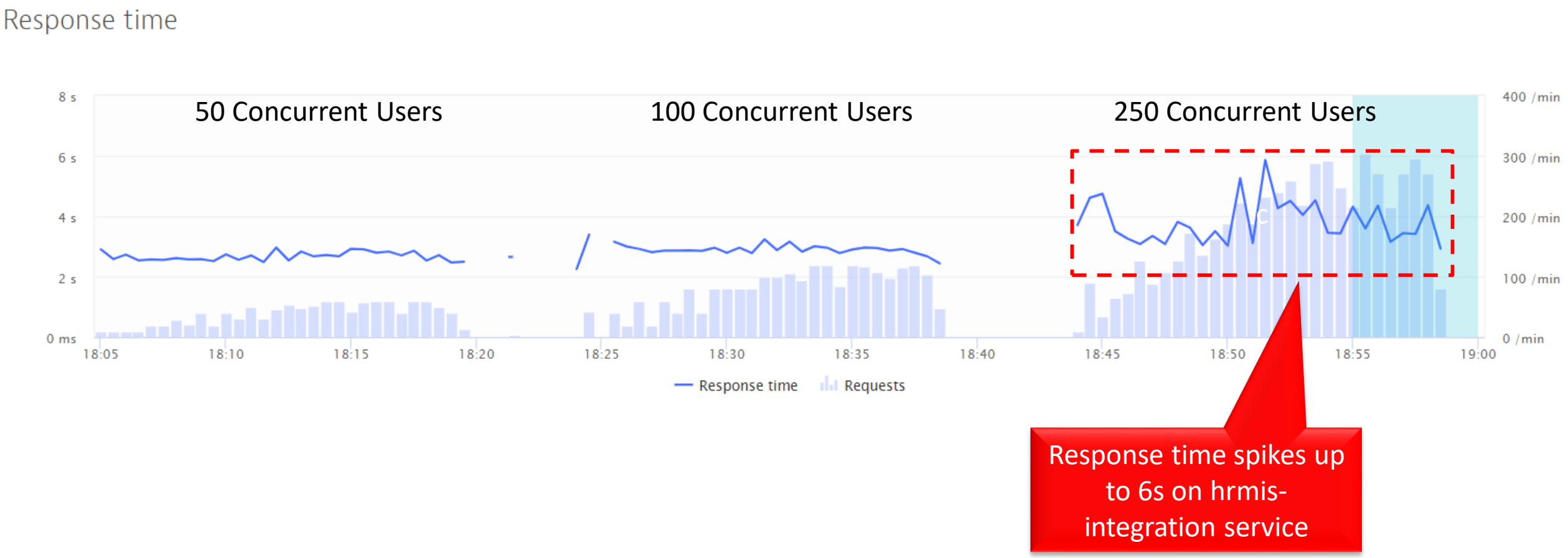


Response Time (Catalina/localhost (/spk2))

