



Identifying and reducing virtualization overhead

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Agenda

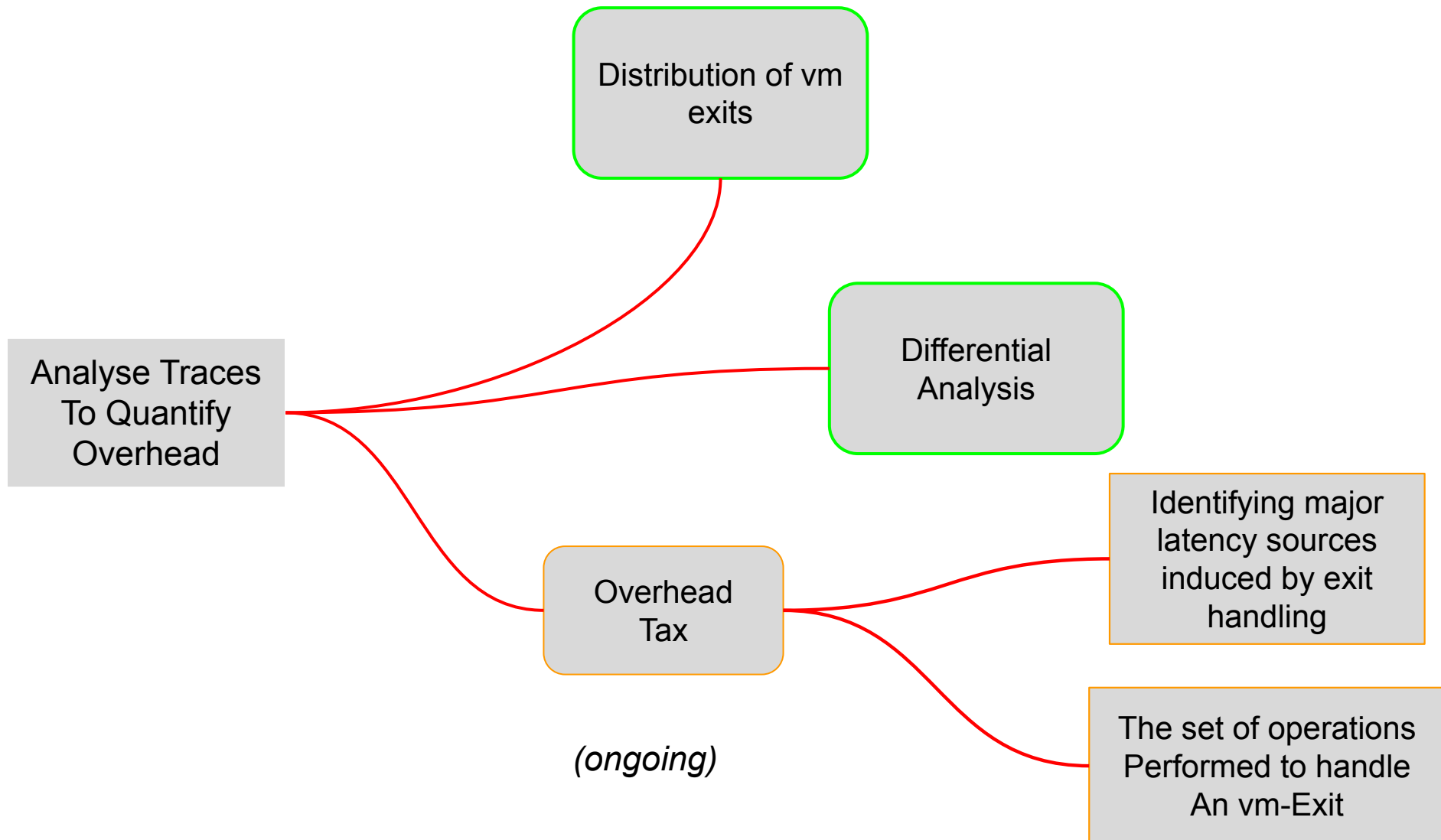
Research objectives

Updates

New Feature: Host Trace Analysis

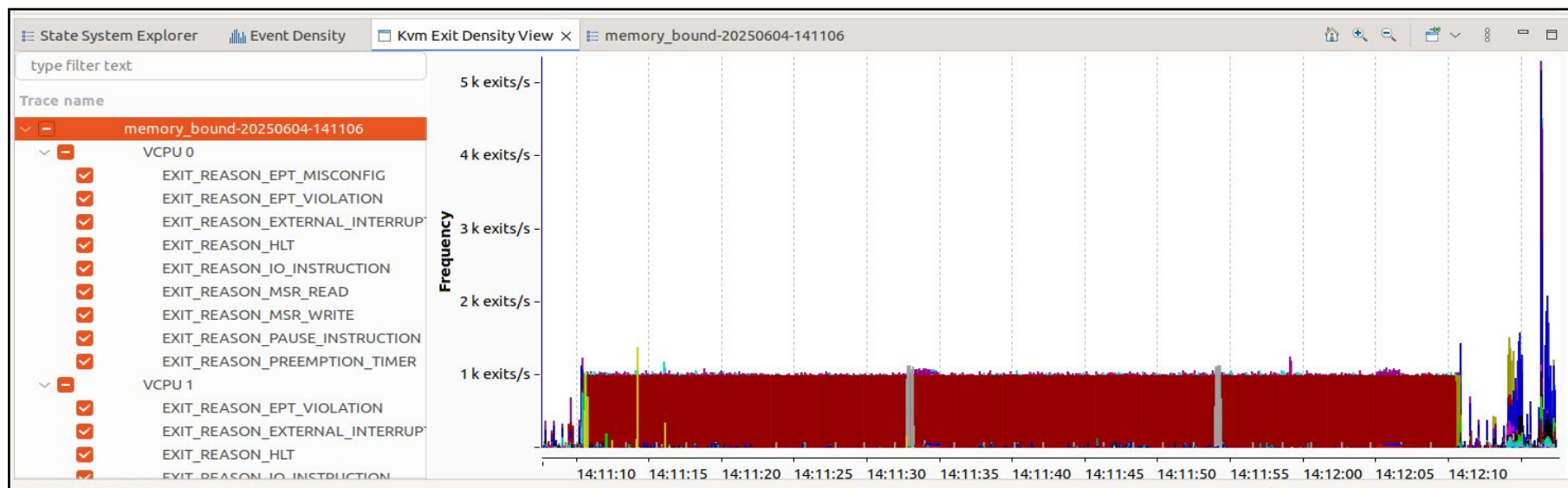
