



HyperTracing

Tracing Through Virtualization Layers

Abderrahmane Benbachir

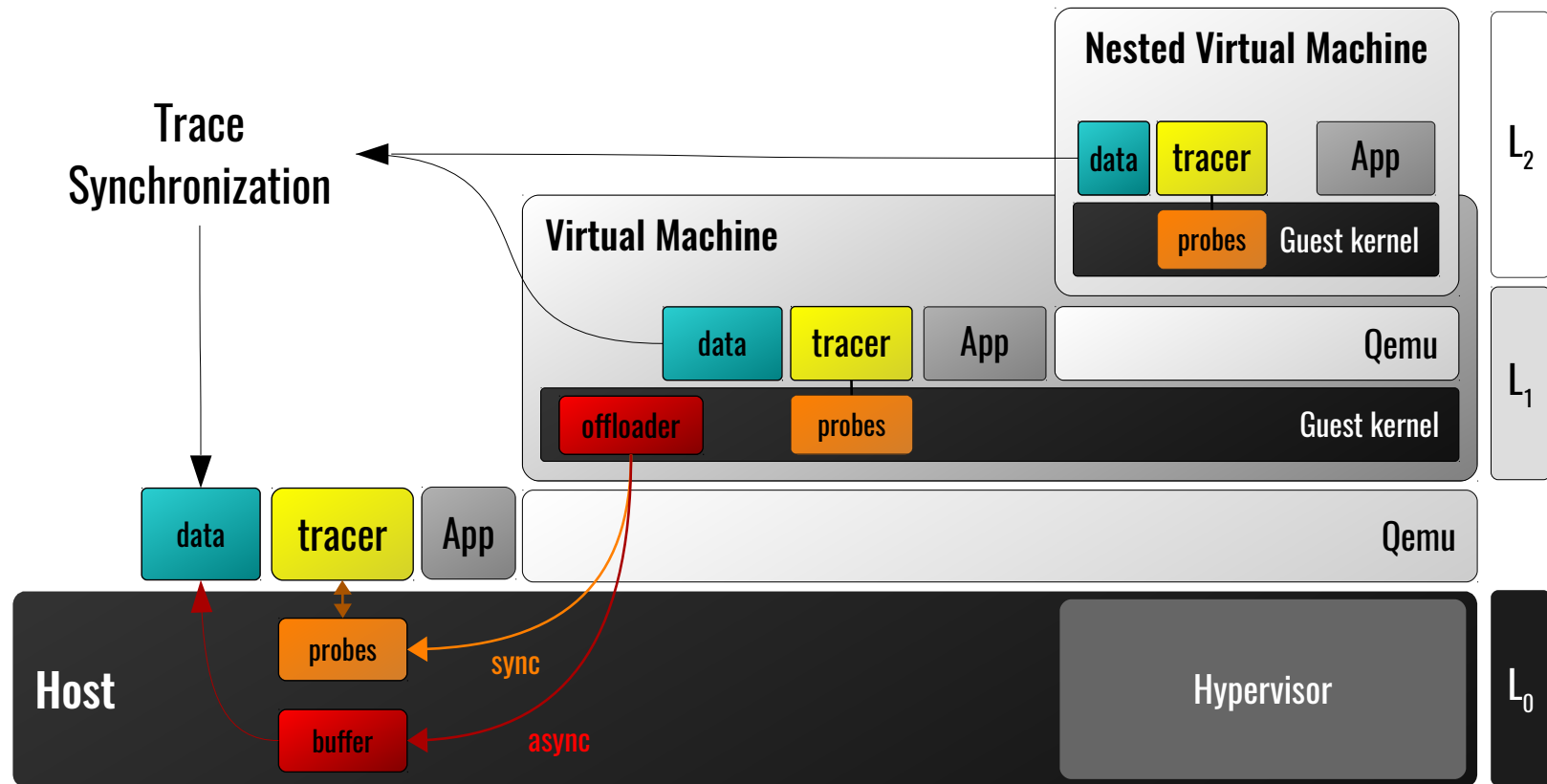
Linux Plumbers Conference, September, 2017

