Incident July 13, 2021: Search Database Partial Outage

Availability: **Increased timeouts and degraded performance**

% of clients affected: **Approximately 350 stores**

Duration of incident: **3 hours and 30 minutes**

Symptoms

From 02h25 to 05h55 UTC, customers who tried to use some VTEX stores would experience timeouts when searching for specific products, in addition to errors on search pages. Also, some stores would have latency when indexing products.

Summary

At 02h25 UTC, we identified the degradation of our search database. One of the cluster's dedicated servers suffered performance issues, causing the whole database to destabilize and take a long time to serve responses.

In most cases, our cache layer had saved previous responses from the database and could therefore serve these responses while the database was unstable. For new requests, however, the database would sometimes not respond in time, causing error pages.

Timeline

[2021-07-13 02:25 UTC] The search database starts to degrade slowly.

[2021-07-13 02:46 UTC] Our monitoring systems warned us of a latency increase in our indexing process, in addition to increased errors in our catalog service. We began investigating the issue.

[2021-07-13 03:37 UTC] We provisioned the fallback search database.

[2021-07-13 03:55 UTC] We started applying mitigation actions by migrating the request flow from the primary database to the fallback.

[2021-07-13 05:55 UTC] Normal operations were fully reestablished.

Mitigation strategy

To ease the pressure on our search database, we stopped indexing products that would be written into the database.

We then mitigated the issue by deploying a fallback search database and slowly migrated the request flow from the degraded database to the fallback database. This operation was done gradually in order to ensure that the fallback database itself did not overload.

Follow-up actions: preventing future failures

As follow-ups to this incident, we will:

- Further develop our observability and anomaly detection for the search database to detect and root cause issues faster.
- Review our request retry policies on our cache layer to prevent overwhelming of the database with retry attempts.