Our Child Incident Report
INC200142042

Incident number	INC200142042	Incident start	Fri 25 May 2018 20:22
Incident priority	Moderate	Incident identified	Mon 28 May 2018 08:50
Clients affected	CSAHSC/QPS	Incident resolved	Mon 28 May 2018 10:00
Impacted services	Our Child	Date Prepared	31 May 2018
Relationships	Nil	Author	M Jayanti, N Fitzsimmons

Incident description

The Our Child web application was unavailable for all users from Friday evening (25 May) until the issue was identified and resolved on Monday morning (28 May).

Incident cause

The Incident cause:

1. Act of nature ☐
2. Hardware ☐
3. Software ☒
4. System overload ☐
5. Human error
   internal (employee) ☐
6. External (vendor/3rd party) ☐
7. Vandalism ☐
8. Unknown ☐

Details:

The failure with the Our Child web application (hosted in Azure) resulted from a component malfunction after an app service recycle. The analysis performed, has given the Team a better understanding of some of the limitations of the Azure App Service deployment features along with insights into application components that are sensitive app recycles.

Was this Incident caused by an RFC? No ☐ Yes ☒ (CHG0033330)

A release was deployed between 10 and 10:30am, Friday 25 May. The deployment was successfully smoke tested following the deployment. During the deployment, the web application restart protocol successfully used in previous deployments was repeated.

The sporadic nature of the root cause meant the issue remained undetected following deployment and during testing in the pre-production, user acceptance test and system test environments.

Root Cause

The root cause analysis has identified the third party dotNet library (AutoFac) as the likely cause. This library gathers necessary dependencies for an application at startup and, in the process, compiles the code for optimisation.

The root cause looks to be in the optimisation mechanism where the just-in-time compilation of code failed and resulted in the malfunction. This is an uncommon but known issue with AutoFac, particularly when Azure services have not undergone a hard recycle (that is, two step stop and start as apposed to single restart).

Resolution

The initial remediation is to recycle the web application by fully stopping and starting the service. This has been reliable and quickly resolves an instance of the issue.

Permanent repair options are being analysed as a priority 1 defect, managed as issue #2398.

Incident resolution log

Date / Time	Action	Workgroup
28 May 2018		
08:20	Service outage identified by support staff via the SCOM monitoring display.	Our Child Support
08:30	Initial root-cause analysis was conducted.	Our Child Support, Readify Support
08:30	Informal outage notifications communicated.	Our Child Support
09:00	Investigation into the reason why SCOM monitoring alerts where not received in the Our Child Technical Support mailbox identified a misspelt email address within the SCOM reporting rules.	Our Child Support, Infrastructure Operations
09:50	Outage notification published.	Our Child Support
10:00	Initial remediation implemented (services stopped and started) and the result tested successfully. Active monitoring of this intervention commenced and continued throughout the day.	Our Child Support
10:20	An informal review of Saturday missing child activity through the CSAHSC indicated that the weekend was quiet and there was minimal call for Our Child services.	Our Child Support, PSBA Service Desk
10:30	Service Now incident raised INC200142042.	Our Child Support
10:30	A review of DCSYW and QPS service desk tickets was undertaken to determine if any user had reported the event. No issues were reported by child safety staff and one issue was reported by a QPS officer. The QPS report was via a low priority line and the police officer was off-shift when the ticket was reviewed. This meant that the severity of the issue was not understood and therefore not transferred to the DCSYW service desk as per protocol.	Our Child Support, PSBA Service Desk
11:30	Formal root-cause support ticket logged with Microsoft and Readify.	Our Child Support
11:30	Outage update published.	Our Child Support
13:30	Outage update published.	Our Child Support

14:10	Microsoft in response to the support call, did analysis of the Azure App Service along with the Our Child support and Readify resources and confirmed it not to be an Azure issue. They also made two recommendations: i. To enable additional Azure logging so a memory dump can be generated if the issue occurs again. This dump would enable Microsoft to pinpoint the contributing issue. ii. Confirmed the need to always stop-start the web app instead of a simple restart as it does not guarantee a full and clean recycle of the App Service. Microsoft and Readify confirmed that this problem has been reported by other users.	Microsoft, Our Child Support, Readify Support
16:00	Our Child issue log created (#2398) to manage further activity.	Our Child Support
16:30	Special out of business hours monitoring arrangements were established to manage risk through Monday night.	Our Child Support
17:10	Outage update published.	Our Child Support
29 May 2018		
10:00	Final outage update published and incident closed.	Our Child Support

Current status

The Incident is resolved and:

☐   *No further action is required as the cause of the incident has been addressed and/or the likelihood of the Incident recurring is insignificant*

☒   *The root cause is known. Further action to prevent/minimise possibility of recurrence or treat the root cause is outstanding - refer to Resulting actions log*

☐   *The root cause is unknown and is pending - refer to Resulting actions log*

Resulting actions log

#	Action	Owner	Due
1	Web application deployment to include a stop and start.	Our Child Support	Complete
2	Deployments moved to Mondays to ensure less out-of-hours exposure.	Our Child Support	Complete
3	SCOM target messages have confirmed correct email address.	Infrastructure Operations	Complete
4	Priority 1 issue raised to manage permanent remediation.	Our Child Support	Complete
5	SCOM target messages forwarded to Our Child team individual email accounts to be visible while remote.	Our Child Support	Complete
6	Investigate underlying instability with the AutoFac library and select implementation option and timing.	Readify	15 Jun 2018