

To: Allen Graham (BRA01) [GRO]
Cc: Singh Jim [GRO]
From: Richard Watt [GRO]
Sent: Sun 5/30/2010 8:29:10 PM (UTC)
Subject: RE: Service Request Report - Fujitsu Services

Hi Graham,

Yes, I've just spoken with Amit (he's the manager of the Engineer implementing the code changes). His team are making good progress with the fix and the current ETA for an official fix is end of Friday 4th June (US Time). This will be for 10.2.0.4.3 and 10.2.0.4.4. This ETA is based upon the information we have at the moment and is subject to all tests being passed and no further complications.

We will keep you updated with any changes as we progress.

Kind Regards

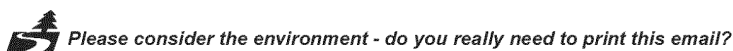
Richard

From: Allen Graham (BRA01) [GRO]
Sent: 30 May 2010 21:05
To: Richard Watt
Cc: Singh Jim
Subject: RE: Service Request Report - Fujitsu Services

Hi Richard, any news?

Graham Allen
Application Services – Post Office Account

FUJITSU
Lovelace Road, Bracknell, Berkshire. RG12 8SN.
Tel: [GRO] or Internally [GRO]
Mob: [GRO] or Internally [GRO]
E-mail: [GRO]
Web: <http://uk.fujitsu.com>



Fujitsu Services Limited, Registered in England no 96056, Registered Office: 22 Baker Street, London, W1U 3BW

This e-mail is only for the use of its intended recipient. Its contents are subject to a duty of confidence and may be privileged. Fujitsu Services does not guarantee that this e-mail has not been intercepted and amended or that it is virus-free.

From: Richard Watt [GRO]
Sent: 30 May 2010 11:01
To: Allen Graham (BRA01)
Cc: Singh Jim
Subject: RE: Service Request Report - Fujitsu Services

Hi Graham,

No problem, there has been further work yesterday on the bug and development are working on a new version of the patch applied last Thursday on 20th May (8528171). This new version will include the additional fix to resolve the behaviour seen in our testcase. I'll ask our development team for further clarification re: ETA as it was something Amit promised on Friday's 4pm call.

Will feedback later today.

Regards

Richard

From: Allen Graham (BRA01) **GRO**
Sent: 30 May 2010 09:55
To: Richard Watt
Subject: RE: Service Request Report - Fujitsu Services

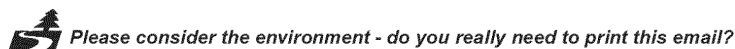
Hi Richard,

Apparently we were expecting an update by close of play yesterday from the US as to eta for the fix you were working on after having been able to produce the LCL problem on your development environment. I don't have access to the SR system and so unsure if there is anything. Please could you let me know. In the meantime I'll get someone to check the SR.

Sorry to bother you and many thanks,

Graham Allen
Application Services – Post Office Account

FUJITSU
Lovelace Road, Bracknell, Berkshire, RG12 8SN.
Tel: +44 (0)1344 313800 or Internally: +44 (0)1344 313800
Mob: +44 (0)7932 313800 or Internally: +44 (0)7932 313800
E-mail: gro@uk.fujitsu.com
Web: <http://uk.fujitsu.com>



Fujitsu Services Limited, Registered in England no 96056, Registered Office: 22 Baker Street, London, W1U 3BW

This e-mail is only for the use of its intended recipient. Its contents are subject to a duty of confidence and may be privileged. Fujitsu Services does not guarantee that this e-mail has not been intercepted and amended or that it is virus-free.

