

PolePosition

the open source database benchmark

<http://www.polepos.org>

Participating teams

db4o

the open source object database for Java and .NET

<http://www.db4o.com>

Hibernate

relational persistence for idiomatic Java

<http://www.hibernate.org>

MySQL

the world's most popular open source database

<http://www.mysql.com>

Mckoi

an open source Java SQL database system

<http://mckoi.com/database/>

Derby

the Apache Derby project

<http://incubator.apache.org/derby/>

HSQLDB

lightweight 100% Java SQL database engine

<http://hsqldb.sourceforge.net/>

VOA/mysql

Versant Open Access

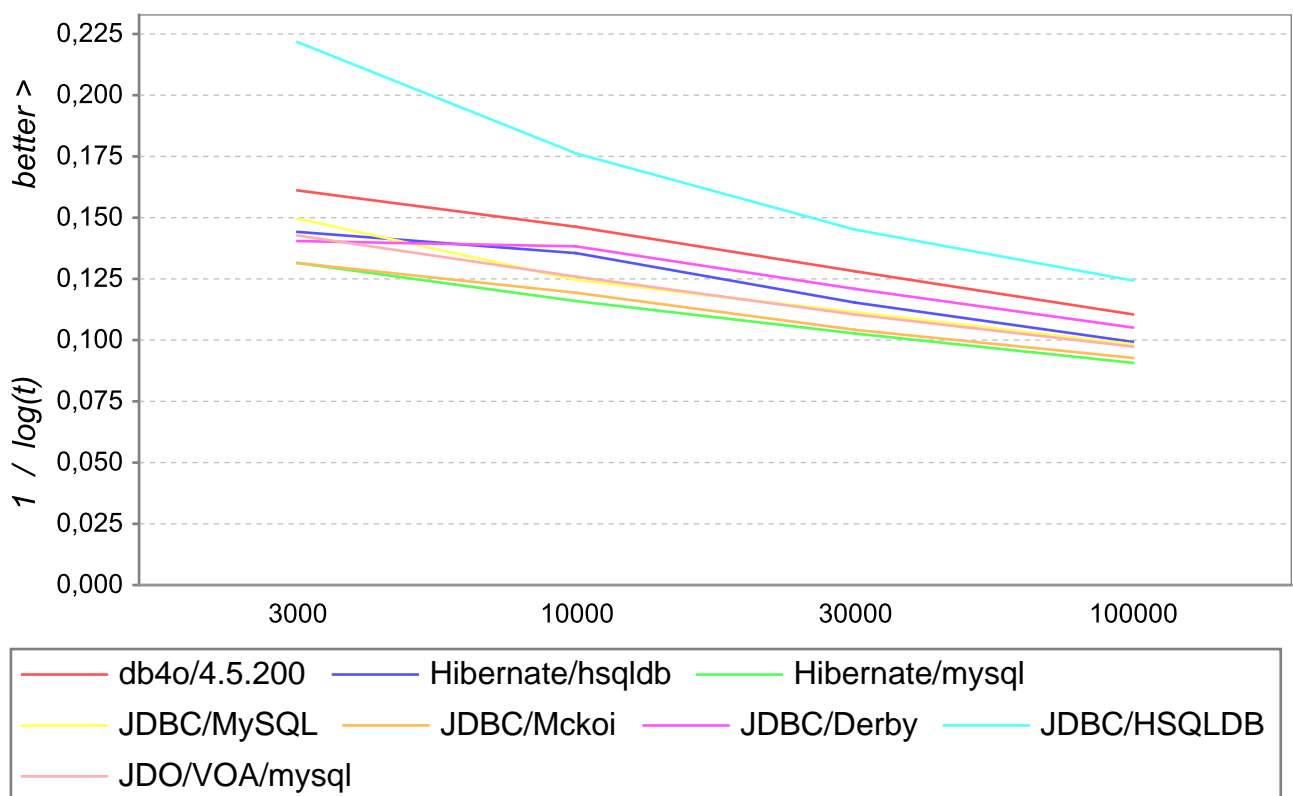
<http://www.versant.com/opensource>

Circuit: Melbourne

writes, reads and deletes unstructured flat objects of one kind in bulk mode

Lap: write

t [time in ms]	objects:3000	objects:10000	objects:30000	objects:100000
db4o/4.5.200	496	931	2450	8508
Hibernate/hsqldb	1028	1602	5811	23687
Hibernate/mysql	2006	5570	16880	61503
JDBC/MySQL	799	3060	7920	26147
JDBC/Mckoi	2009	4359	14689	48335
JDBC/Derby	1236	1383	3896	13498
JDBC/HSQLDB	91	291	981	3113
JDO/VOA/mysql	1104	2814	8548	28851

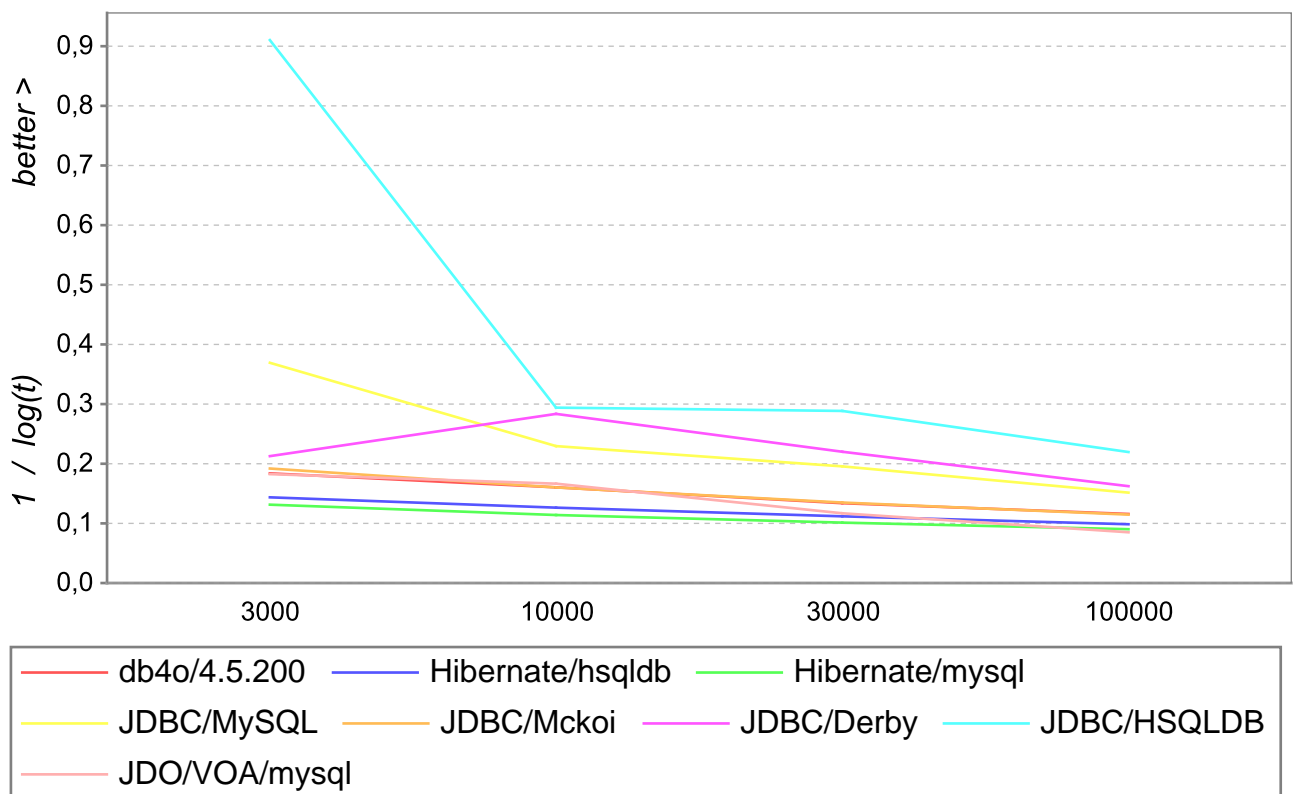


Circuit: Melbourne

writes, reads and deletes unstructured flat objects of one kind in bulk mode

Lap: read

t [time in ms]	objects:3000	objects:10000	objects:30000	objects:100000
db4o/4.5.200	230	509	1759	5615
Hibernate/hsqldb	1053	2731	7648	25480
Hibernate/mysql	2019	6426	19374	65064
JDBC/MySQL	15	78	166	734
JDBC/Mckoi	183	513	1651	6112
JDBC/Derby	110	34	94	473
JDBC/HSQLDB	3	30	32	95
JDO/VOA/mysql	239	405	5176	127122

