

SAP Enqueue performance X IO threads

April 2015

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Agenda

- Motivation, scope and methodology
- Technical clarification about the service
- Building the requirements
- Tests and results

Motivation

A high number of SAP customers opening incidents due to performance issues

No clear SAP documentation about the goal and the behaviour of enqueue IO threads

No benchmarks available from SAP about IO threads performance

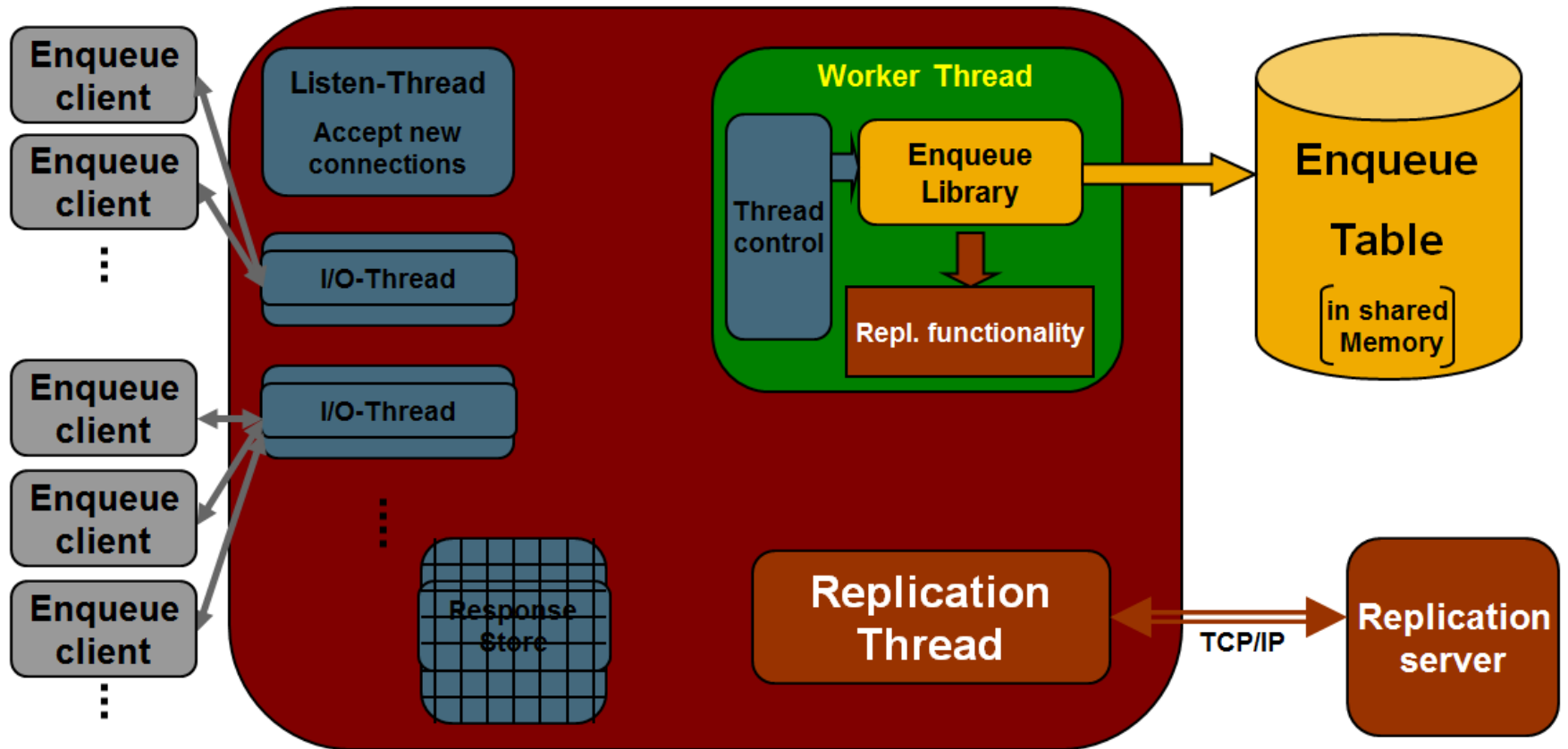
Scope

Enqueue IO Threads performance

Methodology

A loadrunner test comparing the performance using distinct number of threads

Enqueue Service



Building the requirements

Environment

- Enqueue Server running on:
- 2 CPU server - Intel(R) Xeon(R) CPU E5-2680 v2 @ 2.80GHz
 - 4 CPU server - Intel(R) Xeon(R) CPU E5-2680 v2 @ 2.80GHz
- Client started on:
- 4 CPU server - Intel(R) Xeon(R) CPU E5-2680 0 @ 2.70GHz