From: richard.watt@fujitsu.com **GRO**
Sent: 28 May 2010 20:50
To: Andrew Woodward; Carter Neil D; Stott Martin; Iqbal Zaf; Singh Jim; Goucher Sean; Kostuch Maz; D'Alvarez Alan; Allen Graham (BRA01); Adrian Turner; Beardmore Andy; Calvert Wayne; McCann Aidan; Gibson Andrew R; Hanley John (LON22); Cochrane Vince; Keeling David; Apte Amit; Salt Michael; Butts Geoff
Subject: Service Request Report - Fujitsu Services

Service Request Report - Fujitsu Services

Engagement Name:	Fujitsu Services - Post office - DB/Streams Issues
Division and Country:	EMEA, United Kingdom
Service Category:	Enterprise Support
CSIs:	14830841
Competency/Product Line:	ST/DATABASE
Prepared by:	Richard Watt [Mail]
Date:	Fri 28-MAY-2010 07:49 PM GMT (Fri 28-MAY-2010 12:49 PM US/Pacific Time)

This report: [Business Problem](#), [Exit Criteria](#), [Conference Schedule](#), [Current Status](#), [Heads-up](#), [Critical SR/Bug Summary](#), [Action Plan](#).

Distribution List (Oracle)

[Adrian Turner](#), [Andrew Woodward](#), [Richard Watt](#)

Distribution List (Fujitsu Services and 3rd parties)

[Aidan McCann](#), [Alan D'Alvarez](#), [Amit Apte](#), [Andrew Gibson](#), [Andy Beardmore](#), [David Keeling](#), [Geoff Butts](#), [Graham Allen](#), [Jim](#)

Singh, John Hanley, Martin Stott, Maz Kostuch, Mike Salt, Neil Carter, Sean Goucher, Vince Cochrane, Wayne Calvert, Zaf Iqbal

Customer Contact: Jim Singh, Office: GRO GRO	System and Product Information: APPS: RDBMS: 10.2.0.4 iAS: N/A Platform: Intel O/S: RedHat Project: Production	Escalation Open/Close: 10-MAY-2010/ Milestones:
Customer Contact: Sean Goucher	Product List: - Oracle Server - Enterprise Edition 10.2.0.4.3 - Red Hat Enterprise 4 (64-bit)	<u>Critical Production</u> 15 May 10: DB hang/lock must be resolved by this deadline
Engagement Manager: Richard Watt, Office: GRO GRO		<u>Critical Production</u> 25 June 10: Roll out to 12000 Post Offices due to complete

Business Problem:

Fujitsu Services (FS) are contracted with the Post Office to replace the current infrastructure used in 12000 branches across the UK. The project involves rolling out a (non Oracle) financial application using Oracle database and tools products. Oracle Streams is used to provide a reporting database environment. The migration onto the new platform started at the end of 2009 and is currently rolled out live to 600 branches.

Post Offices taking part in the pilot have been complaining about intermittent hangs which are having huge impact on over the counter services as the system hangs for 5 minutes or longer and users are unable to complete their financial transactions. Past system hangs have lasted for up to 45 minutes – causing queues of people to form in the post offices as they are unable to process transactions. Customers have become highly agitated causing unrest in some cases where they are unable to complete transactions such as pension payments and withdrawal of cash. Post Masters have lodged written complaints as they are unable to operate during these incidents.

FS have been on "red alert" for 6 weeks. Live rollout - up to 11500 branches (approx 30000 counters) due to finish 25/06/2010 across the whole of UK Post Office network is at risk and currently on hold until we can improve confidence in the reliability and scalability of the solution.

If not resolved quickly the situation could be reported in the press causing huge damage to the reputation of both FS and Oracle.

Exit Criteria:

Resolution of locking issues on RAC and problems using streams

Current Status as of Fri 28-MAY-2010 07:48 PM GMT (Fri 28-MAY-2010 12:48 PM US/Pacific):

Changes since last update:

- Oracle Engineering and Bug Diagnostics Engineer have reproduced a similiar behaviour to LCK issue but not to the same extent as experienced by customer. They're working on a fix which is targeted to resolve the lck issue causing the service outage. Further information re: ETA for fix will be provided end of Saturday (US Time).
- Customer has been requested to flush shared memory pool prior to recycling instances and provide Oracle support with further data. Customer will not recycle instances so will be able to provide data after 36 hours of uptime to Oracle on Monday.
- Flushing the shared memory may provide a better workaround and alternative to recycling the database instances. This is under evaluation by customer.
- Customer has escalated requirement for 10.2.0.4.4 merge patch via SRSR3-1782093091 to meet deadline of implementation into production on 6th June. Oracle have provided a patch but an overlay patch failed. An acceptable workaround has been provided and customer testing can continue. A corrected patch is in progress.
- Out of hours contacts have been provided by customer for weekend coverage.
- Richard Watt (Critical Accounts Manager) will be available on **GRO** out of hours, in event normal out of hours support process fails to meet customer's requirements.