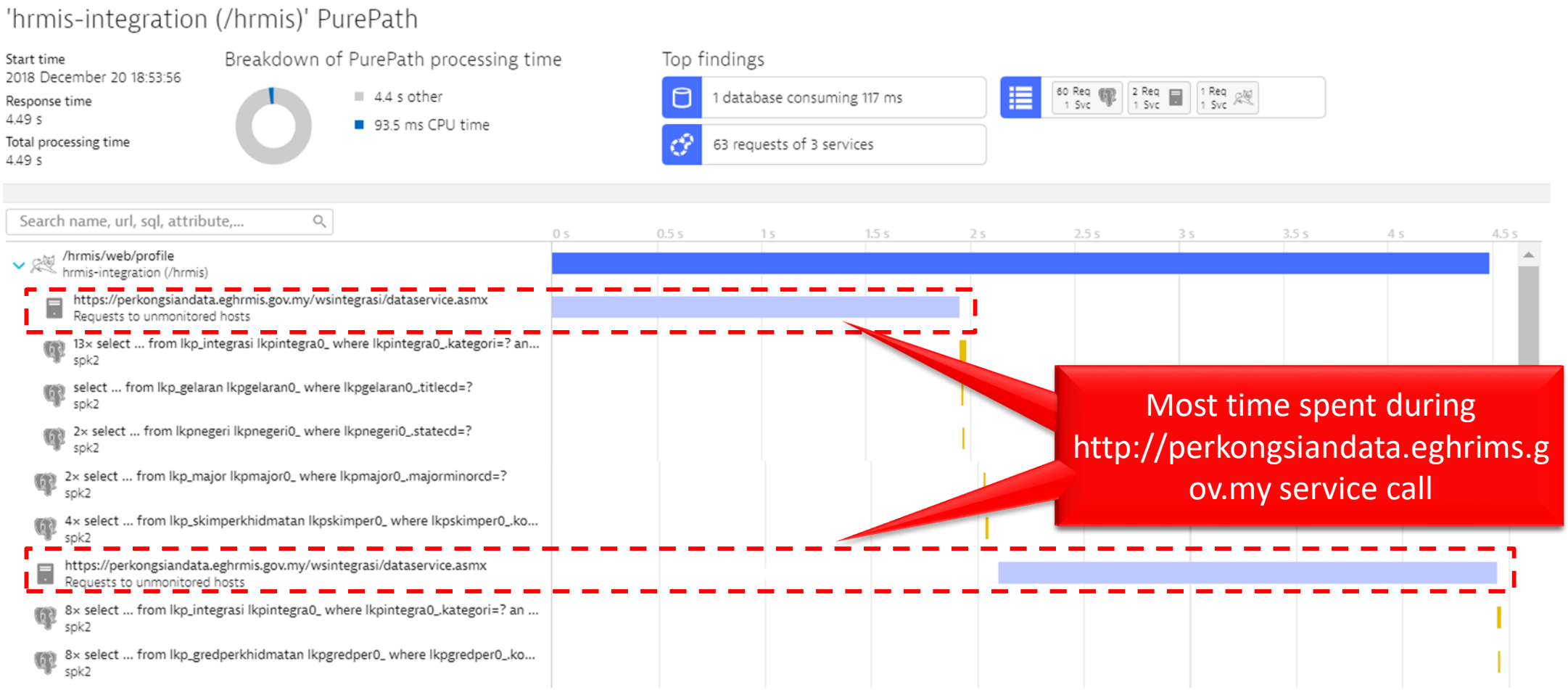


Low response time observed on the frontend

