

Update on benchmarking report following additional work

March 27th 2014

Command line single zone add

In the benchmarking report the zone add was identified as a problem area due to the simple implementation that was in the code base at the time.

Further development was done on this area to optimist the code and the benchmark test was re-run. The results are given below:

number of zones,	time to add,	wait for enforcer,	key list
1 to 200,	9.547,	376.801,	.152
201 to 400,	3.372,	382.823,	.396
401 to 600,	3.343,	384.812,	.448
601 to 800,	3.331,	385.852,	.595
801 to 1000,	3.335,	384.810,	.981
1001 to 1200,	3.313,	385.818,	1.176
1201 to 1400,	3.342,	391.851,	1.367
1401 to 1600,	3.329,	390.820,	1.562
1601 to 1800,	3.374,	388.827,	1.762
1801 to 2000,	3.326,	388.821,	1.955
Time to export zonelist:	1.986		

This optimisation results in the average time for adding a new zone to a system containing 4000 zones of 0.15s. This is a significant improvement over the previous time of 4s.

Enforcement of a new zone

The time taken to enforce a new zone in 2.0 was measured as ~2 seconds and to perform a ZSK rollover was ~1s on a system already provisioned with 4000 zones.

It is recommended that further profiling work be done to understand exactly where the time is currently taken during these events.

A very preliminary investigation was done with vallgrind on Titan, this initial results indicate that a fair proportion of this time is spend in setting up the hsm context (see screen grab on the next page. It is recommended that this is investigated more systematically to fully understand the 2.0 system.

Search: Flat Profile (No Grouping)

Instruction Fetch

Incl.	Self	Called	Function	Location
100.00	0.00	(0)	clone	libc-2.12.so
100.00	0.00	1	start_thread	libpthread-2.12.so
100.00	0.00	1	worker_thread_start	ods-enforcerd: engine.c
100.00	0.01	1	worker_start	ods-enforcerd: worker.c
99.72	0.00	1	worker_perform_task	ods-enforcerd: worker.c
99.72	0.00	1	task_perform	ods-enforcerd: task.c
99.72	0.00	1	enforce_task_perform(task...	ods-enforcerd: enforce_tas...
99.72	0.01	1	perform_enforce(int, enli...	ods-enforcerd: enforce_tas...
67.19	0.00	1	updateEnforcerZone&, lo...	ods-enforcerd: enforcer.cp...
65.98	0.01	1	updatePolicy(EnforcerZon...	ods-enforcerd: enforcer.cp...
35.56	0.00	2	hsm_create_context	ods-enforcerd
35.56	0.00	2	hsm_ctx_clone	ods-enforcerd
35.44	0.00	2	hsm_session_clone	ods-enforcerd
35.36	0.00	2	C_OpenSession	libsoftism.so: main.cpp, au...
35.36	0.00	2	SoftSMInternal::openSe...	libsoftism.so: SoftSMIner...
35.34	0.00	2	SoftSession::SoftSession(...	libsoftism.so: SoftSession.c...
27.86	0.02	2	SoftDatabase::init(char*	libsoftism.so: SoftDatabase...
27.49	0.03	32	0x0000003f0da55e60	libsqlite3.so.0.8.6
27.37	0.08	32	0x0000003f0da55920	libsqlite3.so.0.8.6
26.65	0.48	32	0x0000003f0da536d0	libsqlite3.so.0.8.6
25.27	0.05	43	DB::OrmConnT::queryf(c...	ods-enforcerd: pb-orm-dat...
24.59	1.86	468	0x0000003f0da4fce0	libsqlite3.so.0.8.6
23.54	0.03	43	DB::MySQL::OrmConnT::q...	ods-enforcerd: pb-orm-dat...
17.26	5.24	52	cli_read_rows	libmysqlclient.so.16.0.0
16.30	0.14	112	sqlite3_step	libsqlite3.so.0.8.6
16.11	0.00	26	sqlite3_prepare_v2	libsqlite3.so.0.8.6
16.10	0.09	20	0x0000003f0da45a90	libsqlite3.so.0.8.6
15.93	3.80	112	0x0000003f0da67e20	libsqlite3.so.0.8.6
15.61	4.49	272	<cycle 3>	libsqlite3.so.0.8.6
15.18	0.01	6	sqlite3_exec	libsqlite3.so.0.8.6
14.99	0.00	3	OrmMessageEnumWheref...	ods-enforcerd: pb-orm-en...
14.99	0.00	3	OrmMessageEnumWheref...	ods-enforcerd: pb-orm-en...
13.98	0.03	43	mysql_store_result	libmysqlclient.so.16.0.0
13.75	0.00	2	hsm_find_key_by_id	ods-enforcerd
13.70	0.00	2	hsm_find_key_by_id_bin	ods-enforcerd
13.69	0.00	2	hsm_find_key_by_id_sess...	ods-enforcerd
11.38	0.00	6	sqlite3_prepare	libsqlite3.so.0.8.6
11.31	0.00	10	C_GetAttributeValue	libsoftism.so: main.cpp, au...
11.30	0.01	10	SoftSMInternal::getAttri...	libsoftism.so: SoftSMIner...
11.10	0.16	6	OrmFactory::OrmFactory...	ods-enforcerd: pb-orm-en...