Current Milestone:

PRODUCTION - resolution required ASAP

Current Status:

- No further LCK issues seen in production but DB instances are being restarted every night to clear shared memory pool
- Patch 9733457 to address memory leak issue on schedule to be deployed Sunday 30 May.
- Application changes to in relation to truncation/partition DDL and use of bind variables to be deployed 6th June
- Fujitsu have highlighted plan to implement PSU 10.2.0.4.4.on 6th June.
- Customer advised to run additional queries to gather additional diagnostic information around memory allocation in subpools. Diagnosis shows correct behaviour re: subpools.
- Adrian Turner onsite Tuesday 1st June for next 3 weeks.
- Issue is escalated to highest level and Critical Accounts manager engaged. Managers from Bug Diagnostic and Engineering attend daily calls.

Action Plans:

- Customer completing remaining action plan for LCK issues including application of patch 9734573 and making application changes to avoid partition DDL and make use of bind variables (due 6th June)
- Oracle to provide guidance re: ETA of potential fix for lck issue. This will be tested by Oracle in our reproduction environment before providing to customer.
- Customer restarting DB instance every night to mitigate business impact until complete action plan in place. To consider whether flushing shared memory is a better alternative with less impact.
- Oracle recommended customer plan to upgrade to latest PSU (currently 10.2.0.4.4) as part of service release cycle. Onsite consultant confirms that PO may benefit from some of the fixes it contains, particularly around long log file synchs and partition operations. Fujitsu currently plan to install on production 6th June.
- Oracle to provide merge patch for 10.2.0.4.4 via SR3-1782093091. This was delivered and an fault found with an overlay patch. A workaround has been provided and a corrected patch in progress.
- Daily review calls with Oracle Critical Accounts / Support and Development management at 11am UK to review progress. Technical review calls at 4pm UK as required. Executive calls at 6pm. Next scheduled conference call on 1st June at 11am.
- See SR Report below for current status and priority of technical issues.

Next Conf Call

Daily calls 11am, 4pm UK

GRO

Critical SR/Bug Summary

#	Cus Pty	SR Next Action	SR Product	SR	Bug	SR Open Date	SR List Date	SR Sev	SR Description	SR Status
Critical Production 15 May 10: DB hang/lock must be resolved by this deadline										
1	1	Customer	Oracle	3-	9670959	29-MAR-	10-	1-Critical	SHOWSTOPPER:	Capture Diagnostics

	Oracle (Customer Working)	Server - Enterprise Edition	1610271271 Esc To: JKAUTTO	8528171 8666117	10	MAY-10	ESC	9670959: Receiver is waiting for a latch dumping latch state for receiver	Status Customer experiencing intermittent DB hangs. Patch 8666117 already applied. DB appears to be overloaded at time - nearing 100% CPU - due to LCK0 housekeeping operations. May be a problem with shared pool issues. 11/05/10=> Dev suggest setting parameter _object_statistics=false to reduce lck0 load, working on one off patch for bug 8528171. Cus to continue running ProcWatcher and OS Watcher to collect OS and network information for further incidents. Support to phone Aidan McCann with updates on GRO 12/05/10-> Patch 9668554 provided for customer to test, cus to set _object_statistics=false and enable event no 14532 trace name context forever, level 1', support have confirmed that incident at 5:30 today looks very similar to previous incidents 13/05/10-> Another hang at 8:50 this morning - same as previous - shared pool under pressure - recommendations remain same. 13/05/10-> No further hangs / outages. OCS and Support have communicated Critical action plan and medium / long term recommendations to customer. All Critical actions will be implemented by end of Tuesday 18th May. 17/05/10-> Cus has set _object_statistics=false. Minor blip at 9:50 today - impact unknown, procwatcher not running. Patch and event 14532 to be set night of Tues 18 May. 18/05/10-> Patch and event implementation delayed until Thurs 20 May. Support confirm that setting _object_statistics=false has lessened load on LCK as 'obj stat del' messages are gone in error stacks 20/05/10-> Patch and event enabling implemented 21/05/10-> No further outages as of 18:14. System under monitoring. Data has been provided to development for further review of system behavior.
--	------------------------------	--------------------------------	----------------------------------	--------------------	----	--------	-----	---	---