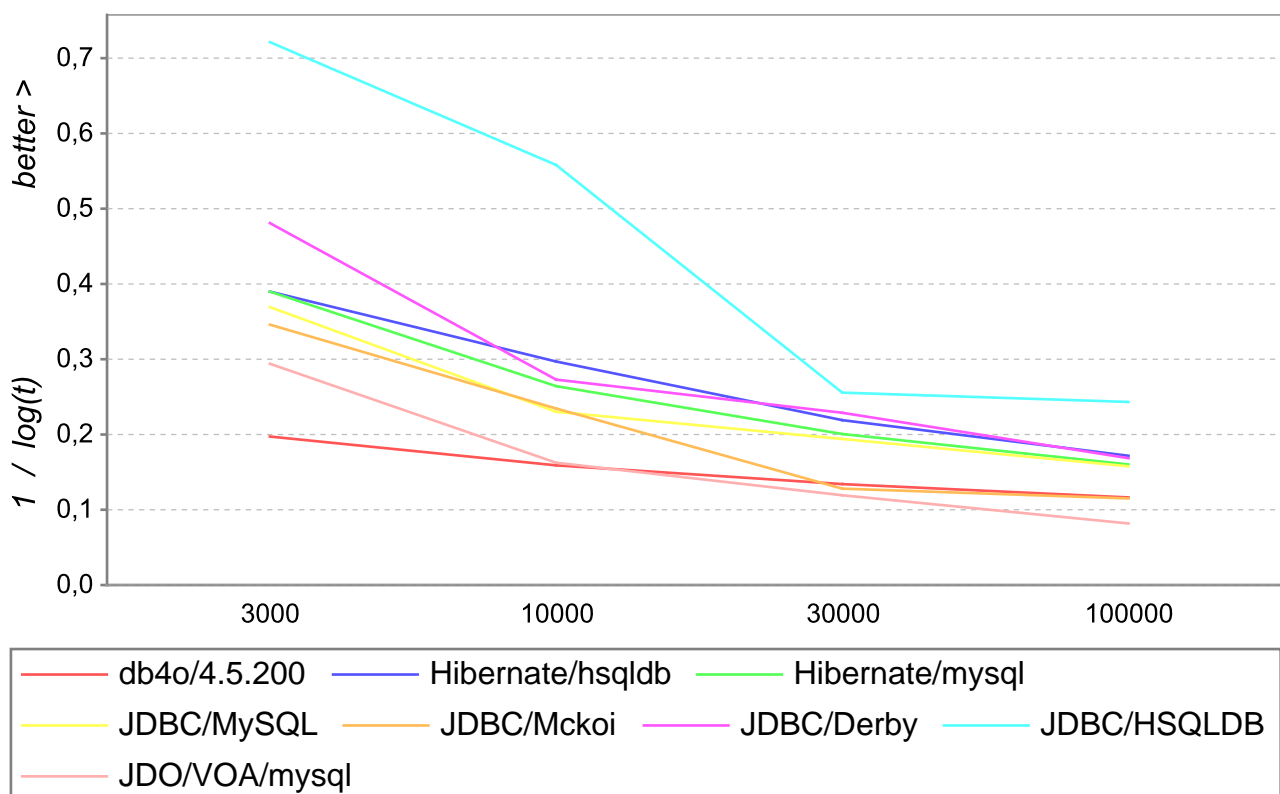


Circuit: Melbourne

writes, reads and deletes unstructured flat objects of one kind in bulk mode

Lap: read_hot

t [time in ms]	objects:3000	objects:10000	objects:30000	objects:100000
db4o/4.5.200	159	538	1732	5388
Hibernate/hsqldb	13	29	96	338
Hibernate/mysql	13	44	146	514
JDBC/MySQL	15	77	173	566
JDBC/Mckoi	18	71	2459	5962
JDBC/Derby	8	39	79	378
JDBC/HSQLDB	4	6	50	61
JDO/VOA/mysql	30	470	4378	203318

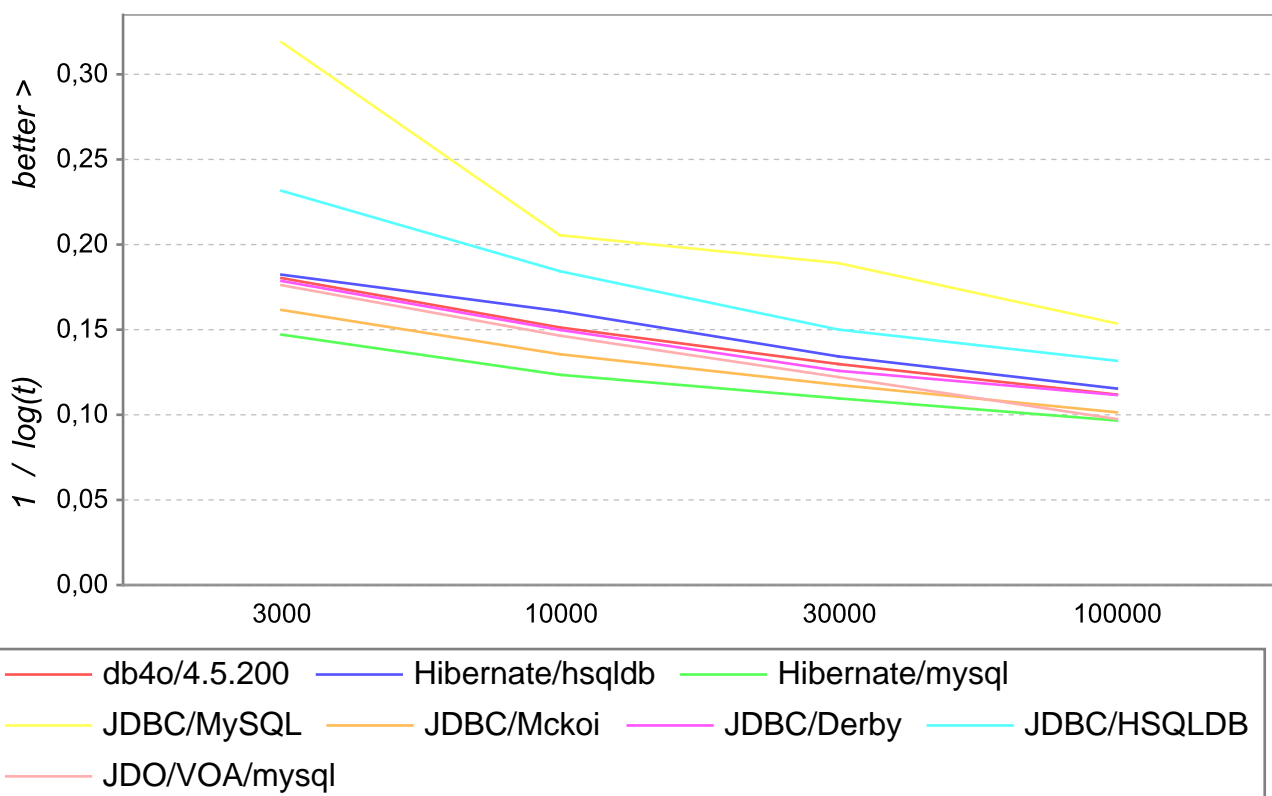


Circuit: Melbourne

writes, reads and deletes unstructured flat objects of one kind in bulk mode

Lap: delete

t [time in ms]	objects:3000	objects:10000	objects:30000	objects:100000
db4o/4.5.200	256	742	2218	7621
Hibernate/hsqldb	241	501	1713	5793
Hibernate/mysql	896	3285	9130	31120
JDBC/MySQL	23	130	198	671
JDBC/Mckoi	487	1597	4943	19112
JDBC/Derby	270	791	2828	7777
JDBC/HSQldb	75	227	784	1983
JDO/VOA/mysql	292	922	3593	28468