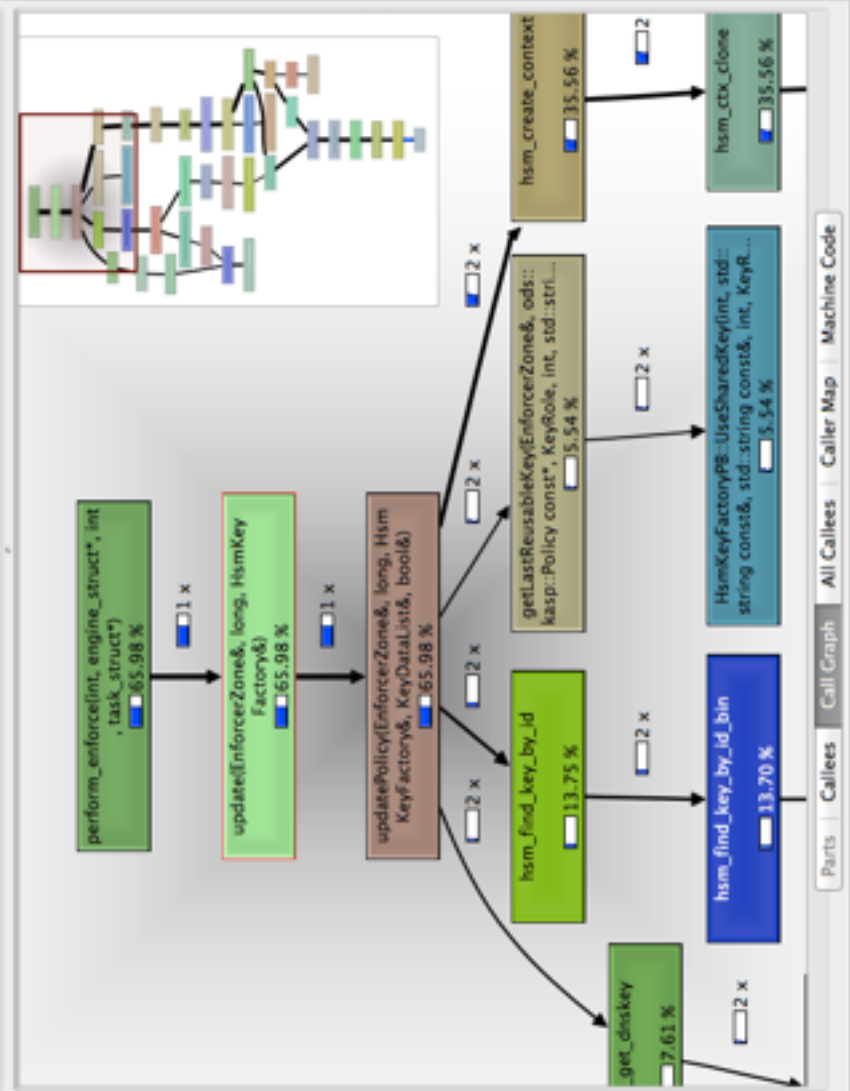
callgrind.out.1953-03 [1] - Total Instruction Fetch Cost: 5 756 444

updatePolicy(EnforcerZone&, long, HsmKeyFactory&, KeyDataList&, bool&)

Event Type: Incl. Self Short Formula

Instruction Fetch: 65.98 0.01 If

Cycle Estimation: 65.98 0.01 CEst = If



Parts Callers Call Graph All Callees Caller Map Machine Code