Client

A clean and fast program able to trigger the most expensive task in Enqueue

Loadrunner

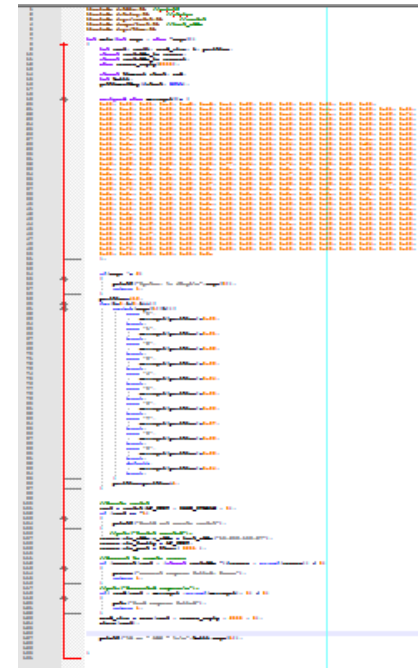
Phase 1: 5000 requests, 50 processes

Phase 2: 10000 requests, 100 processes

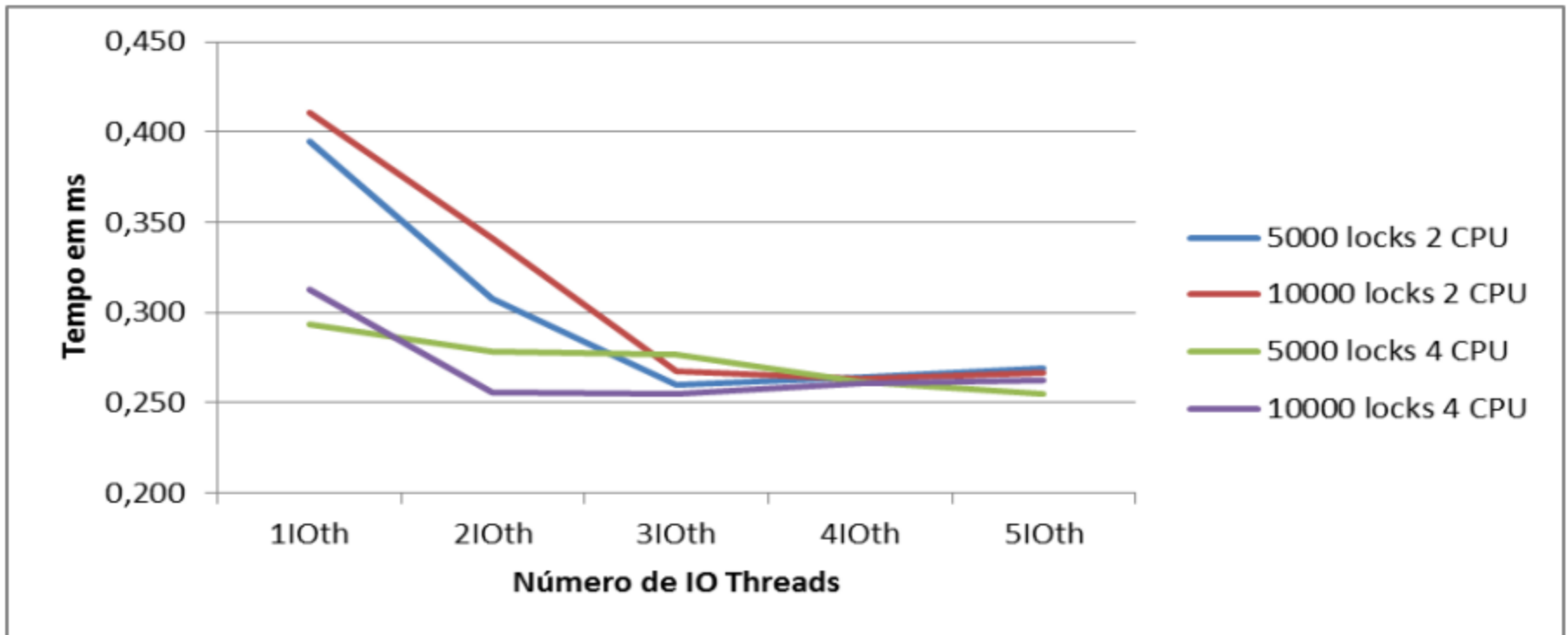
Building the client and loadrunner

```
dewdftv00006:~ $ tcpdump -nnXXSs 0 port 3201
tcpdump: verbose output suppressed, use -v or -vv for full protocol decode
listening on eth0, link-type EN10MB (Ethernet), capture size 65535 bytes
18:37:48.618752 IP 10.208.159.27.55827 > 10.208.153.161.3201: P 2561183348:25611838
32(484) ack 3381148410 win 280 <nop,nop,timestamp 48005048 2615209229>
0x0000: 0050 56b7 71d2 0050 56b7 22ee 0800 4500 .PV.q..PV."...E.
0x0010: 0218 70bc 4000 4006 79c7 0ad0 9f1b 0ad0 ..p.@.@.y.....
0x0020: 99a1 da13 0c81 98a8 8e74 c988 3afa 8018 .....t...!...
0x0030: 0118 b98c 0000 0101 080a 02dc 7fb8 9be0 .....#.....
0x0040: ed0d 0000 01e0 abcd e123 0000 0019 0000 .....ENC...
0x0050: 01e0 0000 01e0 0100 0000 454e 4300 0101 .....enRoot
0x0060: 0000 0000 0100 0000 01c4 656e 526f 6f74 .....R.....$.4...
0x0070: 5200 0203 0112 0024 19fc 0100 3412 0000 .$.H.....
0x0080: 0024 19fc 0000 0000 0048 1000 0000 0000 ..1h.....
0x0090: 0001 3168 0001 0000 0000 0000 0001 0000 .l.....
0x00a0: 006c 0000 0000 0000 0000 0000 0000 0000 .|.....
0x00b0: 007c 0000 00c4 0000 010c 0000 011c 0000 .,...@...T.....
0x00c0: 012c 0000 0140 0000 0154 0000 01b4 0000 .....6...@..2..