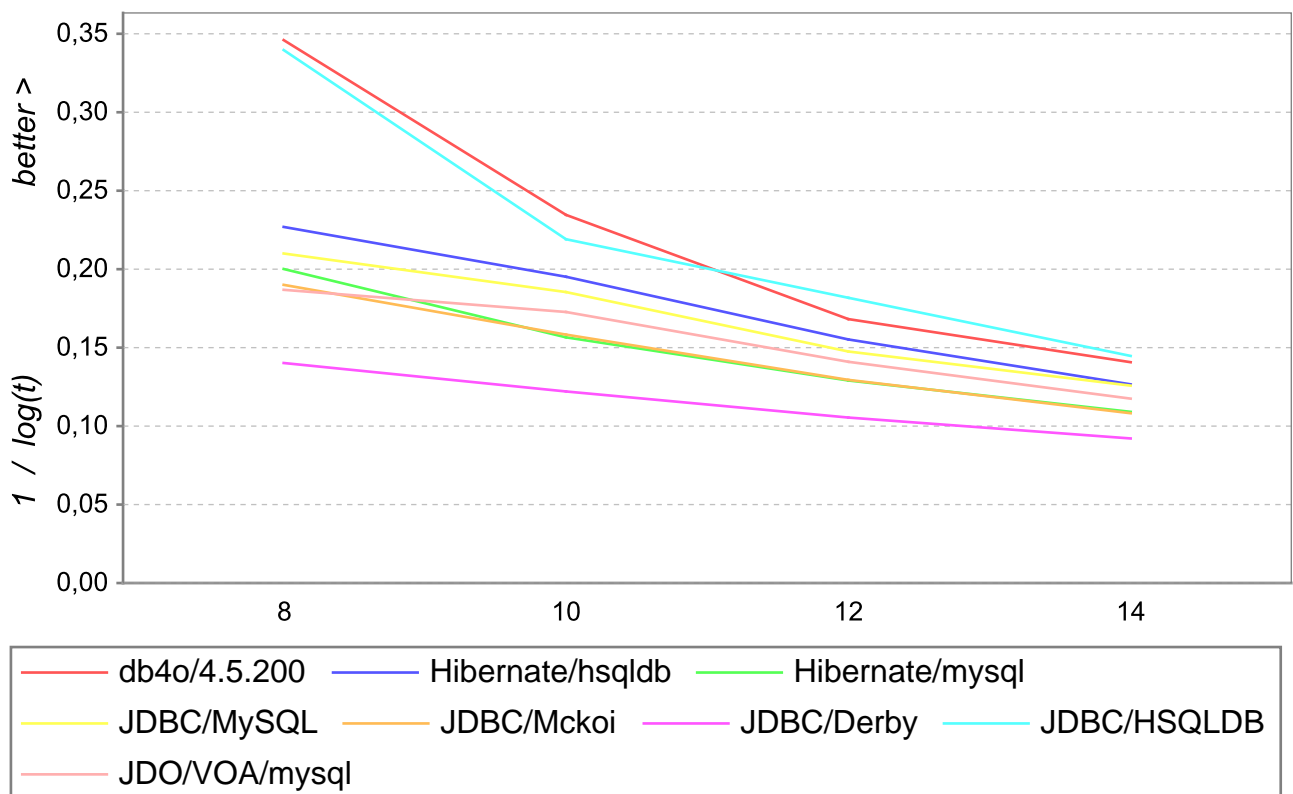


Circuit: Sepang

writes, reads and then deletes an object tree

Lap: write

t [time in ms]	depth:8	depth:10	depth:12	depth:14
db4o/4.5.200	18	71	382	1219
Hibernate/hsqldb	82	168	628	2693
Hibernate/mysql	148	594	2318	9577
JDBC/MySQL	117	220	878	2835
JDBC/Mckoi	193	554	2263	10315
JDBC/Derby	1251	3612	13127	51814
JDBC/HSQldb	19	96	245	1002
JDO/VOA/mysql	211	327	1204	4969

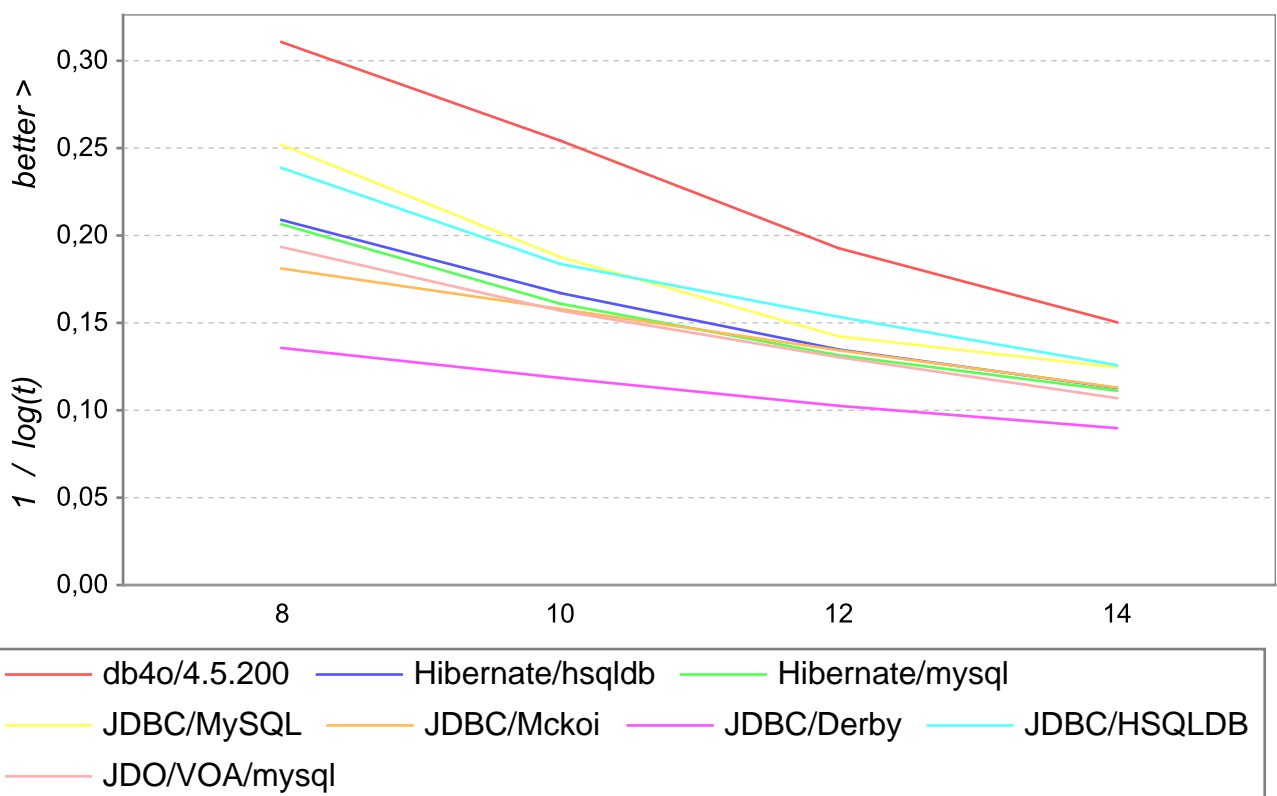


Circuit: Sepang

writes, reads and then deletes an object tree

Lap: read

t [time in ms]	depth:8	depth:10	depth:12	depth:14
db4o/4.5.200	25	51	179	773
Hibernate/hsqldb	120	397	1668	7120
Hibernate/mysql	127	498	2010	8048
JDBC/MySQL	53	206	1125	3066
JDBC/Mckoi	250	561	1708	6967
JDBC/Derby	1590	4617	17171	68852
JDBC/HSQLDB	66	231	676	2831
JDO/VOA/mysql	176	584	2144	11508

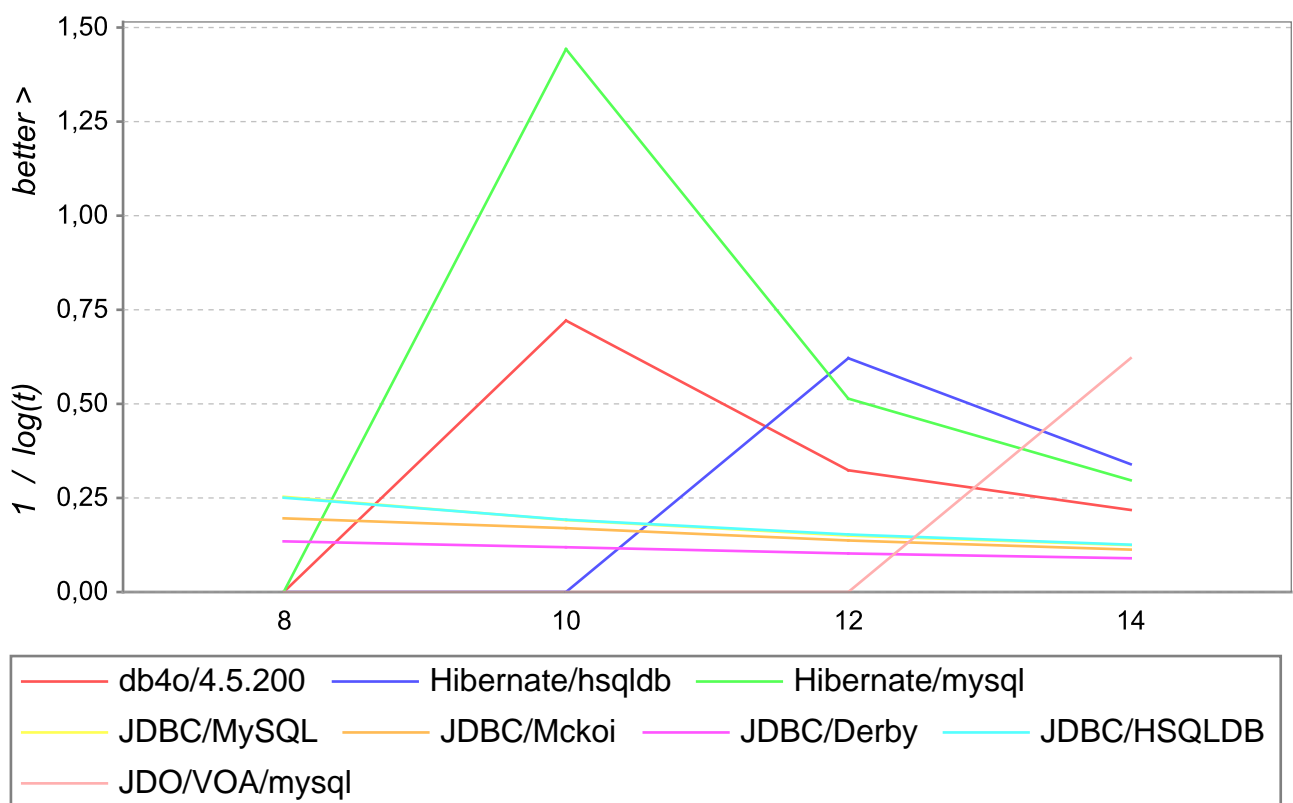


Circuit: Sepang

writes, reads and then deletes an object tree

Lap: read_hot

t [time in ms]	depth:8	depth:10	depth:12	depth:14
db4o/4.5.200	1	4	22	98
Hibernate/hsqldb	1	1	5	19
Hibernate/mysql	1	2	7	29
JDBC/MySQL	52	187	785	3072
JDBC/Mckoi	165	362	1478	7133
JDBC/Derby	1679	4449	17230	69200
JDBC/HSQLDB	54	182	691	2829
JDO/VOA/mysql	0	0	1	5

