

EU02- RCA - February 1, 2021

Introduction

This document serves as a Root Cause Analysis for the service interruption experienced by Ex Libris customers. The goal of this document is to share our findings regarding the event, specify the root cause analysis, outline actions to be taken to solve the downtime event, as well as preventive measures Ex Libris is taking to avoid similar cases in future.

Event Timeline

Service interruption was experienced by Ex Libris customers served by the Alma EU02 instance at the Amsterdam Data Center during the following hours:

February 1, 2021 from 09:30 AM until 1:00 PM Amsterdam time.

During this time frame the service was operating as follows:

- 09:30 AM – 10:16 AM – There was a service disruption which especially affected operations related to fulfillment requests
 - 10:16 AM – 10:28 AM – Service was down
 - 10:28 AM – 13:00 PM – Gradually improving though still some operations failed, especially those which anything to do with fulfillment requests
 - 22:00 PM – 22:05 PM – System was down for urgent maintenance
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Root Cause Analysis

Ex Libris Engineers investigated this event to determine the root cause with the following results:

There was a malfunction in the Data Base, which caused multiple locks during application transactions, which subsequently caused some operations to fail.

Technical Action Items and Preventive Measures

Ex Libris has taken the following action and preventive measures to avoid such an occurrence in future:

- Once the malfunction was identified the Database and application were restarted. This accounts for the 10:16 AM – 10:28 AM system Down
- Since the restart did not yield the expected results a mitigation process was put in place by 13:00 PM to restore full service
- We continued the investigation together with Oracle and concluded a permanent fix could only be applied when the Database was down, therefor an urgent maintenance was performed 22:00 PM – 22:05 PM to conclude this. Once the system was back to normal the temporary mitigation process was removed
- Database is stable since

Customer Communication

ExLibris is committed to providing customers with prompt and ongoing updates during Cloud events. Ongoing and prompt updates on service interruptions appear in the system status portal at this address: <http://status.exlibrisgroup.com/>

These updates are automatically sent as emails to registered customers.