RCA - XO Service Interruption

Customer Support
06/12/2023

Attraqt

Exceptional Shopping Experiences

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XO Search Issue Root Cause Analysis Document

Customer	All XO customers
Issue Date	2023-06-09
Title	XO Service Interruption
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Document Date	2023-06-12

1.1 Summary

Affected service(s)	XO Search and Recommendations
Summary of the issue	Service Interruption - Service degradation and absence of returned recommendations
Start time of the issue (UTC)	2023-06-09 09:52 UTC
Time when service was restored (UTC)	2023-06-10 13:08 UTC
End time of the issue (UTC)	2023-06-10 13:08 UTC

1.2 Timeline

Time (UTC)	Event
2023-06-09 09:52 UTC	Start of initial incident. XO internal components start failing, triggering an alert in the monitoring system.

2023-06-09 09:55 UTC	Alert is picked up. Investigation into root cause starts.
2023-06-09 14:30 UTC	Root Cause has been found. Resolving the issue requires Infrastructure upgrades and rollout.
2023-06-09 15:30 UTC	Mitigation process is started to temporarily solve the component issues. In the meantime the infrastructure is being upgraded.
2023-06-09 17:00 UTC	Issues are temporarily fixed.
2023-06-10 08:00 UTC	Recommendations API endpoint response times increased (from 60ms to 120ms). Investigation starts.
2023-06-10 10:00 UTC	Issue has been identified and fixed.
2023-06-10 13:08	Infrastructure upgrades are complete and service is fully restored.

1.3 Root Cause

On the 5th of June, mandatory certificate rotation took place with the cluster temporarily having both the new and old certificates in place. To complete the certificate rotation (remove the old certificates) each part of the dedicated resources is automatically recreated and upgraded to use the latest version. When the old certificate expired, it was identified that some of the resources had not automatically recreated, resulting in some of the components using an expired certificate and resulting in failures. At this point this caused an interruption to XO Search, tag recomputes and email batch recommendations. On the 10th of June manual steps were taken to restore service and complete the certificate rotation. During these manual steps the process caused unexpected failures, including proxy failures between the XO API and XO Recommendations, resulting in XO Recommendations not being returned.

1.4 Improvement Options and Action Items

- Improve monitoring to detect the absence of recommendations for all tenants
- Improve process of upgrading certificates to handle this scenario before finishing credential rotation