FlexNet Manager Suite – NA Cloud
Post Mortem

Description:

FlexNet Manager Suite customers using NA Cloud services experienced intermittent License Reconciliation failures and delays.

All other FNMS NA services continued operating normally during this Incident.

Timeframe: October 1st to November 5th CST

Incident Summary

On the 1st of October support teams detected higher than normal intermittent batch tasks failing which resulted in some customers not having current licensing positions. Support teams enabled additional logging tools to assist with the investigation – this resulted in the discovery of an operating system networking limitation in the batch processing system. This limitation was causing batch system connections to the database to intermittently fail and the batch task being processed at the time to also fail.

On October 3rd support teams implemented a number of workarounds, including various performance tuning measures to minimize the impact of the operating system network limitation. After monitoring the environment for several days, it was found that by October 8th the workarounds had significantly reduced batch failures.

On October 31st a new issue was identified that was randomly causing some customers' reconciliations to fail as a result of a database issue causing a loss of connectivity - a hotfix was applied successfully remediating this issue.

While monitoring the environment on November 4th, an additional issue was discovered causing some large batch jobs to either take an excessive amount of time to complete or fail. The issue was traced to a licensing bundle causing excessive memory usage during batch processing. The batch system memory was successfully doubled as a workaround and jobs that were previously failing were being processed successfully.

On November 5th, a hotfix was applied to the batch system to correct the memory utilisation issue and at the same time decreased time taken to process some large reconciliation tasks.

Root Cause

This incident was caused by a number contributing factors.

Primary Causes

1. An operating system network limitation was intermittently reached under peak load conditions causing intermittent network communication failures between the Batch system and the Database system.

2. The database failover mechanism was being triggered under certain edge case conditions

3. An update to an application bundle caused excessive memory utilization in the batch processor and an associated poorly performing database query caused excessive memory utilization in the batch processor.

Corrective Actions

1. A new enhanced batch processing system has been under development throughout 2019 to replace the current system. This batch system is significantly more scalable than the existing system and is not impacted by the operating system network limitation of the exiting batch processing system.