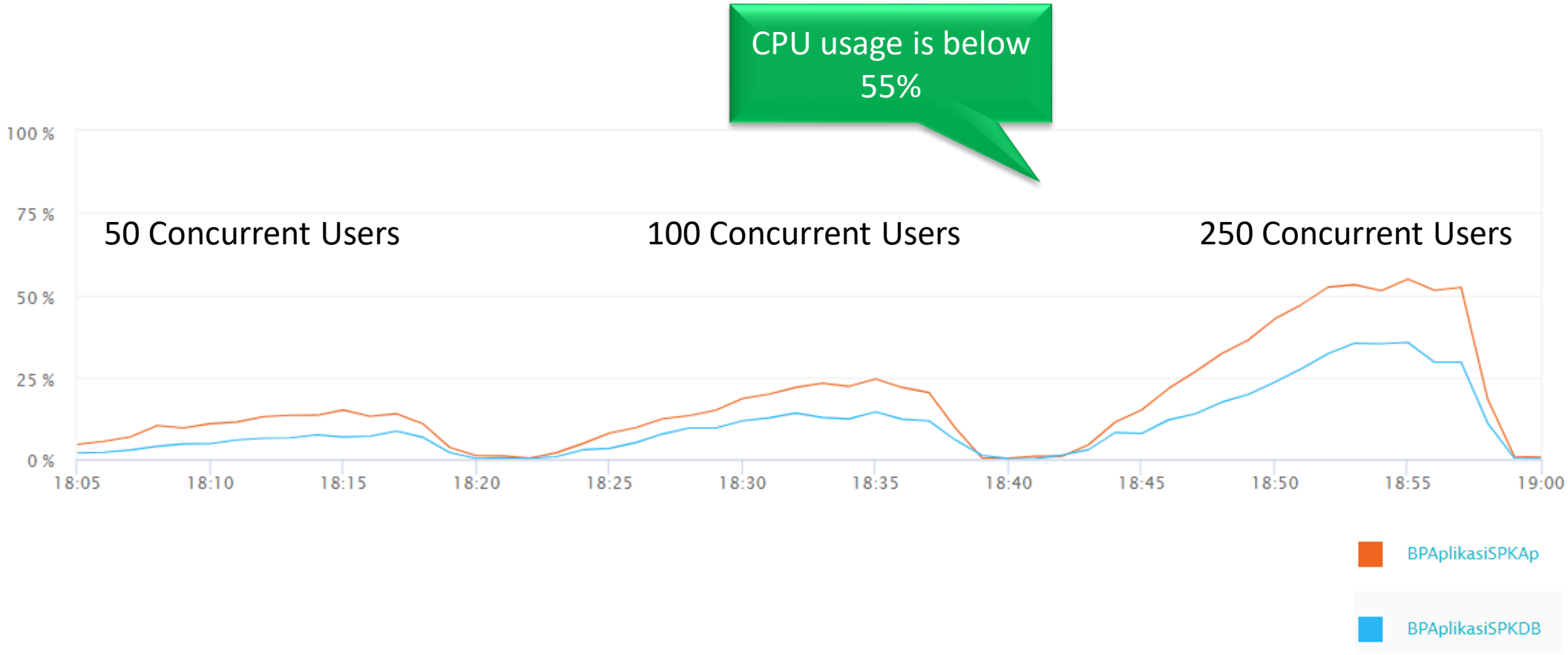
Response Time (hrmis-integration (/hrmis)



