Closed   Opened 1 year ago by   **Ahmad Sherif**

[RCA] 502s on GitLab.com post Patroni migration maintenance window
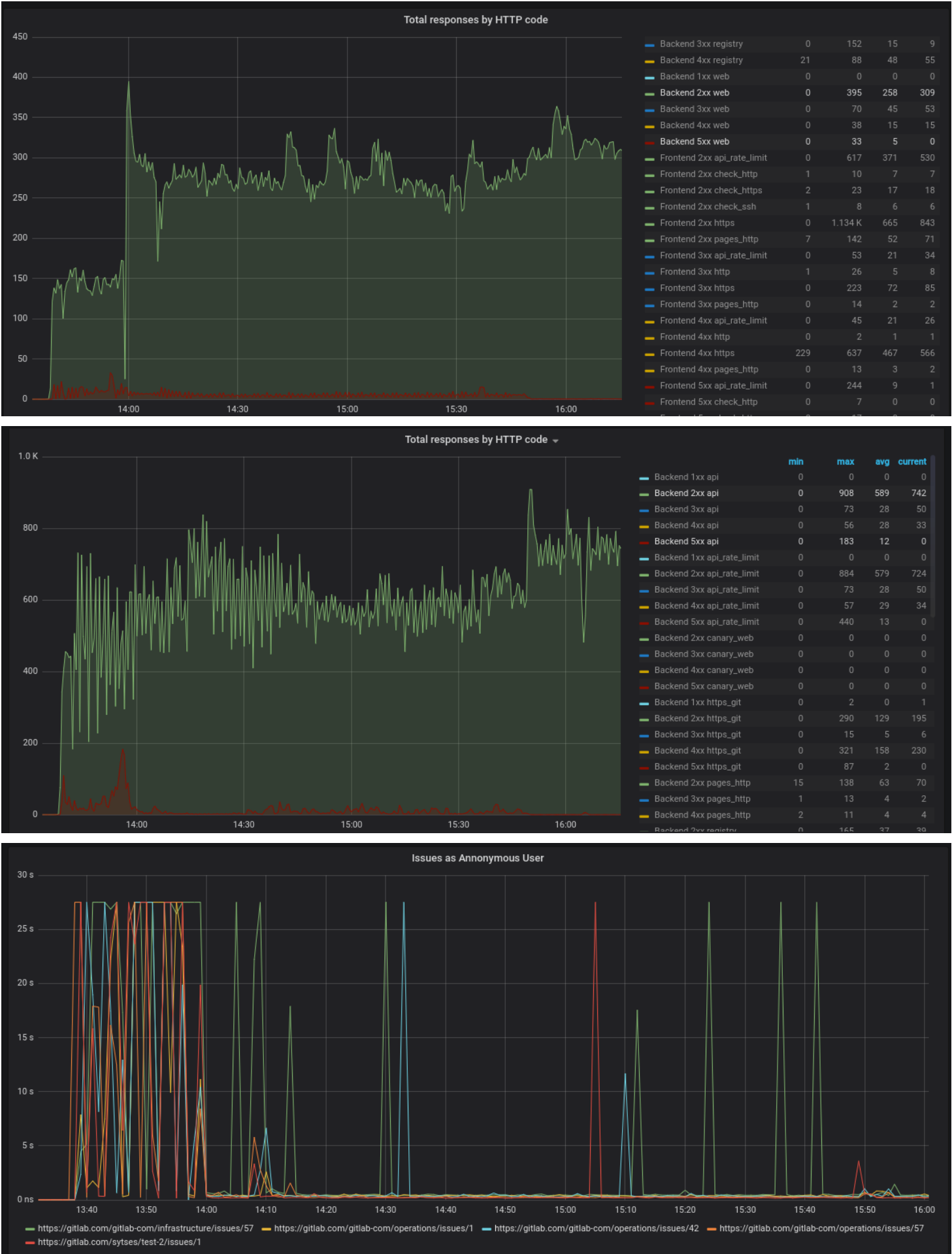
Summary

After allowing access to GitLab.com after the Patroni migration, we started noticing slow requests, some ultimately ended with 502 errors.

Service(s) affected : GitLab.com Team attribution : SRE Minutes downtime or degradation : 80 minutes

Impact & Metrics

Start with the following:

- What was the impact of the incident? (i.e. service outage, sub-service brown-out, exposure of sensitive data, ...)
  - Small percentage of slow requests and 502 errors
- Who was impacted by this incident? (i.e. external customers, internal customers, specific teams, ...)
  - Users of GitLab.com

Total responses by HTTP code

Backend 3xx registry	0	152	15	9
Backend 4xx registry	21	88	48	55
Backend 1xx web	0	0	0	0
Backend 2xx web	0	395	258	309
Backend 3xx web	0	70	45	53
Backend 4xx web	0	38	15	15
Backend 5xx web	0	33	5	0
Frontend 2xx api_rate_limit	0	617	371	530
Frontend 2xx check_http	1	10	7	7
Frontend 2xx check_https	2	23	17	18
Frontend 2xx check_ssh	1	8	6	6
Frontend 2xx https	0	1.134 K	665	843
Frontend 2xx pages_http	7	142	52	71
Frontend 3xx api_rate_limit	0	53	21	34
Frontend 3xx http	1	26	5	8
Frontend 3xx https	0	223	72	85
Frontend 3xx pages_http	0	14	2	2
Frontend 4xx api_rate_limit	0	45	21	26
Frontend 4xx http	0	2	1	1
Frontend 4xx https	229	637	467	566
Frontend 4xx pages_http	0	13	3	2
Frontend 5xx api_rate_limit	0	244	9	1
Frontend 5xx check_http	0	7	0	0