										22/05/10 -> Further occurrence of LCK issue on Sat 16:00. Escalated to support and Dev engaged. Impact to PO unclear as very few counters would have been open (only 3rd party such as at WHSmiths). 23/05/10-> Analysis of issue on 22nd May showed improvement in memory usage, further recommendation to install patch from SR 3-1777735201. This will further improve shared memory usage. 24/5/10: Oracle continue to investigate informatin from latest hang including active session history 25/5/10: Oracle have suggested running queries to check for skewness in allocation of memory between subpools - need to know if one pool has lots of free memory whilst other one is starved. Latest hang occurred with 1.5Gb of free memory so need to check subpool allocation. 26/5/10: Initial investigation has shown correct behaviour for subpools. Further data has been requested to confirm this. 27/5/10: Customer has been recommended to flush shared memory prior to recycling instances. This is being evaluated as a workaround to recycling by customer and will also provide Oracle Engineering with more data re: behavior. Oracle Engineering have been able to reproduce similar behavior though not to same extent. 28/5/10: Oracle Engineering are working on a fix based on behaviour found in testcase. Further details re: ETA will be provided end of Saturday US Time. Actions Customer / onsite Oracle team to implement following suggestions:- 1. Set _object_statistics=false (completed) 2. Set event 14532 at level 1 to enable the fix for bug <u>5618049</u>. (completed) 3. Apply fix for bug <u>8528171</u> (provided in patch 9668554). (completed) 4. Install merge patch 9734573 (includes bug <u>7306915</u>). (production 30th May)
--	--	--	--	--	--	--	--	--	--	--

										5. Shared pool/library cache tuning activity - application fixes RA1005.6a (partition DDL/truncate fix), RA1005.7 and .9 (bind variable fixes) (due for implementation weekend of 6th June) To assist with investigation:- 1. Run queries to check of skewness in allocation of memory between subpools 2. Provide Oracle with script used to attempt to reproduce issue, this will be useful so Oracle can assist with reproduction. 3. Flush shared pool prior to daily recycle and provide stats back to Oracle.
2	2	Customer (Customer Working)	Oracle Server - Enterprise Edition	3- <u>1777735201</u>	<u>9734782</u>	20-MAY-10	20-MAY-10	1-Critical	Hang on May 19th, May 23rd - ORA7445 errors	Implement Solution ->No Change Status Customer experienced hang around 4:15 on May 19 - client screens hung for around 4 mins. Further hang on Sun 23 May 5:30 am. Fujitsu highlighted this had no impact to post office branches. Issue appears to match bug:7306915 "EXCHANGE PARTITION leaks "KGL handles" shared pool memory" - fixed in 10.2.0.4.4 - support to request backport to 10.2.0.4.3 which is compatible with previously supplied patches. Customer has run script to collect log file sync diagnostic information - support reviewing. 20/05/10 -> Awaiting patch and further findings from diagnostic information provided 21/05/10 -> New version of patch provided to customer (contains patch from SR3-1610271271 plus bug 7306915) 24/5/10: Further hang experienced 5:30 am May 23 Actions Customer to test and apply patch 7306915 - plan to put into VOL tonight, production on weekend of 29/30th May
3	3	Oracle (Review Defect)	Oracle Universal Installer	3- <u>1782093091</u> Esc To: FEMARTIN	<u>8528171</u> <u>9749642</u>	21-MAY-10	23-MAY-10	2-Significant ESC	problem applying PSU 10.2.0.4.4	Prepare Solution Status Overlay patch to be provided which will contain Patch 9668554 10.2.0.4.4 does contain several fixes which could be relevant including partition and