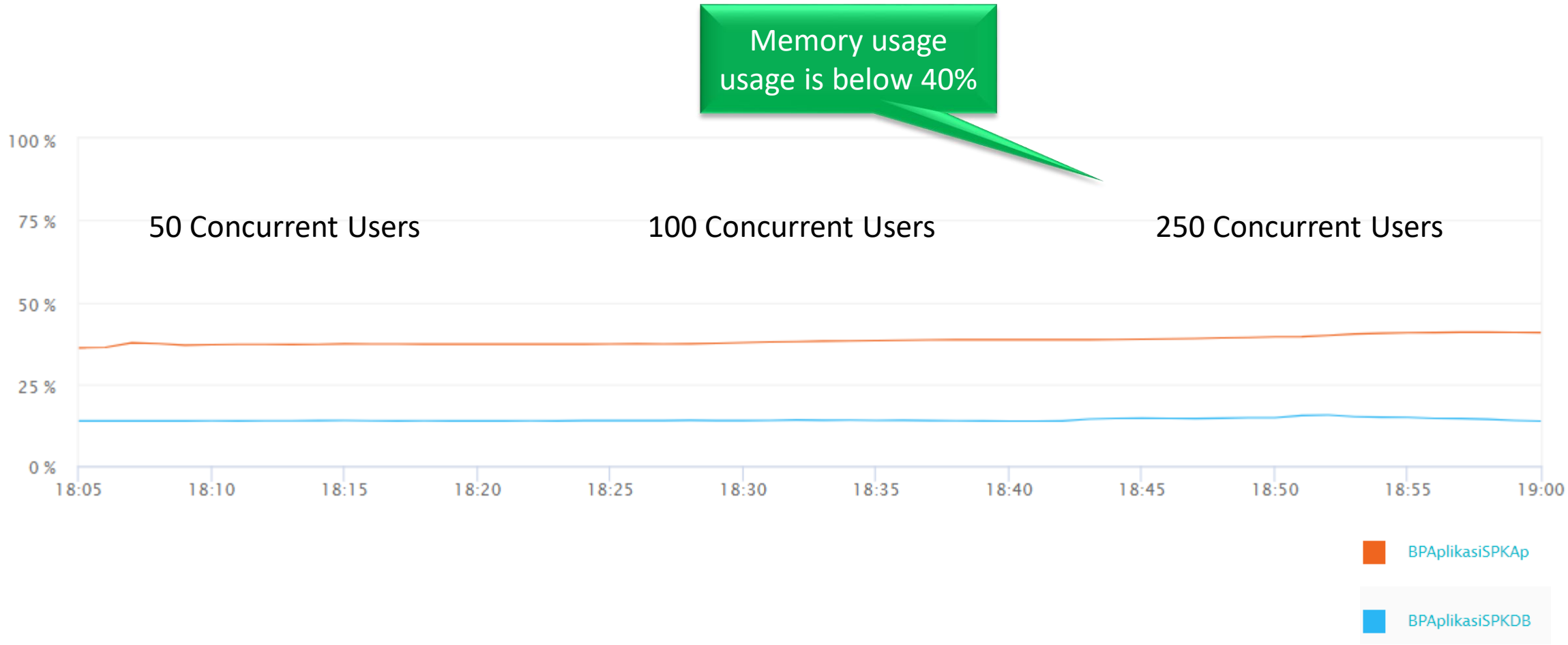
PurePaths Detail



CPU usage


CPU usage is below 55%
100 %
75 %
50 %
25 %
0 %
50 Concurrent Users
100 Concurrent Users
250 Concurrent Users
18:05
18:10
18:15
18:20
18:25
18:30
18:35
18:40
18:45
18:50
18:55
19:00
BPAplikasiSPKAp
BPAplikasiSPKDB

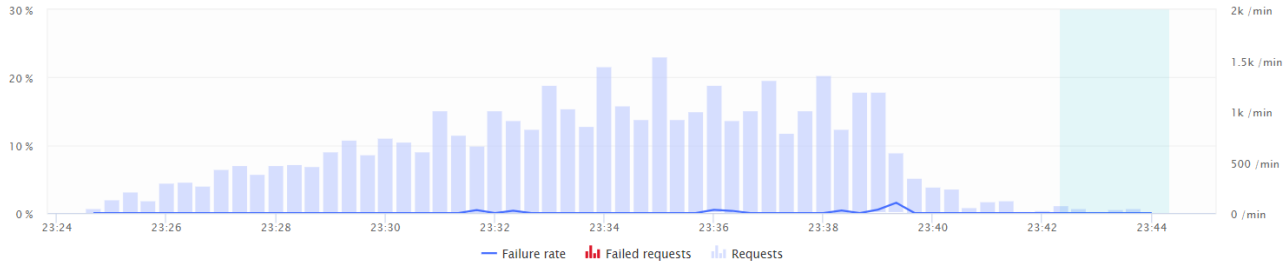
Memory usage



Failure rate Catalina/localhost (/spk2)