École Polytechnique de Montréal

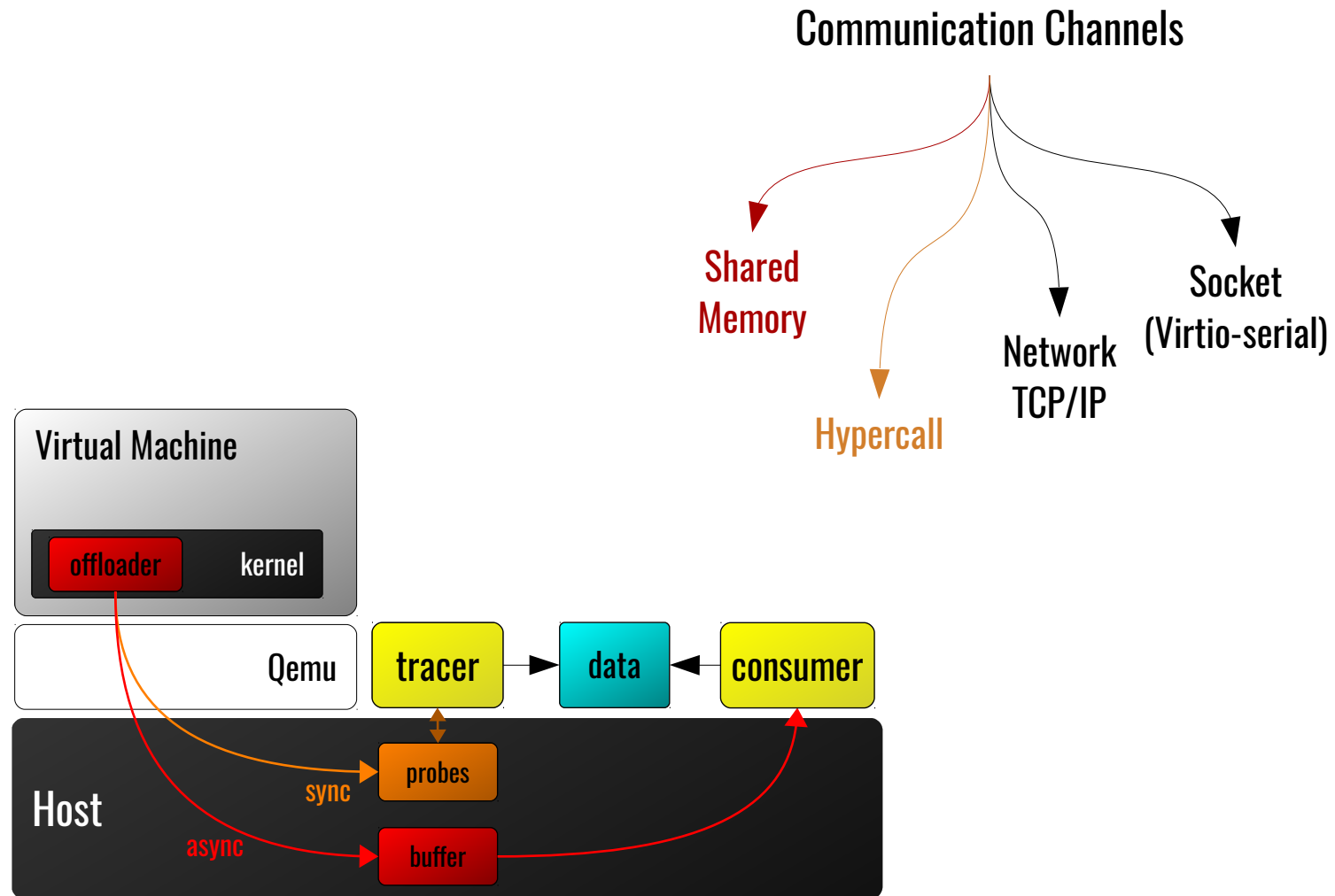
Laboratoire **DORSAL**

What is hypertracing?