										performance related fixes such as Long "log file sync" wait in RAC 24 May 10: Customer to consider 10.2.0.4.4 as part of longer term maintenance plan 25 May 10: With Oracle to deliver overlay patch 26/05/10: Escalated to Critical Accounts Manager, customer requires merge patch to continue with testing 10.2.0.4.4. Customer plans to implement into production on 6th June. 27/05/10: Merge patch is complex and is unlikely to be delivered prior to 6th June. Engineering are reviewing extent of code changes required. 28/5/10: Patch failed due to merge conflict caused by overlay patch 7189722. Customer has workaround to avoid application of patch and can continue testing. An corrected official patch will be provided. Actions Oracle to provide corrected official merge patch.
--	--	--	--	--	--	--	--	--	--	---

Critical Production 25 June 10: Roll out to 12000 Post Offices due to complete

4	4	Customer Oracle (Development Working)	Oracle Server - Enterprise Edition	2-5924536 Esc To: PROLLAND	7345904 9367294 9662623	17-AUG-09	10-MAY-10	2-Significant ESC	Streams Apply performance degrades over time	Identify Problem ->No Change Status Desire to be up to date at target 1.5 hours after batch. Now varies from 4 -18 hour. Customer to upload an export of sys.streams\$_apply_spill_txn by doing a copy of the table to the schema of an ordinary user via create table copy_streams\$_apply_spill_txn as select * from sys.streams\$_apply_spill_txn. Oracle consultant has made tuning suggestions and advised to re instantiate Streams as current streams is far behind 12/05/10-> Information provided to Dev for analysis - WITH DEV 14/05/10-> Dev investigating further. Customer is re-enabling streams on adhoc basis as business requirements demand. They are aware of impact to performance. It is not enabled at peak periods. 17/05/10-> Dev reviewing uploaded files, awaiting
---	---	---	------------------------------------	----------------------------------	-------------------------------	-----------	-----------	-------------------	--	---

										feedback 19/05/10-> Assigned to development for further investigation. Actions Oracle dev to investigate further. Customer to upload opatch inventory to SR.
5	5	Customer (Customer Working)	Oracle Server - Enterprise Edition	<u>3-1742179041</u>	-	07-MAY-10	13-MAY-10	2-Significant	Node Evictions on a 4 Node RAC (PRODUCTION)	Implement Solution ->No Change Status Nodes are evicted from cluster due to fatal heartbeat failures. This is intermittent and customer is unable to reproduce issue. Current analysis indicates potential network issue may be root cause and support have requested further data. Customer has installed oswatcher to assist with analysis of more critical issues. 13/05/10-> Customer to provide oswatcher data on next occurrence. 14/05/10-> Status unchanged 19/05/10-> Customer has made some changes to settings and no node evictions seen since, would like Oracle to make recommendations as to settings to tune the interconnect 21/05/10-> tcp tuning recommendations provided Actions Customer to implement operating system tuning recommendations.
6	6	Customer (Customer Working)	Oracle Server - Enterprise Edition	<u>3-1721140441</u> Esc To: BLEVE	-	29-APR-10	10-MAY-10	2-Significant ESC	ASM instance crashed when disk space added	Implement Solution ->No Change Status This issue may related to SR3-1610271271 as read/write accesses are performed by the database instance directly and so a lock from the database instance could impact the ASM instance which needs to access to the same location. 13/05/10-> Will review this SR once SR3-1610271271 has been progressed. Support to monitor. 14/05/10-> Status unchanged 19/05/10-> No update Actions Customer to implement solution for SR3-1610271271 then review this issue.

CERBERUS CRE exe:5161266 rep:2 eng:373879 uid:rwatt secs:0.00 srvr:Fri 28-MAY-2010 02:49 PM