Total responses by HTTP code

	min	max	avg	current
Backend 1xx api	0	0	0	0
Backend 2xx api	0	908	589	742
Backend 3xx api	0	73	28	50
Backend 4xx api	0	56	28	33
Backend 5xx api	0	183	12	0
Backend 1xx api_rate_limit	0	0	0	0
Backend 2xx api_rate_limit	0	884	579	724
Backend 3xx api_rate_limit	0	73	28	50
Backend 4xx api_rate_limit	0	57	29	34
Backend 5xx api_rate_limit	0	440	13	0
Backend 2xx canary_web	0	0	0	0
Backend 3xx canary_web	0	0	0	0
Backend 4xx canary_web	0	0	0	0
Backend 5xx canary_web	0	0	0	0
Backend 1xx https_git	0	2	0	1
Backend 2xx https_git	0	290	129	195
Backend 3xx https_git	0	15	5	6
Backend 4xx https_git	0	321	158	230
Backend 5xx https_git	0	87	2	0
Backend 2xx pages_http	15	138	63	70
Backend 3xx pages_http	1	13	4	2
Backend 4xx pages_http	2	11	4	4
Backend 2xx registry	0	165	37	39

Issues as Annonymous User

— https://gitlab.com/gitlab-com/infrastructure/issues/57 — https://gitlab.com/gitlab-com/operations/issues/1 — https://gitlab.com/gitlab-com/operations/issues/42 — https://gitlab.com/gitlab-com/operations/issues/57 — https://gitlab.com/sytses/test-2/issues/1

Detection & Response

Start with the following:

- How was the incident detected?
  - We saw many Sentry errors like "PG::ConnectionBad: could not connect to server: Connection refused", so we checked pgbouncer logs on the master to see entries like "ERROR accept() failed: Too many open files"
- Did alarming work as expected?
  - No. pgbouncer errors wasn't caught by mtail because they don't match the pattern we match against
- How long did it take from the start of the incident to its detection?
  - Around 5 minutes
- How long did it take from detection to remediation?
  - Initial fix on master took around 15 minutes.
- Were there any issues with the response to the incident? (i.e. bastion host used to access the service was not available, relevant team memeber wasn't page-able, ...)
  - No.

Root Cause Analysis

1. pgbouncer was running with a limit of 1024 (system default) maximum open file descriptors, but was configured to accept a maximum of 2048 client connections
2. The Patroni cluster wasn't properly stress-tested before the migration

3. pgbouncer on the old cluster was installed and managed by omnibus-gitlab, which runs all of its processes with [bumped limits](#)
   - 50000 of maximum open file descriptors in this case
   - Such crucial detail wasn't obvious during the development of a custom cookbook that installs pgbouncer on the new cluster

What went well

Start with the following:

- Identification of the error cause was quick; Sentry errors gave clear hints of where to look

What can be improved

Start with the following:

- When entrusting third-parties to do some of sort of testing on an infrastructure component, we should be aware of what tests are being made, are these tests enough, and what are the results of these tests
- When developing a custom solution (e.g. Chef cookbook) to replace a battle-tested solution (e.g. omnibus-gitlab), make sure to consult the latter's developers to verify your custom solution for anything that could be missing.

Corrective actions

- [#5736 (closed)](#)
- [#5737 (closed)](#)

Guidelines

- [Blameless RCA Guideline](#)
- [5 whys](#)

Edited 1 year ago by [Ahmad Sherif](#)

Linked issues ❓   🗂 3

Relates to

⊖ [2018-12-08 Post Maintenance Window 502s on GitLab.com](#)
production#606

⊖ [pgbouncer mtail doesn't catch some errors](#)
#5736   🕐 2018-12-30 …   👤 1 🧑

⊖ [Services running on the Patroni cluster need to have their limits matching omnibus](#)
#5737   🕐 Dev & Ops: 2…   👤 3 🧑

[✏] **Ahmad Sherif** [@ahmadsherif](#) changed the description [1 year ago](#)

Ahmad Sherif [@ahmadsherif](#) · [1 year ago](#)   ⟨Maintainer⟩

cc/ [@dawsmith](#) [@Finotto](#)

[✏] **Ahmad Sherif** [@ahmadsherif](#) changed title from **[RCA] Post Maintenance Window 502s on GitLab.com** to **[RCA] 502s on GitLab.com post Patroni migration maintenance window** [1 year ago](#)

[💬] **Ahmad Sherif** [@ahmadsherif](#) mentioned in issue [production#606 (closed)](#) [1 year ago](#)

[🔗] **David Smith** 🌴 [@dawsmith](#) marked this issue as related to [production#606 (closed)](#) [1 year ago](#)

[🔗] **David Smith** 🌴 [@dawsmith](#) marked this issue as related to [#5736 (closed)](#) [1 year ago](#)

[🔗] **David Smith** 🌴 [@dawsmith](#) marked this issue as related to [#5737 (closed)](#) [1 year ago](#)

Anthony Sandoval [@AnthonySandoval](#) · [11 months ago](#)   ⟨Owner⟩

@ahmadsherif I'm going to close this issue. There's an outstanding corrective action item, but otherwise I don't believe there's anything left to do. Please reopen if you believe otherwise. Thanks.

Anthony Sandoval @AnthonySandoval closed 11 months ago

ops-gitlab-net 💬 @ops-gitlab-net mentioned in issue #7166 (closed) 11 months ago

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