0x00d0: 000e 0303 0036 0000 0001 4000 0032 0000 .G...6...:201409
0x00e0: 0047 0303 0036 0000 003a 3230 3134 3039 0318361263042000
0x00f0: 3033 3138 3336 3132 3633 3034 3230 3030 6403dewdftv02115
0x0100: 3634 3033 6465 7764 6674 7630 3231 3135 .....G.....
0x0110: 2e2e 2e2e 2e2e 2e2e 2e2e 2e2e 2e2e 2e2e .:20140903183612
0x0120: 2e2e 2e2e 002e 0000 0047 0303 0000 0000 630424006403dewd
0x0130: 003a 3230 3134 3039 3033 3138 3336 3132 ftv02115.....
0x0140: 3633 3034 3234 3030 3634 3033 6465 7764 .....t..
0x0150: 6674 7630 3231 3135 2e2e 2e2e 2e2e 2e2e .....1...2....
0x0160: 2e2e 2e2e 2e2e 2e2e 2e2e 2e2e 0074 0000 .....001...
0x0170: 000e 0303 0031 0000 0001 3200 002e 0000 .....DDIC..
0x0180: 0010 0303 002e 0000 0003 3030 3100 0000 .....SM
0x0190: 0011 0303 002e 0000 0004 4444 4943 002e .....12.....
0x01a0: 002e 0000 0011 0303 0020 0000 0004 534d ..O1.....
0x01b0: 3132 0020 0020 0000 000f 0303 0020 0000 ..E.....
0x01c0: 0002 4f31 0020 0000 000e 0303 0020 0000 ..GRA.0.....
0x01d0: 0001 4500 0020 0000 0012 0303 0020 0000 .....ARG.0....
0x01e0: 0015 4752 4120 3000 0020 0000 0012 0303 .....d..
0x01f0: 0020 0000 0005 4152 4720 3000 0020 0000 .t.....
0x0200: 0018 0100 0020 0000 0003 0000 0164 0000 .....
0x0210: 0174 0000 0188 0000 0010 0100 0000 0000
0x0220: 0001 0000 019c
```

Client to create a single lock



Results



Questions ?

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