

CVS: cvs.openbsd.org: src

[Mark Kettenis](#) [Tue, 19 Jun 2018 12:30:19 -0700](#)

CVSR00T: /cvs
Module name: src
Changes by: kette...@cvs.openbsd.org 2018/06/19 13:29:52

Modified files:
sys/arch/amd64/amd64: cpu.c
sys/arch/amd64/include: cpu.h
sys/kern : kern_sched.c kern_sysctl.c
sys/sys : sched.h sysctl.h

Log message:
SMT (Simultaneous Multi Threading) implementations typically share TLBs and L1 caches between threads. This can make cache timing attacks a lot easier and we strongly suspect that this will make several spectre-class bugs exploitable. Especially on Intel's SMT implementation which is better known as Hypter-threading. We really should not run different security domains on different processor threads of the same core. Unfortunately changing our scheduler to take this into account is far from trivial. Since many modern machines no longer provide the ability to disable Hyper-threading in the BIOS setup, provide a way to disable the use of additional processor threads in our scheduler. And since we suspect there are serious risks, we disable them by default. This can be controlled through a new hw.smt sysctl. For now this only works on Intel CPUs when running OpenBSD/amd64. But we're planning to extend this feature to CPUs from other vendors and other hardware architectures.

Note that SMT doesn't necessarily have a posive effect on performance; it highly depends on the workload. In all likelyhood it will actually slow down most workloads if you have a CPU with more than two cores.

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