Andre & Team,

The ccsd.net server reported through our monitoring system that it was unresponsive on October 10 at 6:32 am.

We rebooted the server and checked that it was responding to web (http) requests (checking the website to see if it was up). We validated that it was receiving requests and responding appropriately.

After the reboot, the mail service (sendmail) apparently did not start up correctly. We were unaware of this until it was reported to myself and Tadhg by Bryan Siegel at 3:41 pm MT on November 1st via email.

Tadhg immediately reached out to Bryan on Friday, November 1st, after notification and reviewed the system logs, memory, and service status. He reviewed the service definition and ultimately rebooted the system. After rebooting, he reviewed the service status of httpd and the send mail service to ensure that both came up successfully. Bryan tested and confirmed that the service was working as expected. All mail had been queued up (and was not lost), it was sent out as soon as the mail service was restarted on Nov 1.

It is possible for a service to show a status of running but isn't working correctly, thus simply monitoring the status of a Linux service is not enough. Short term, we are implementing a test that sends an email from the system to a mailbox at a specified daily cadence to help minimize the chance of this issue occurring again.

Issue Gap:
- Although monitoring is in place to detect basic issues with the ccsd.net website, there was no monitor to detect the issue described above.
- Arisant does not know the business and application functionality of ccsd.net. Arisant managed services only support the technical system in the cloud that is hosting the ccsd.net legacy applications and we provide services with the understanding that it is in the process of being replaced. If there is important functionality such as this that needs to be monitored, we would be happy to work with CCSD to add additional monitoring. This will require monitoring requirements to be documented which is not the case right now, then implemented and tested. If ccsd.net is not being replaced, Arisant would be happy to work with CCSD on a proposal to re-platform it on a modern, secure, and scalable web application platform.

Issue Solution:
- We will add additional monitoring.
- We will create a test email and send it out every day on a pre-defined cadence.
- CCSD Communications [Bryan Siegel & Crystal Gittler] will monitor this mailbox to ensure that the email arrived, if not, Andre Yates, Guillermo Alexander, Crystal Gittler, and Bryan Siegel will be notified by CCSD Communications of the issue.

Recommendation:
- Given the time sensitive nature of this email delivery and the inherent issues with guaranteed email delivery in general, we would recommend that the email functionality of ccsd.net is rearchitected such that it provides a robust and trusted email delivery system. The current solution in place does not map to the critical requirements of these kinds of emails.

Respectfully Submitted,

Thomas Meyer and Niklas Iveslatt