ROOT CAUSE ANALYSIS

JDBC Connection Pool

The following is a detailed accounting of the related service interruptions that Rally users experienced on 6/9/15 at 12:42pm and at 3:20pm, and on 6/11/2015 at 1:12pm.

Root Cause Analysis Summary:

Event Date	June 9th, 2015
Event Start	12:16pm
Impairment Start	12:33pm
Time Detected	12:33pm
Time Resolved	1:02pm
Impairment End	1:12pm
Event End	1:12pm
Duration	Total Downtime: 0 minutes Total Impaired Availability: 39 minutes Time to Detect: 0 minutes Time to Resolve: 46 minutes

Event Date	June 9th, 2015
Event Start	3:16pm
Downtime Start	3:20pm
Time Detected	3:20pm
Time Resolved	3:26pm
Downtime End	3:26pm
Event End	3:30pm
Duration	Total Downtime: 6 minutes Total Impaired Availability: 0 minutes Time to Detect: 0 minutes Time to Resolve: 10 minutes

Event Date	June 11, 2015
Event Start	12:30pm
Impairment Start	2:50pm
Time Detected	2:46pm
Time Resolved	3:00pm
Impairment End	3:00pm
Event End	3:00pm
Duration	Total Downtime: 0 minutes Total Impaired Availability: 15 minutes Time to Detect: 0 minutes Time to Resolve: 14 minutes

The three incidents detailed in the above timelines were attributed to the same root cause:

Root Cause	Contributed to the issue (not the root cause): 06/09/15 - Heavy traffic from user that caused a ton of unhandled exceptions. The specific root cause is not clear since there were empty kill. Second outage at 3pm was due to a new unhandled exception that was introduced with the release that caused connection leaks. Contributed to the issue (not the root cause) 06/11/15 - Queued message handler threw lots of exceptions which then resulted in connections in the write database to do rollbacks. **Probable Root Cause**: The spring transaction manager didn't release connections because it had multiple connections with a rollback that was associated to the same transaction manager and was not able to close out those connections properly.

Issues and Remediations:

Issues	Remediations
Outage due to user traffic	Disabled user
Outage during deploy	Shut the front door, manually rolled back the deploy, re-opened the front door
Defects	DE24737 - JDBC issues from 5/27 DE24878 - Portfolio Item Rollups causing connection leaks due to exception being thrown DE24823 - NPE from notification filters DE24890 - Connection leak on 6/11 DE24739 - Automated killquits from all app servers have no conter

Future Preventative Measures:

Actions that should be taken to prevent this Event in the future.

Actions	Description
Gathering Information for PER	Keep event communication and information in the P1 flow so that information gathering is not as difficult - How do we handle situations where we're not experiencing an outage but we need to track communication that will be used for PER's?
Health Check for the Load Balancer	Need to create a health check for the load balancer to help prevent this type of event
System Event Table	Need to make sure that we're updating system events
Splunk Availability	Is it possible to improve the incident analysis report/board to show more accurate depiction of our availability? Successful vs Failing logins