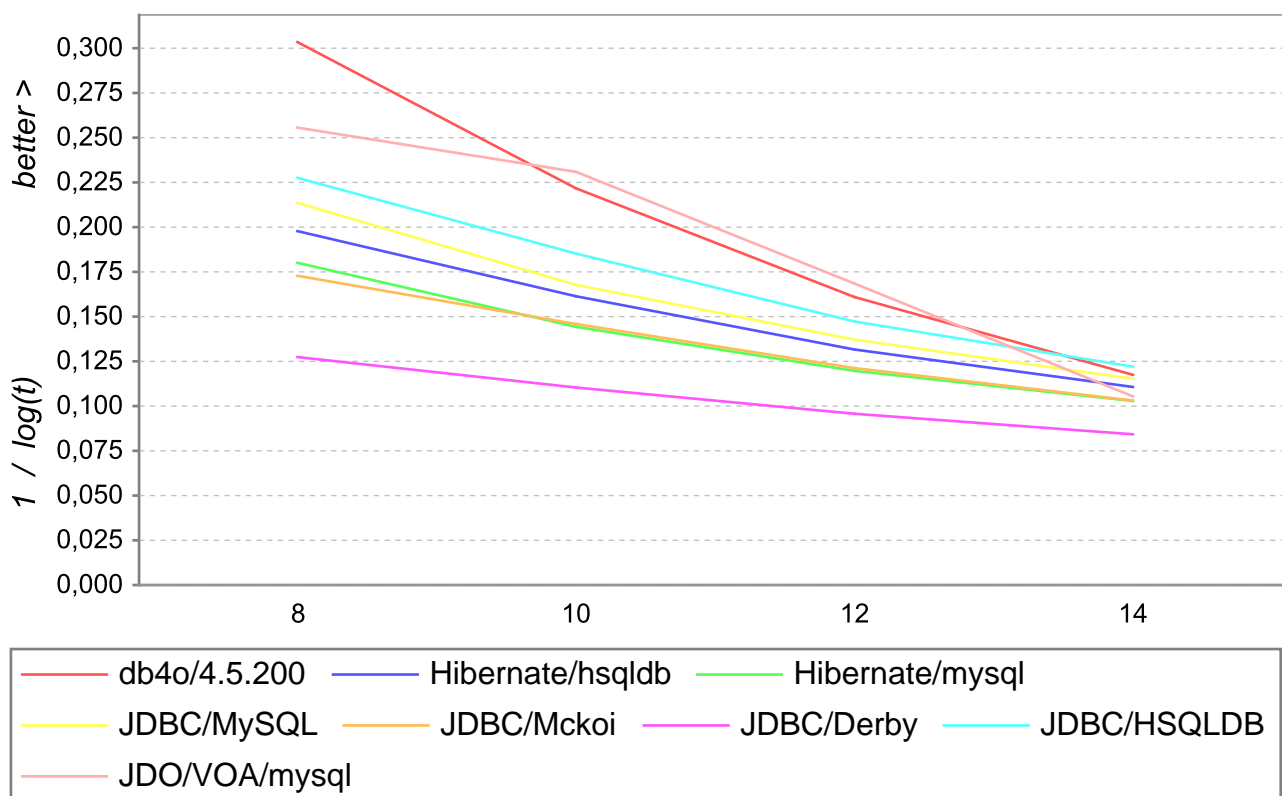


Circuit: Sepang

writes, reads and then deletes an object tree

Lap: delete

t [time in ms]	depth:8	depth:10	depth:12	depth:14
db4o/4.5.200	27	91	499	4974
Hibernate/hsqldb	157	491	1993	8385
Hibernate/mysql	258	1022	4249	16695
JDBC/MySQL	108	388	1467	5869
JDBC/Mckoi	326	948	3825	16291
JDBC/Derby	2565	8595	34475	143231
JDBC/HSQldb	81	221	888	3624
JDO/VOA/mysql	50	76	378	13142

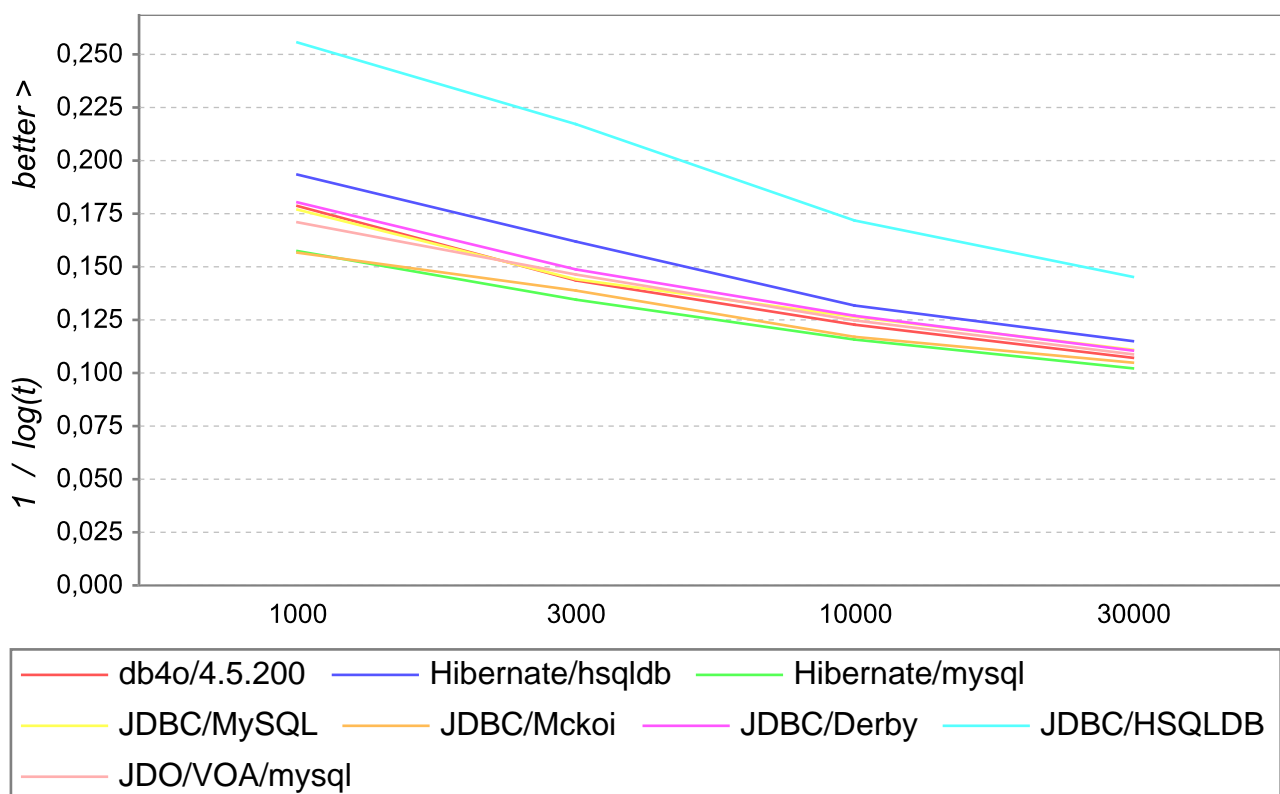


Circuit: Bahrain

write, query, update and delete simple flat objects individually

Lap: write

t [time in ms]	selects:900 objects:1000 updates:100	selects:900 objects:3000 updates:100	selects:900 objects:10000 updates:100	selects:900 objects:30000 updates:100
db4o/4.5.200	270	1059	3452	11305
Hibernate/hsqldb	176	482	1975	5978
Hibernate/mysql	574	1692	5648	17772
JDBC/MySQL	285	1032	2723	8200
JDBC/Mckoi	592	1346	5142	13857
JDBC/Derby	256	831	2637	8486
JDBC/HSQldb	50	100	337	977
JDO/VOA/mysql	347	928	3025	9813