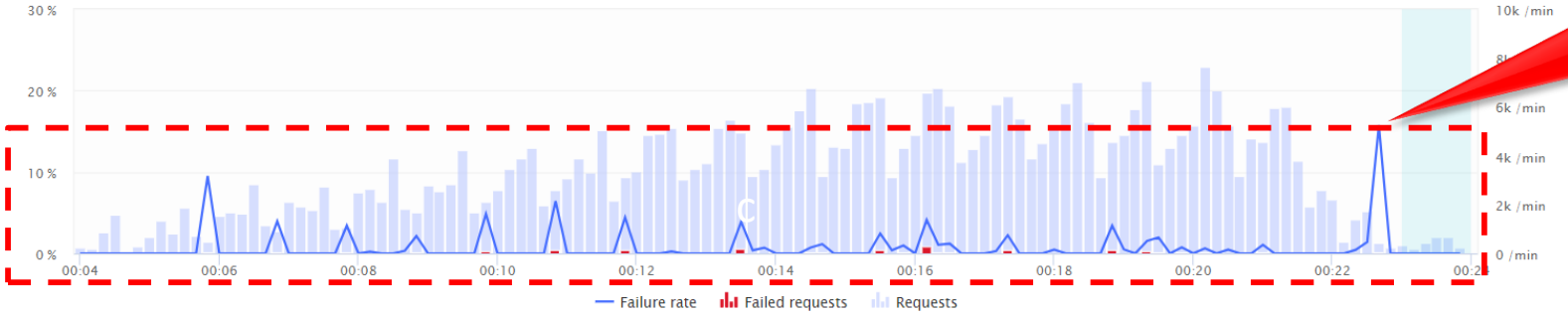
100 Concurrent Users

Failure rate



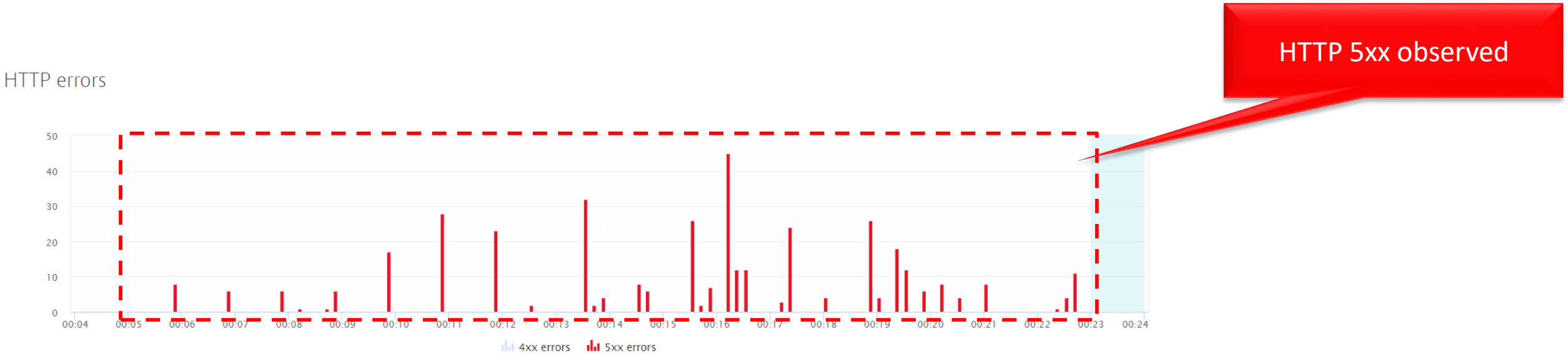
500 Concurrent Users

Failure rate



Failure rate observed on second iteration

HTTP 5xx Catalina/localhost (/spk2)



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 kementer7_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 tarikhl15_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