Hypertracing = Offloading traces from virtual machine to host



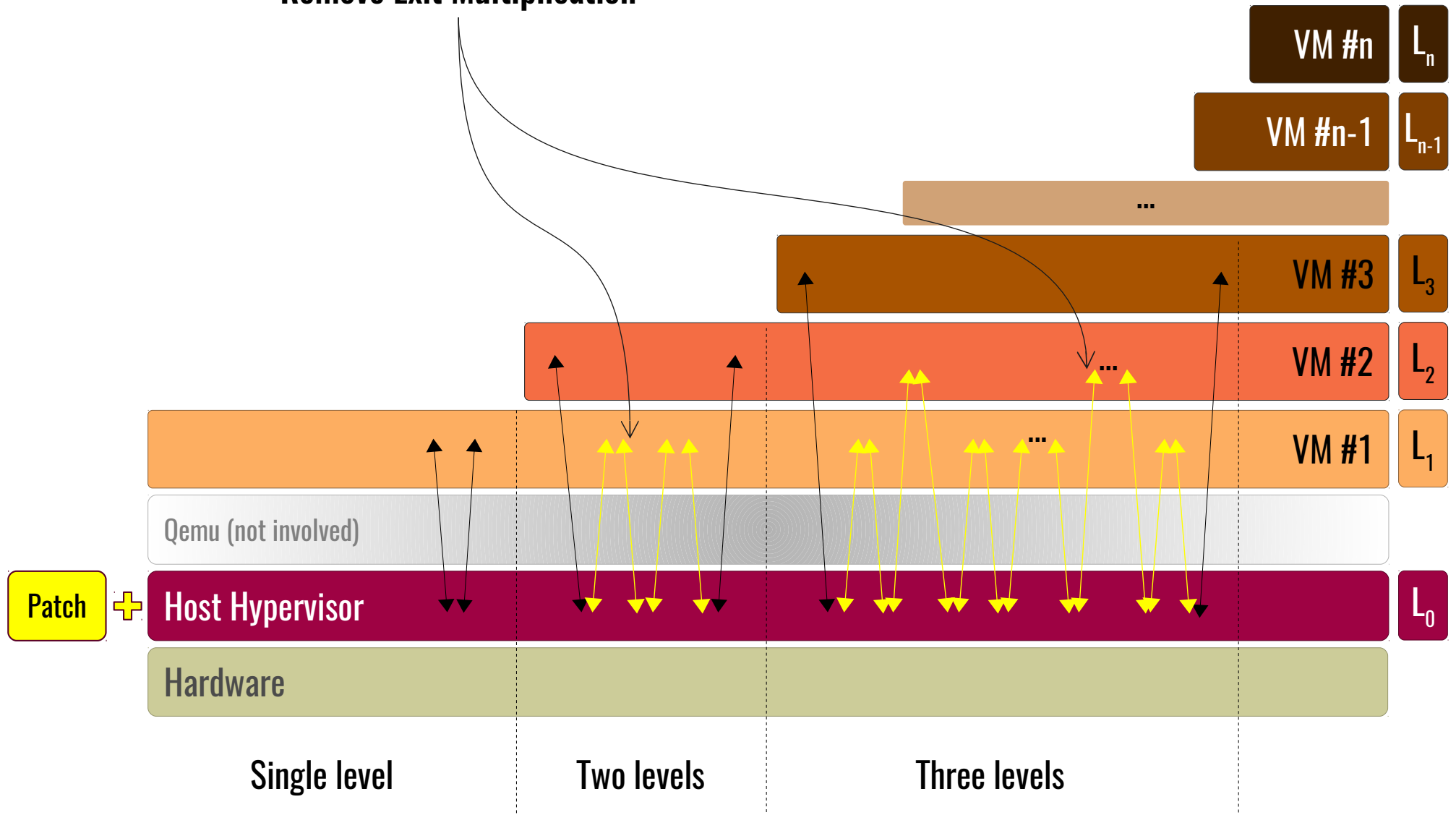
How to do hypertracing ?