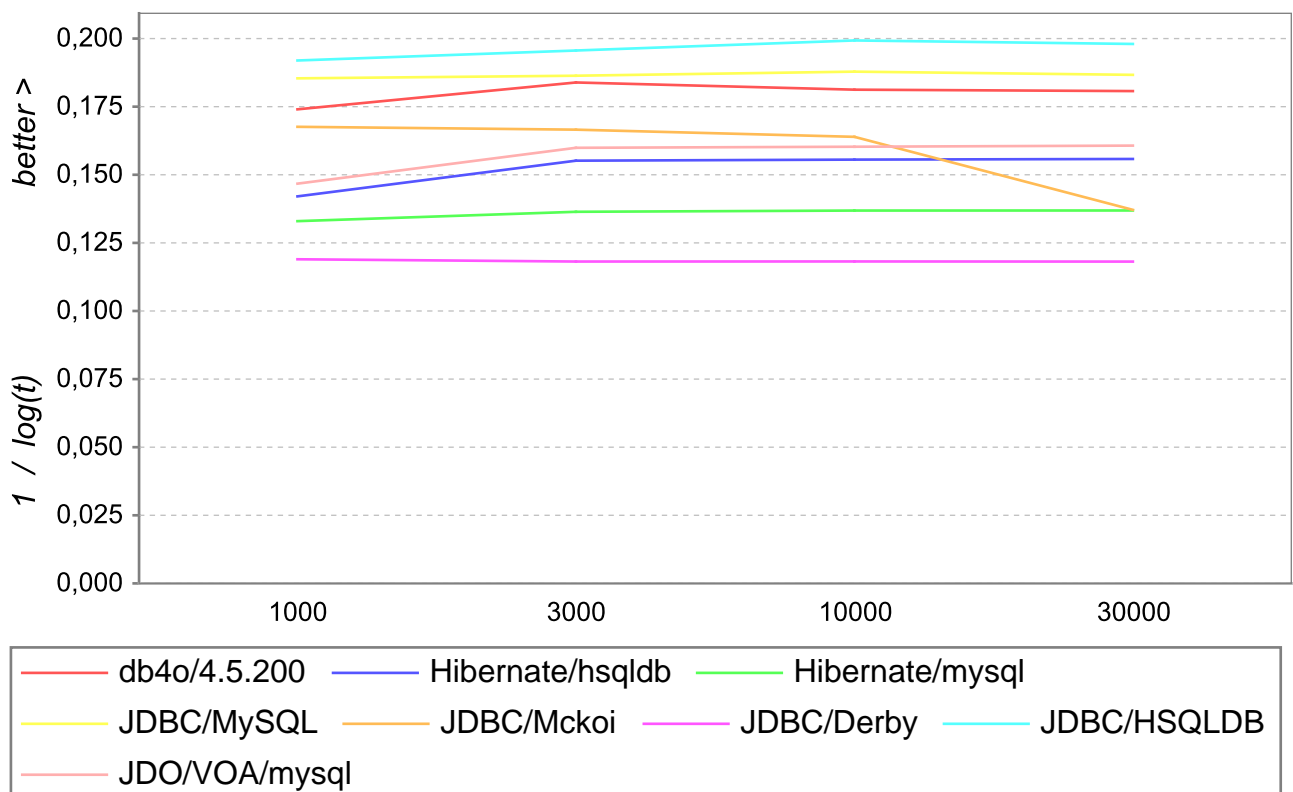


Circuit: Bahrain

write, query, update and delete simple flat objects individually

Lap: query_indexed_string

t [time in ms]	selects:900 objects:1000 updates:100	selects:900 objects:3000 updates:100	selects:900 objects:10000 updates:100	selects:900 objects:30000 updates:100
db4o/4.5.200	313	230	249	253
Hibernate/hsqldb	1140	629	619	613
Hibernate/mysql	1845	1526	1490	1488
JDBC/MySQL	220	214	205	212
JDBC/Mckoi	390	405	446	1469
JDBC/Derby	4468	4739	4729	4747
JDBC/HSQldb	183	166	151	156
JDO/VOA/mysql	911	520	512	504

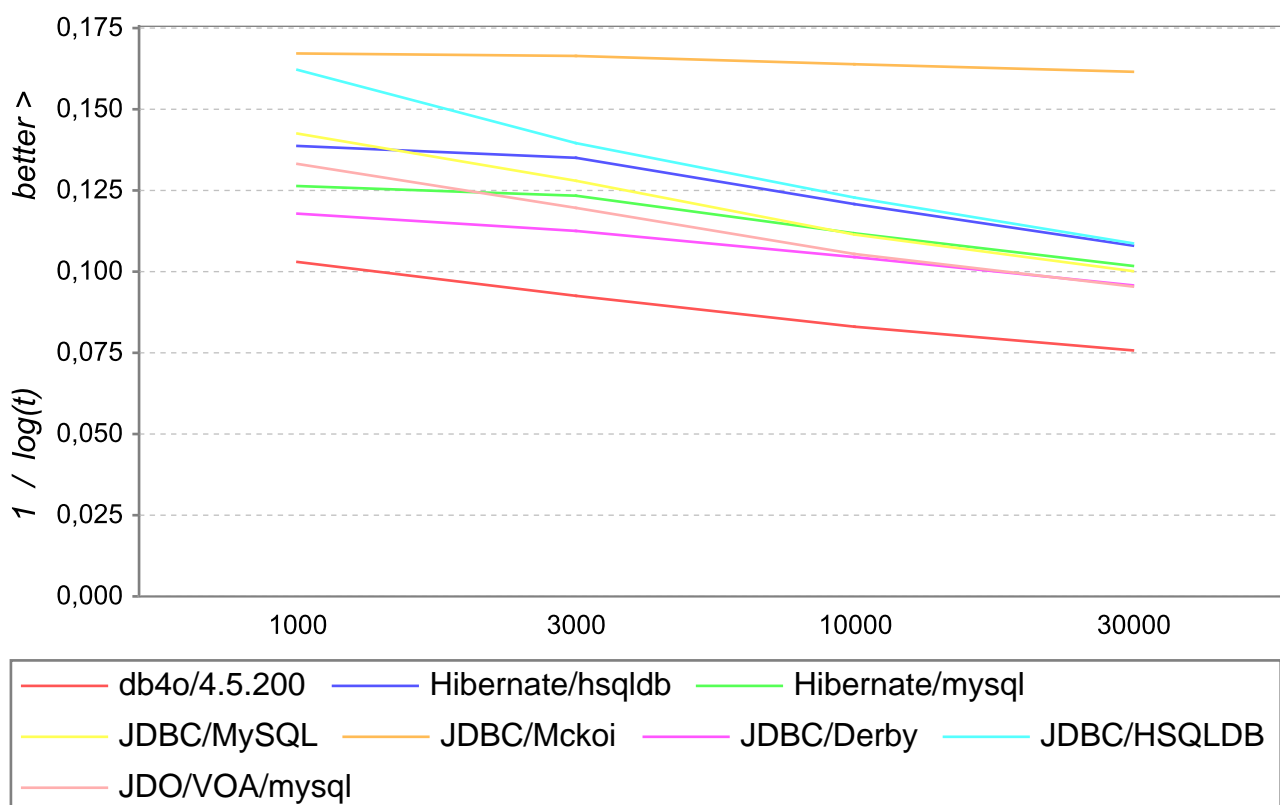


Circuit: Bahrain

write, query, update and delete simple flat objects individually

Lap: query_string

t [time in ms]	selects:900 objects:1000 updates:100	selects:900 objects:3000 updates:100	selects:900 objects:10000 updates:100	selects:900 objects:30000 updates:100
db4o/4.5.200	16489	49259	169611	541532
Hibernate/hsqldb	1352	1644	3938	10493
Hibernate/mysql	2735	3311	7663	18523
JDBC/MySQL	1115	2475	7900	21686
JDBC/Mckoi	396	407	447	488
JDBC/Derby	4840	7231	14337	34212
JDBC/HSQldb	477	1293	3437	9874
JDO/VOA/mysql	1825	4267	13154	35652

