Alma Uptime Report - NA01 Instance (North America) – Q1 2014

Alma Uptime Quarterly Reports are published each quarter to provide a comprehensive view of our uptime performance during last 12 months. The report measures our performance as defined in the Alma Service Level Agreement.

This document details the uptime report for the Alma NA01 instance in North America.

The instance your organization uses can be identified by the Alma URL (NA01 instance is na01.alma.exlibris.com).

The Alma uptime for the period of this report (April 2013 – March 2014) is 99.94%.

Please note that we have recently launched our new System Uptime Status page, which allows our customers to view the current status of their instance/environment at any time, using the following link: http://status.exlibrisgroup.com

Please note that we have had several performance issues on January 2014. As they did not result in actual downtimes, they were not taken into account when calculating the uptime percentage; yet, we believe it is important to mention them here.

Availability – April 2013-March 2014:
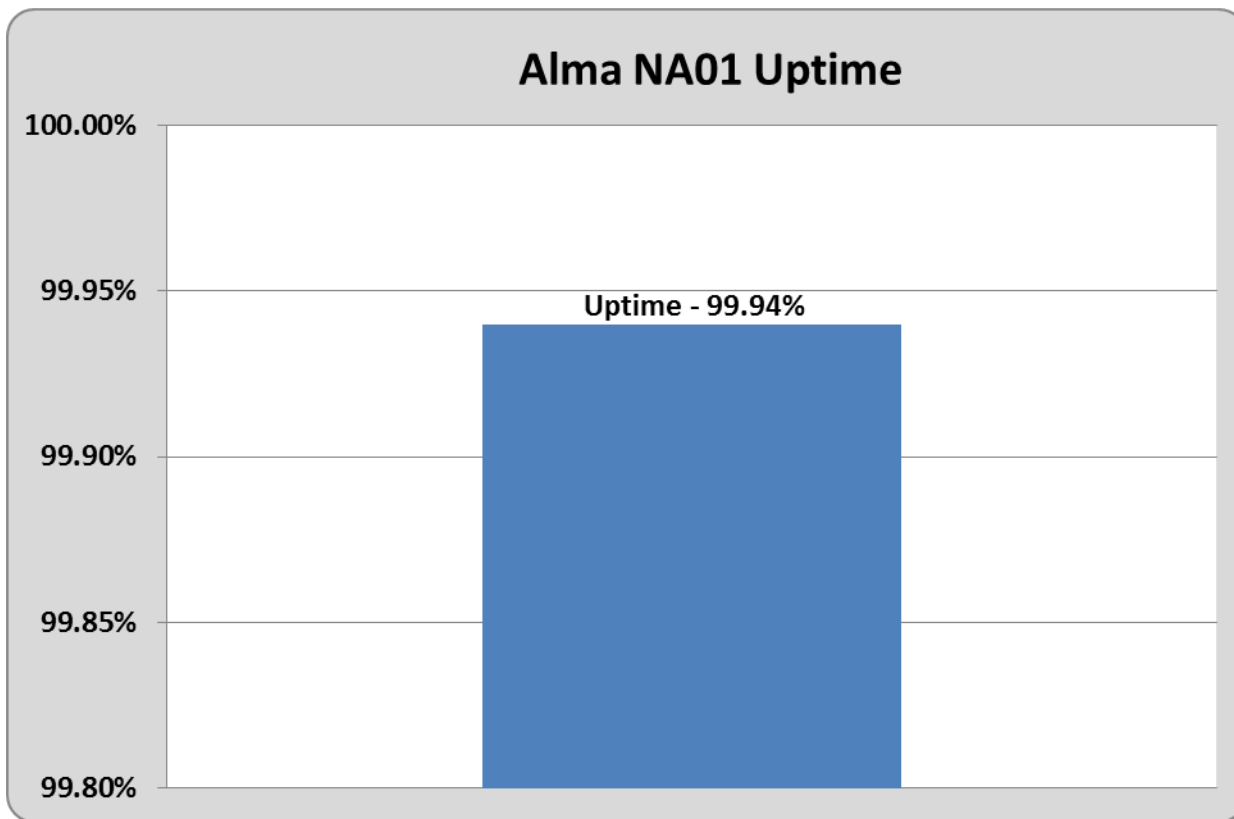
Alma NA01 Uptime

Uptime - 99.94%

(Chart y-axis values: 100.00%, 99.95%, 99.90%, 99.85%, 99.80%)

Unscheduled downtime incidents in Q1 2014:

Date	Start time (CST)	End time (CST)	Duration (minutes)	Description
January 15	19:16	19:26	10	The service interruption was caused by a rare malfunction in one of the NetApp storage processes, which resulted in primary storage malfunction and also affected the failover to the secondary storage. An interim workaround was provided by NetApp and implemented immediately. During the maintenance window that followed the event, the NetApp software was upgraded to a new version where the issue was fixed. Ex Libris cloud engineers reviewed all Alma servers in order to verify that the problem did not cause any side effects to Ex Libris servers.
February 20	21:55	23:10	75	The service interruption was caused by a network attack (Denial of Service/DDoS attack). The attack was blocked by automated DDoS system deployed at the internet provider. Ex Libris, together with the provider, deployed DDoS mitigation tools to block the attack and performed security validation checks. Once the attack's stop was verified and it was safe to reopen the block (re-route back), the block was removed and the service was reinstated. Ex Libris has worked together with the internet provider to improve the mitigation procedure to handle future DDoS attacks and reduce the downtime.
March 17	10:52	11:26	34	The service interruption was caused by a memory issue on one of the search engines. It was not identified soon enough to trigger our failover mechanism. Ex Libris has adjusted the monitoring threshold that triggers the failover mechanism to be activated sooner on similar cases.

* Root cause analysis (RCA) reports for the downtime events could be found here.

Scheduled downtimes during maintenance windows in Q1 2014:

Date	Start time (CST)	Duration (minutes)
January 5	00:30	60
January 12	00:30	91
January 19	00:30	20
January 26	00:30	55
February 2	00:30	61
February 9	00:30	20
March 3	00:30	50

Total unscheduled downtime minutes during past 12 months:

Quarter	Total unscheduled downtime in Quarter (minutes)
Q2 2013	141
Q3 2013	0
Q4 2013	25
Q1 2014	119

How is Alma Uptime Calculated?

The uptime calculation is based on the following calculation (as defined in the Alma Service Level Agreement):

"**Uptime**" means the total period in minutes during which the Service is available for access and use during this period.

"**Uptime Percentage**" means Uptime expressed as a percentage, calculated in accordance with the following formula:

Uptime Percentage = X /(Y–Z) × 100

> Where:
> X = Uptime
> Y = Relevant period
> Z = The duration (in minutes) of any SLA Exclusions* during the
> relevant period

*SLA exclusions are defined in the contract SLA (e.g. Scheduled maintenance, etc.)

Further Information

If you have any queries on the information within this report please contact Ex Libris through your usual channel.