Hypertracing With Hypercall

Nested Virtualization

Remove Exit Multiplication

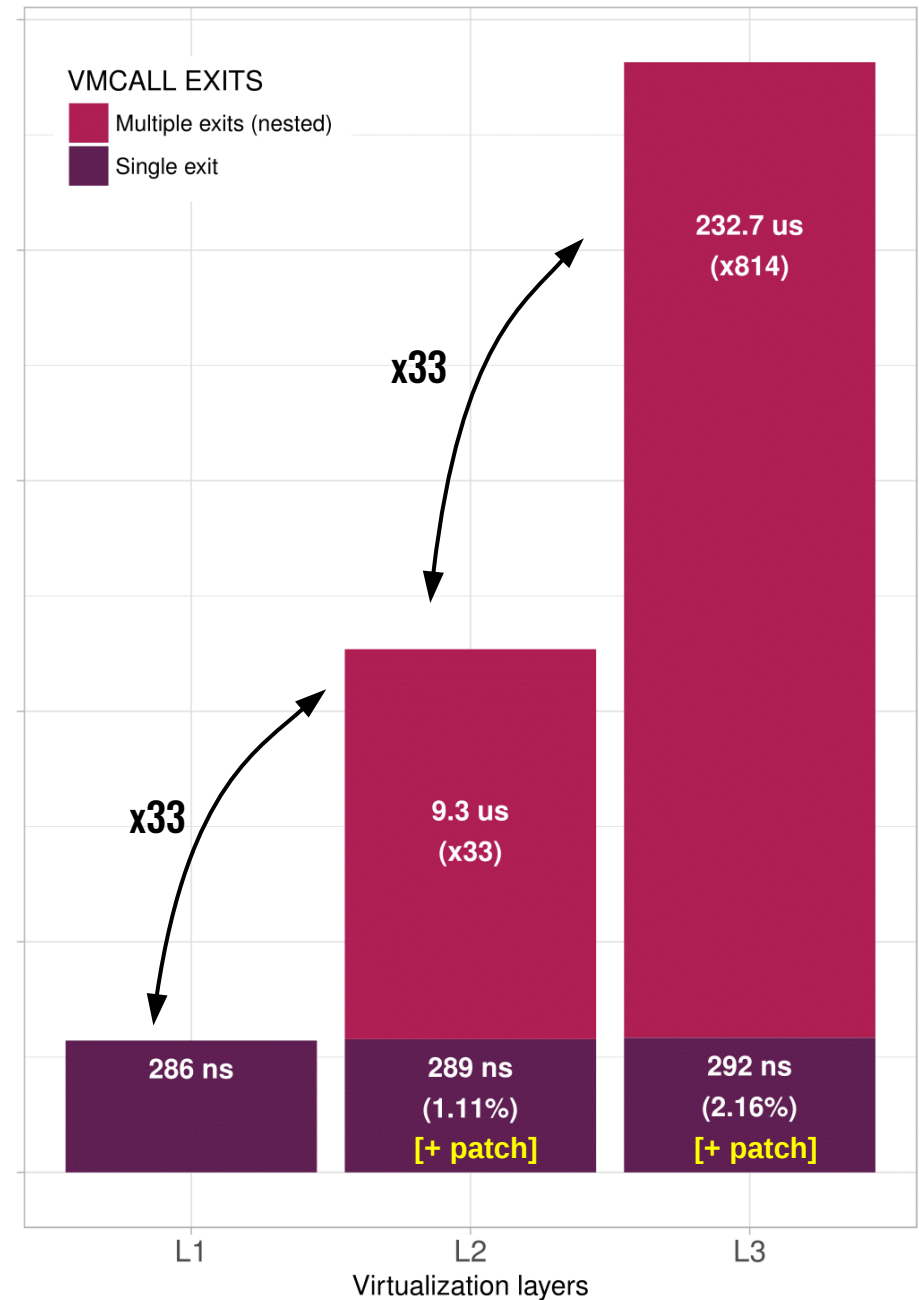


Hardware : Intel(R) Core(TM) i7-6700K CPU
@ 4.00GHz (x86_64)

EPT-on-EPT-on-EPT

Exit-handling code in the hypervisor is slower when run in L1 or L2 than the same code running in L0

Transition between L1, L2, ... Ln involve an exit to L0 and then an entry.



Demo

Hypergraph

Feedbacks & Questions

abderrahmane.benbachir@polymtl.ca

<https://github.com/abenbachir>