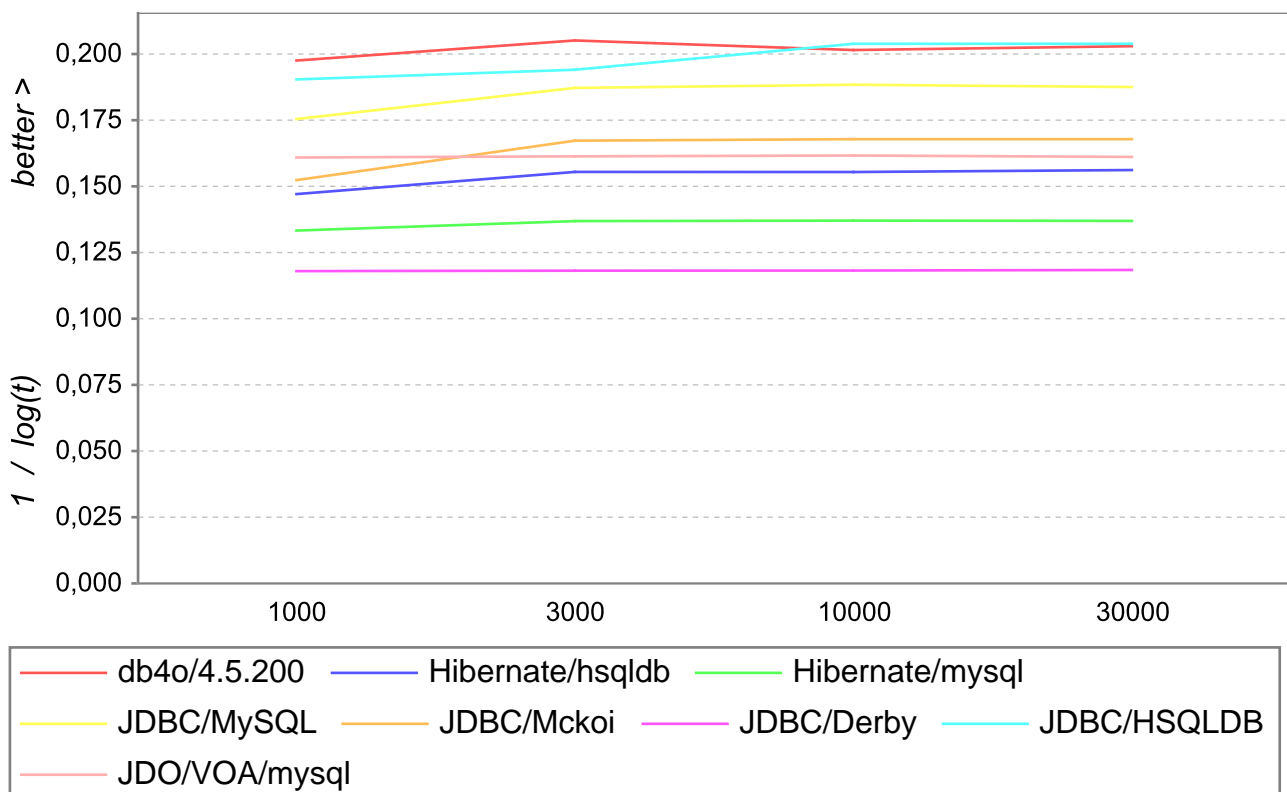


Circuit: Bahrain

write, query, update and delete simple flat objects individually

Lap: query_indexed_int

t [time in ms]	selects:900 objects:1000 updates:100	selects:900 objects:3000 updates:100	selects:900 objects:10000 updates:100	selects:900 objects:30000 updates:100
db4o/4.5.200	158	131	143	138
Hibernate/hsqldb	897	622	623	604
Hibernate/mysql	1812	1489	1475	1483
JDBC/MySQL	299	209	202	207
JDBC/Mckoi	709	395	387	387
JDBC/Derby	4801	4744	4726	4652
JDBC/HSQldb	191	173	135	135
JDO/VOA/mysql	500	492	486	496

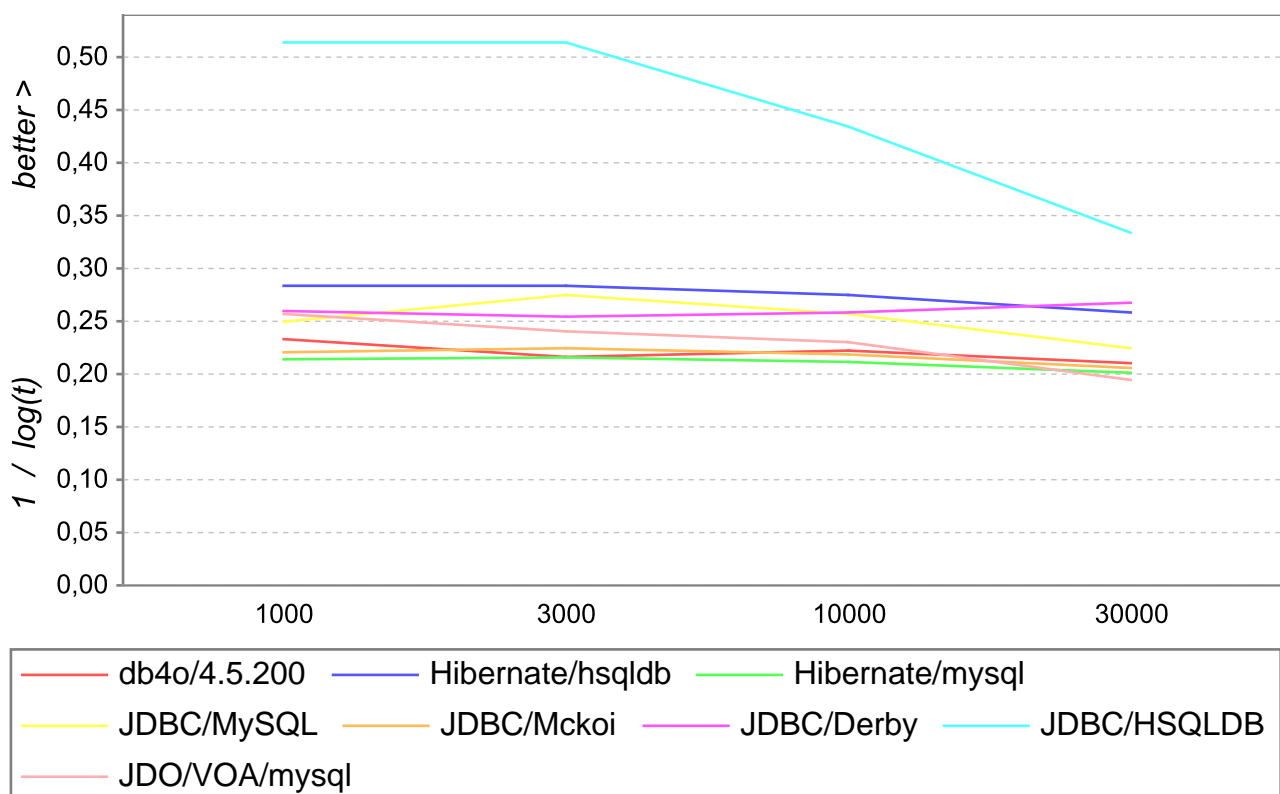


Circuit: Bahrain

write, query, update and delete simple flat objects individually

Lap: update

t [time in ms]	selects:900 objects:1000 updates:100	selects:900 objects:3000 updates:100	selects:900 objects:10000 updates:100	selects:900 objects:30000 updates:100
db4o/4.5.200	73	102	90	116
Hibernate/hsqldb	34	34	38	48
Hibernate/mysql	107	103	113	144
JDBC/MySQL	55	38	49	86
JDBC/Mckoi	93	86	97	129
JDBC/Derby	47	51	48	42
JDBC/HSQldb	7	7	10	20
JDO/VOA/mysql	49	64	77	171