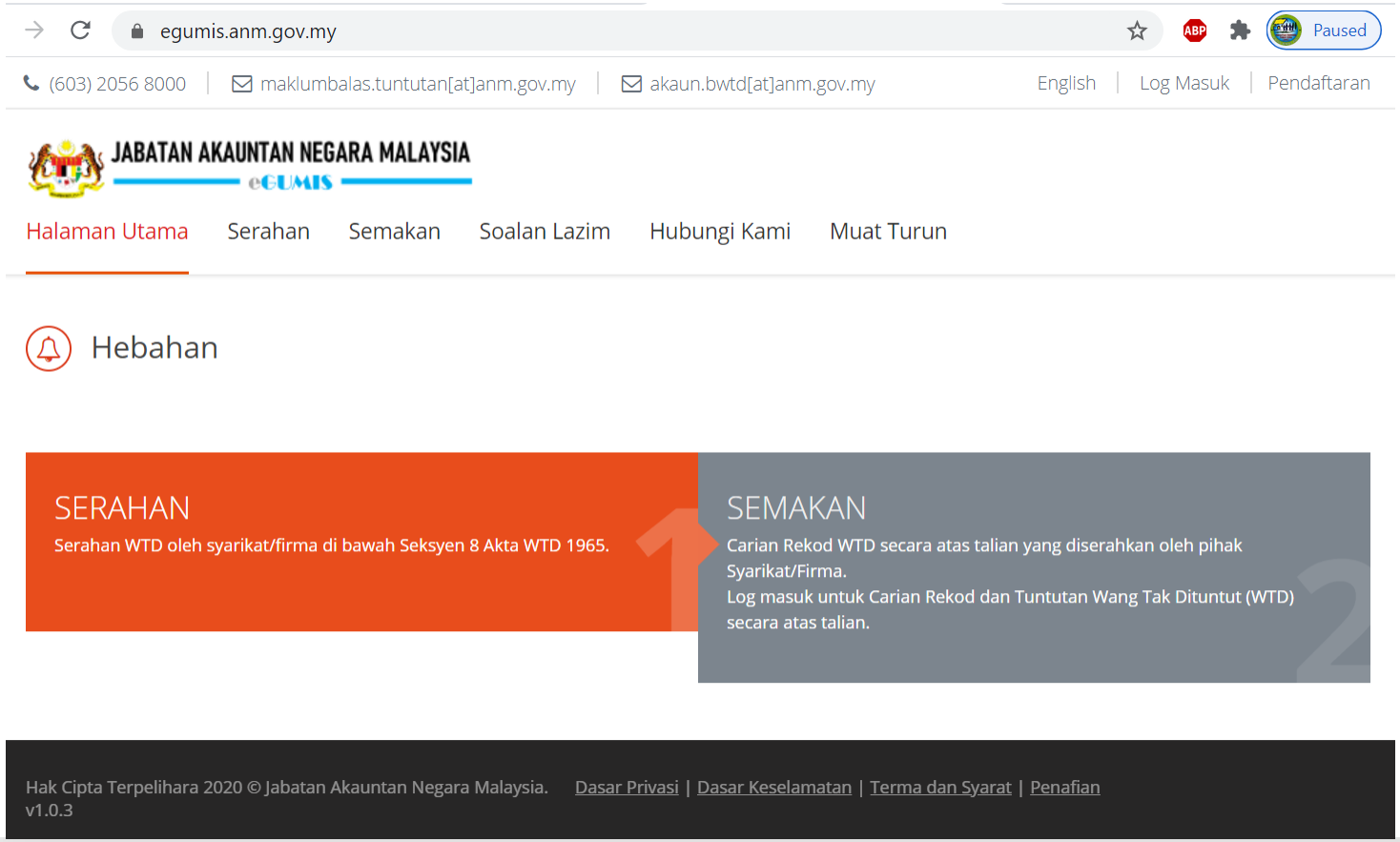
Specific exceptions

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)

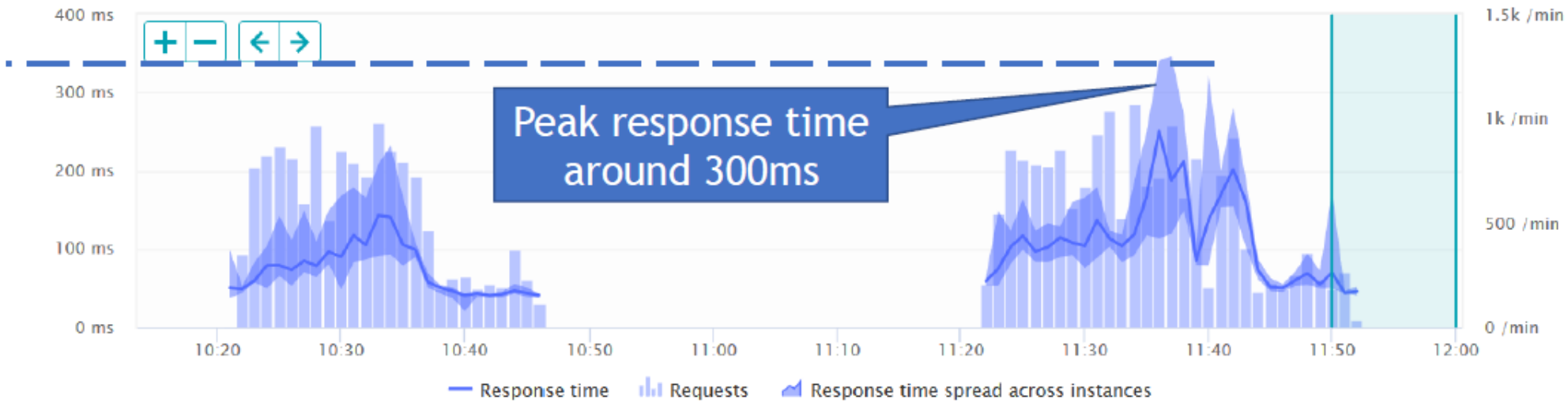
SISTEM SEMAKAN WANG TAK DITUNTUT (eGUMIS), JANM