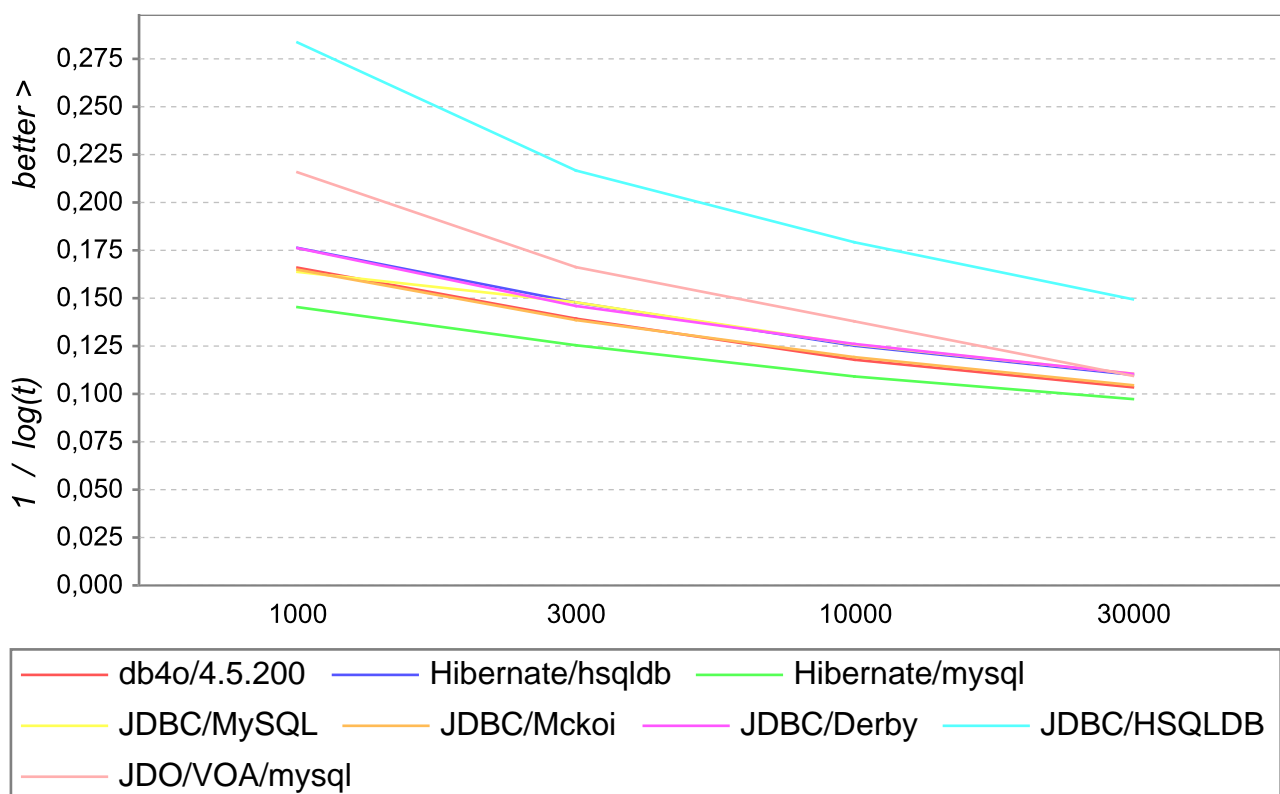


Circuit: Bahrain

write, query, update and delete simple flat objects individually

Lap: delete

t [time in ms]	selects:900 objects:1000 updates:100	selects:900 objects:3000 updates:100	selects:900 objects:10000 updates:100	selects:900 objects:30000 updates:100
db4o/4.5.200	414	1310	4838	15769
Hibernate/hsqldb	291	868	2944	8886
Hibernate/mysql	973	2904	9546	29037
JDBC/MySQL	449	866	2835	8442
JDBC/Mckoi	430	1361	4395	14238
JDBC/Derby	292	946	2781	8499
JDBC/HSQldb	34	101	265	806
JDO/VOA/mysql	103	410	1409	9290

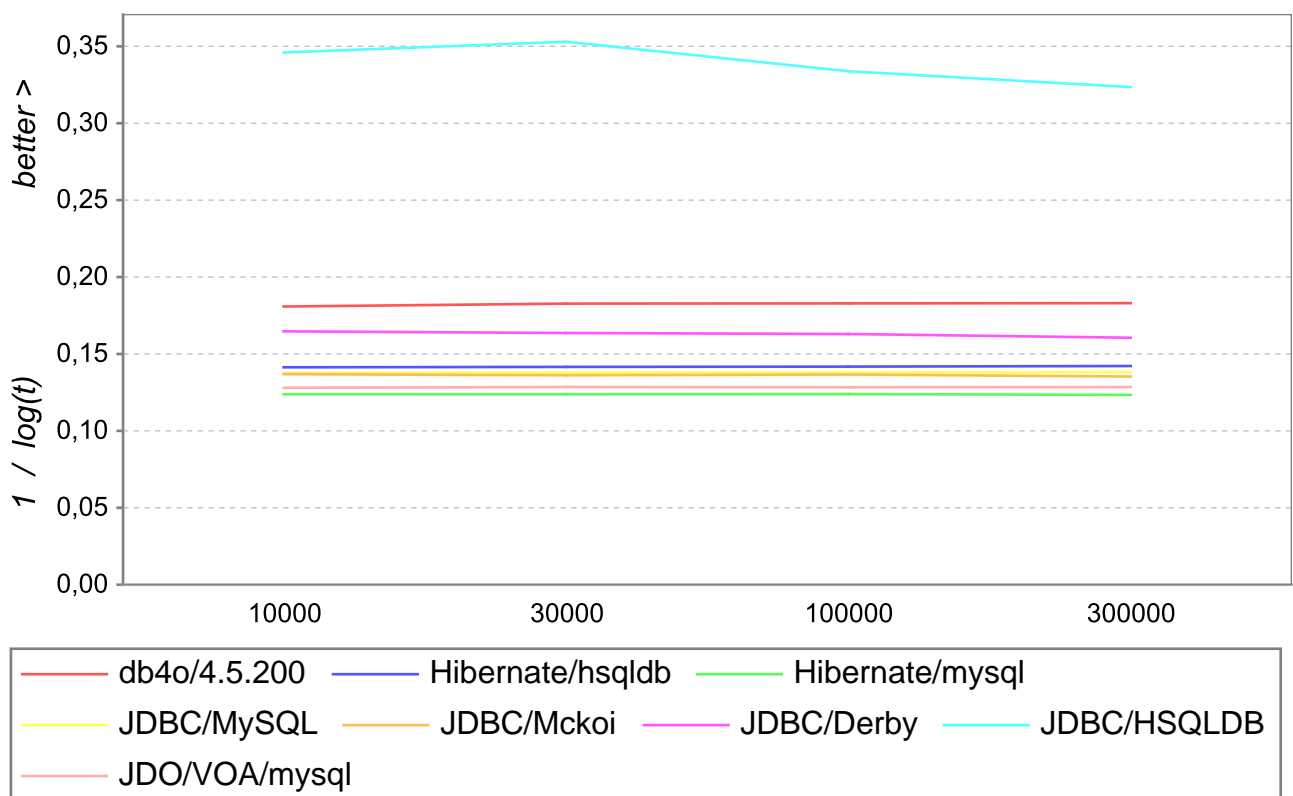


Circuit: Imola

retrieves objects by native id

Lap: retrieve

t [time in ms]	selects:5000 objects:10000	selects:5000 objects:30000	selects:5000 objects:100000	selects:5000 objects:300000
db4o/4.5.200	252	238	237	236
Hibernate/hsqldb	1183	1167	1157	1134
Hibernate/mysql	3224	3212	3195	3306
JDBC/MySQL	1435	1415	1411	1383
JDBC/Mckoi	1489	1547	1507	1619
JDBC/Derby	433	451	462	507
JDBC/HSQldb	18	17	20	22
JDO/VOA/mysql	2464	2398	2418	2403

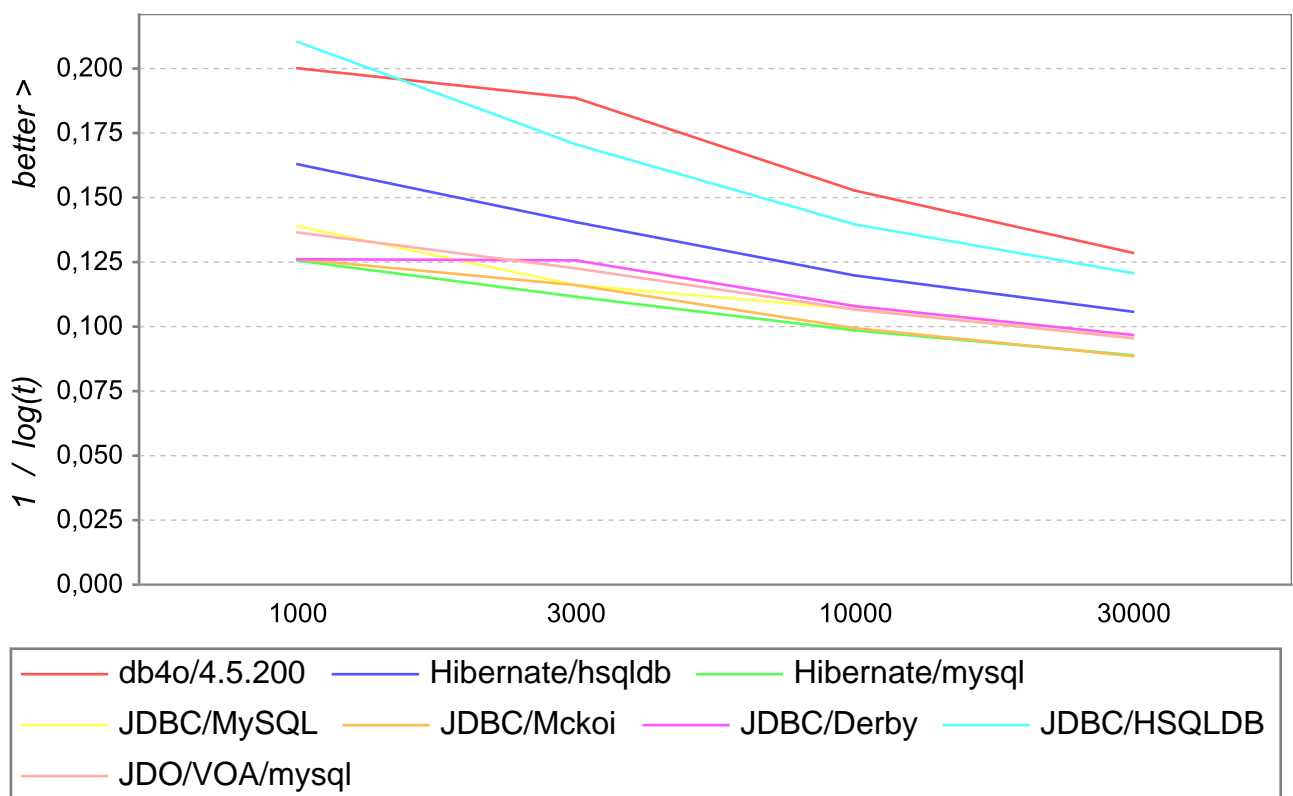


Circuit: Barcelona

writes, reads, queries and deletes objects with a 5 level inheritance structure

Lap: write

t [time in ms]	selects:100 objects:1000	selects:100 objects:3000	selects:100 objects:10000	selects:100 objects:30000
db4o/4.5.200	148	201	697	2384
Hibernate/hsqldb	463	1234	4208	12781
Hibernate/mysql	2873	7811	25470	76765
JDBC/MySQL	1341	5499	11580	34735
JDBC/Mckoi	2768	5519	23340	80121
JDBC/Derby	2779	2856	10527	30728
JDBC/HSQldb	116	351	1288	3951
JDO/VOA/mysql	1520	3493	11819	35230

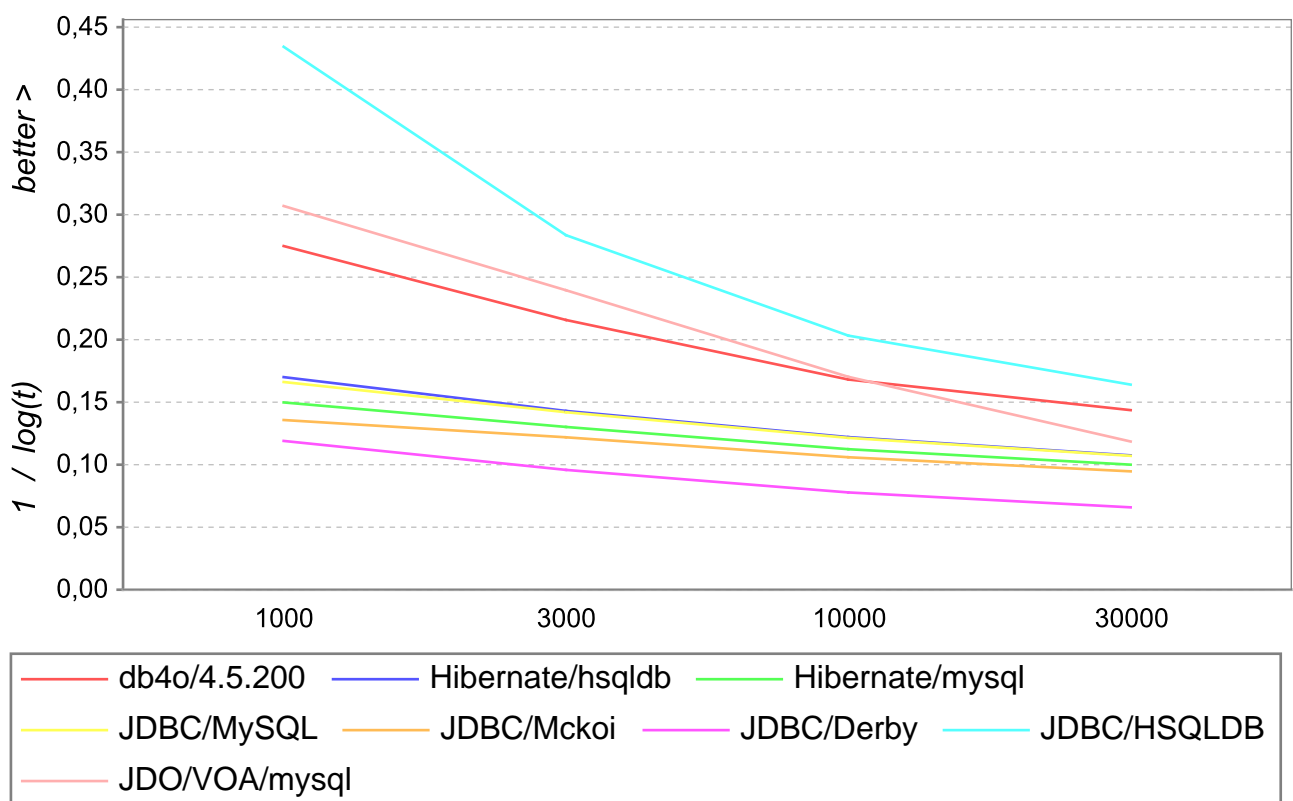


Circuit: Barcelona

writes, reads, queries and deletes objects with a 5 level inheritance structure

Lap: read

t [time in ms]	selects:100 objects:1000	selects:100 objects:3000	selects:100 objects:10000	selects:100 objects:30000
db4o/4.5.200	38	103	383	1056
Hibernate/hsqldb	358	1089	3613	10991
Hibernate/mysql	793	2166	7310	21978
JDBC/MySQL	411	1146	3766	11360
JDBC/Mckoi	1582	3650	12560	38674
JDBC/Derby	4457	34021	381506	3903027
JDBC/HSQldb	10	34	137	444
JDO/VOA/mysql	26	65	355	4609

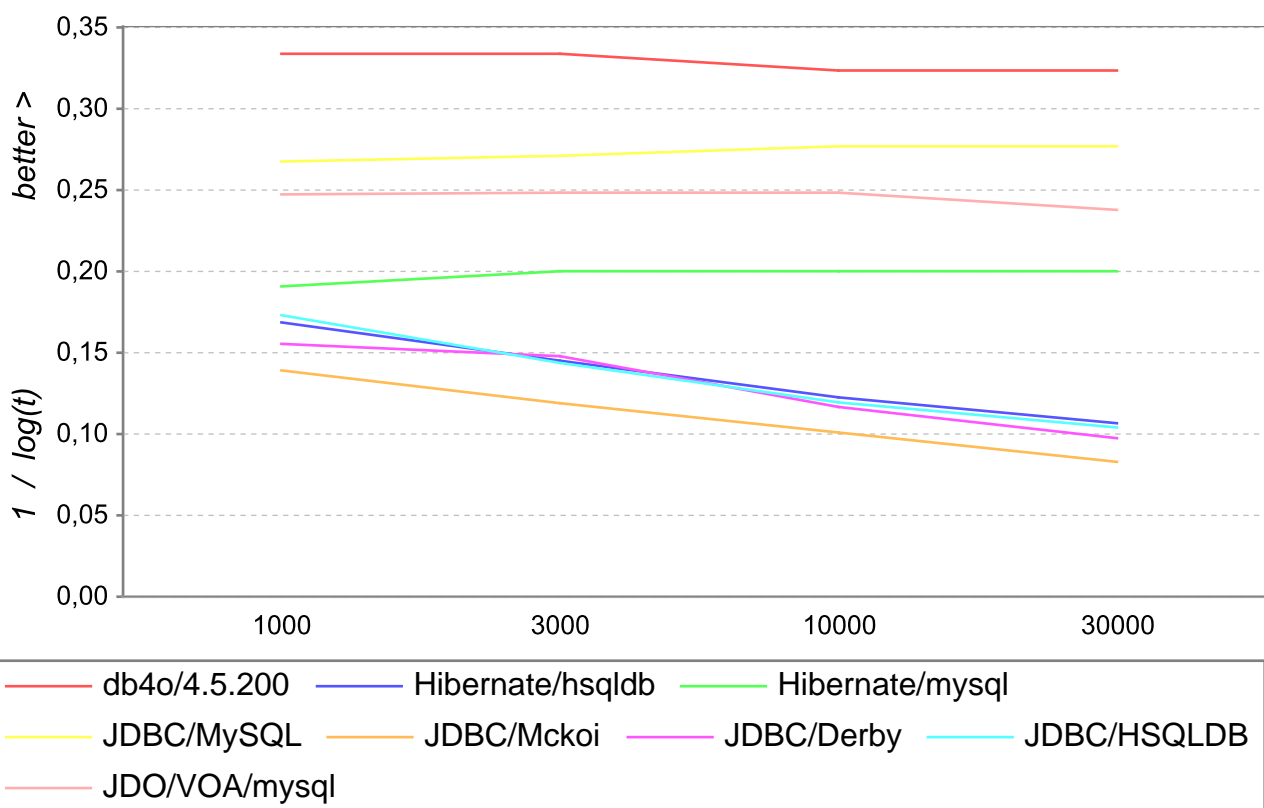


Circuit: Barcelona

writes, reads, queries and deletes objects with a 5 level inheritance structure

Lap: query

t [time in ms]	selects:100 objects:1000	selects:100 objects:3000	selects:100 objects:10000	selects:100 objects:30000
db4o/4.5.200	20	20	22	22
Hibernate/hsqldb	376	985	3493	11791
Hibernate/mysql	189	148	148	148
JDBC/MySQL	42	40	37	37
JDBC/Mckoi	1324	4468	20045	172717
JDBC/Derby	622	865	5276	28593
JDBC/HSQldb	323	1050	4315	14912
JDO/VOA/mysql	57	56	56	67



Circuit: Barcelona

writes, reads, queries and deletes objects with a 5 level inheritance structure

Lap: delete

t [time in ms]	selects:100 objects:1000	selects:100 objects:3000	selects:100 objects:10000	selects:100 objects:30000
db4o/4.5.200	163	475	1755	5831
Hibernate/hsqldb	698	2047	6996	22898
Hibernate/mysql	3418	10201	33756	100846
JDBC/MySQL	2171	3859	12814	37872
JDBC/Mckoi	2102	8871	21698	69341
JDBC/Derby	1264	4012	12884	41604
JDBC/HSQldb	126	384	1293	3997
JDO/VOA/mysql	386	834	3272	13765