#1 /updateProfile response time

Cycle 1

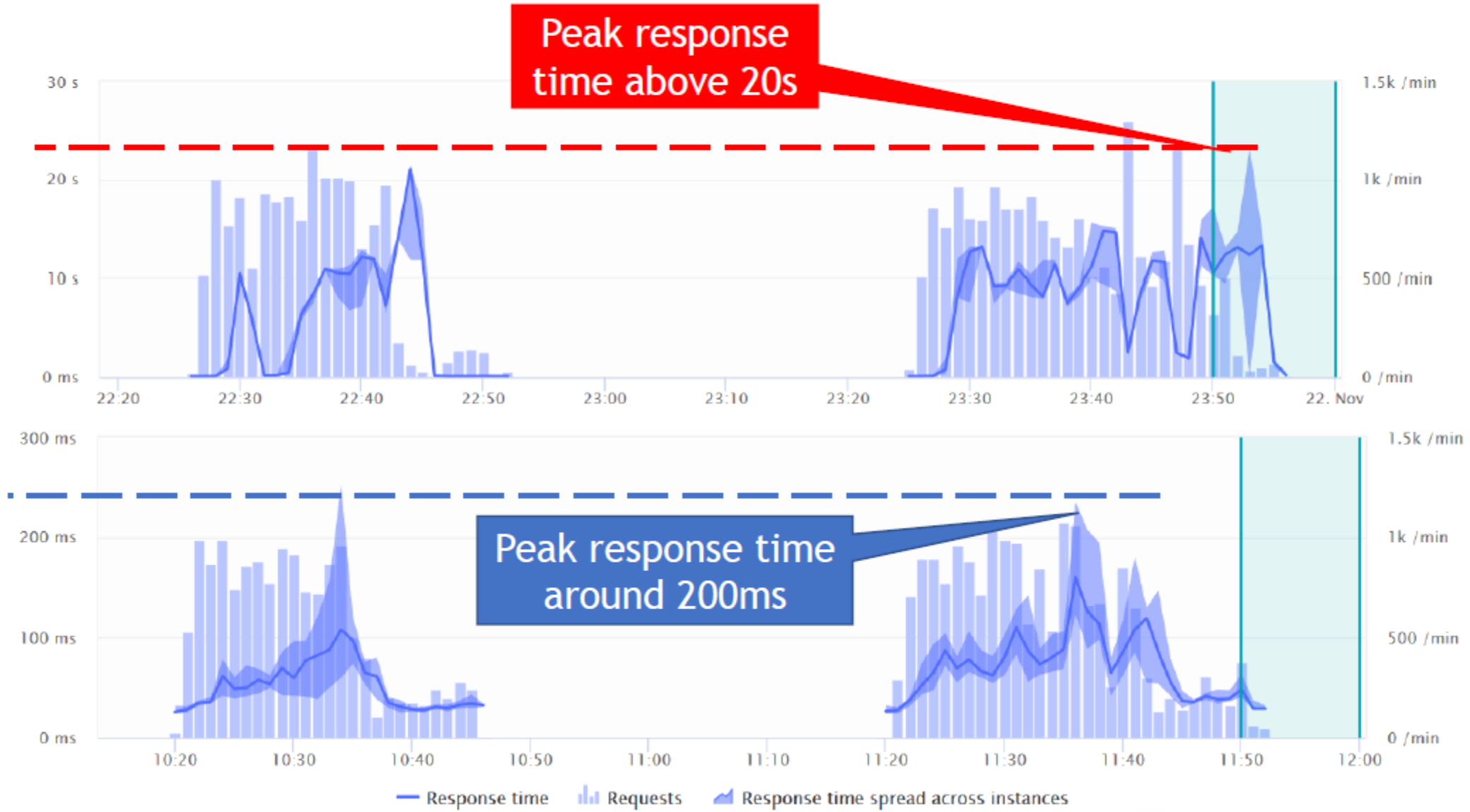
Cycle 2



#3 /register/saverefunduser response time

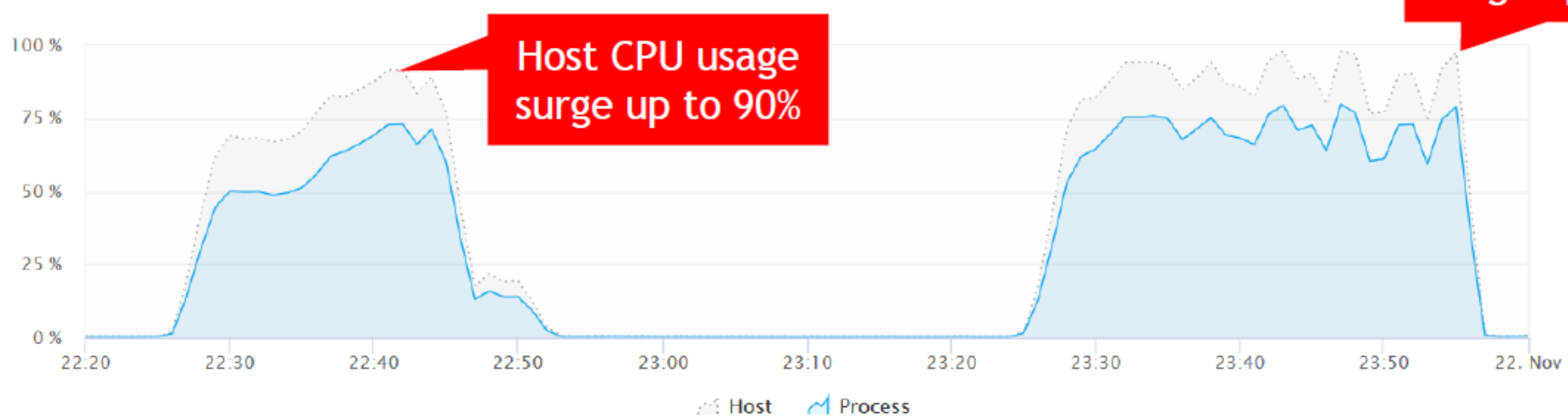
Cycle 1

Cycle 2

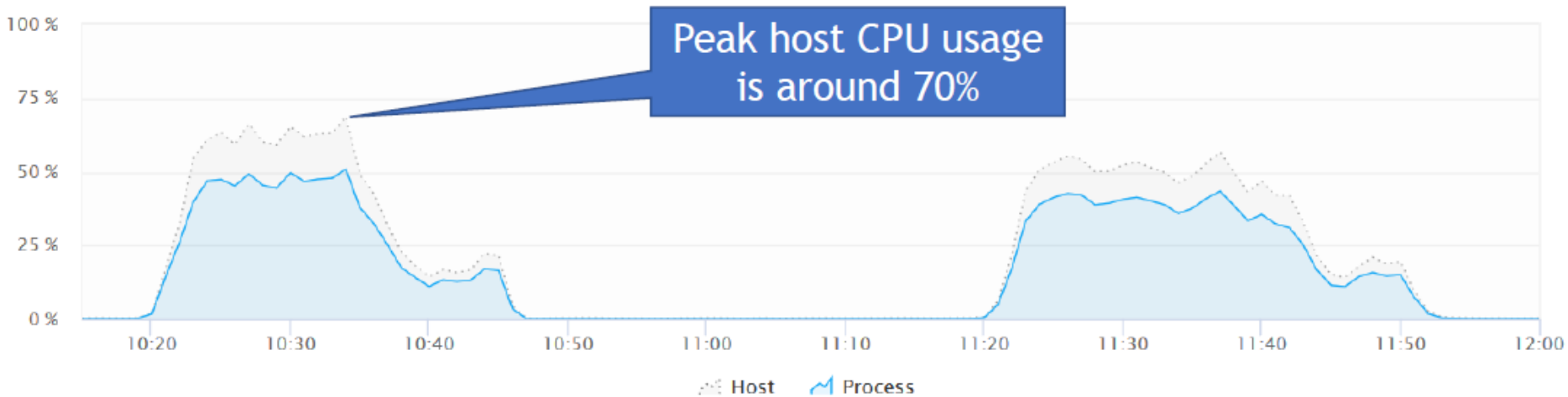


prd-eg-app02.cluster.local

Cycle 1



Cycle 2



Database statements' response time

Top database statements' response time are below 2ms

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

Unit Pemodenan Tadbiran dan Perancangan Pengurusan Malaysia

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TERIMA KASIH