Conclusion and in progress

Research objectives



Update

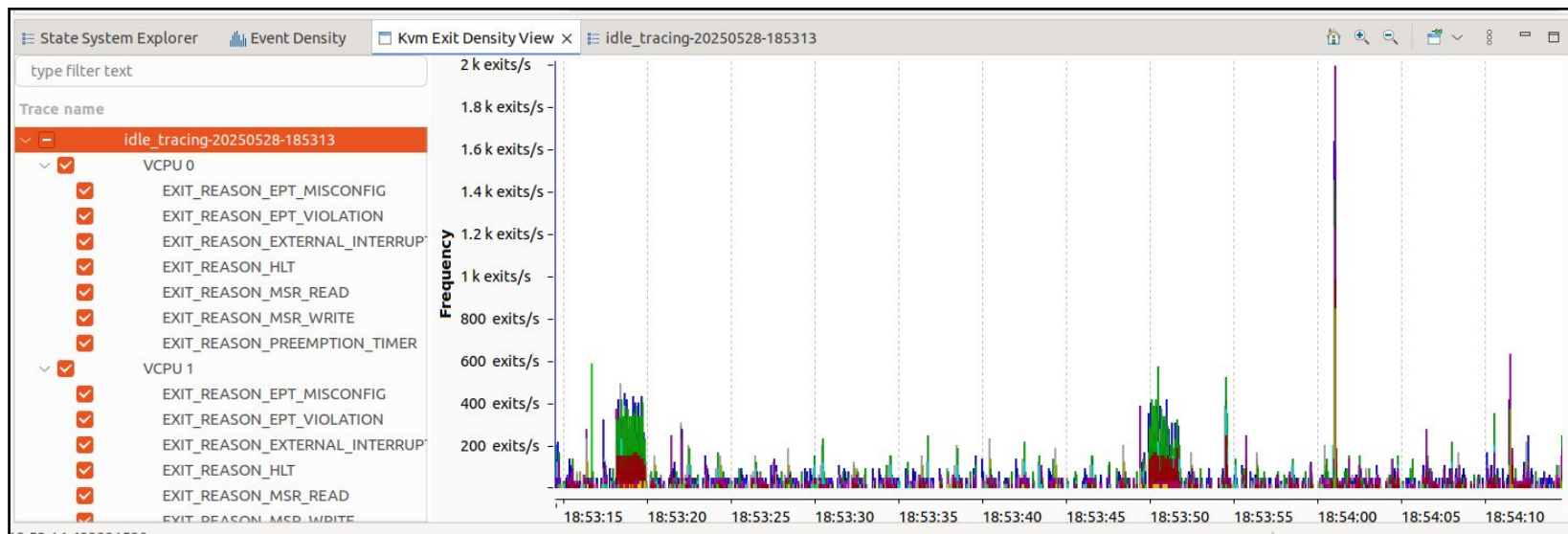
Integration of the distribution of KVM exits into Trace Compass



Temporal view of KVM exit distribution for memory-bound application

Update

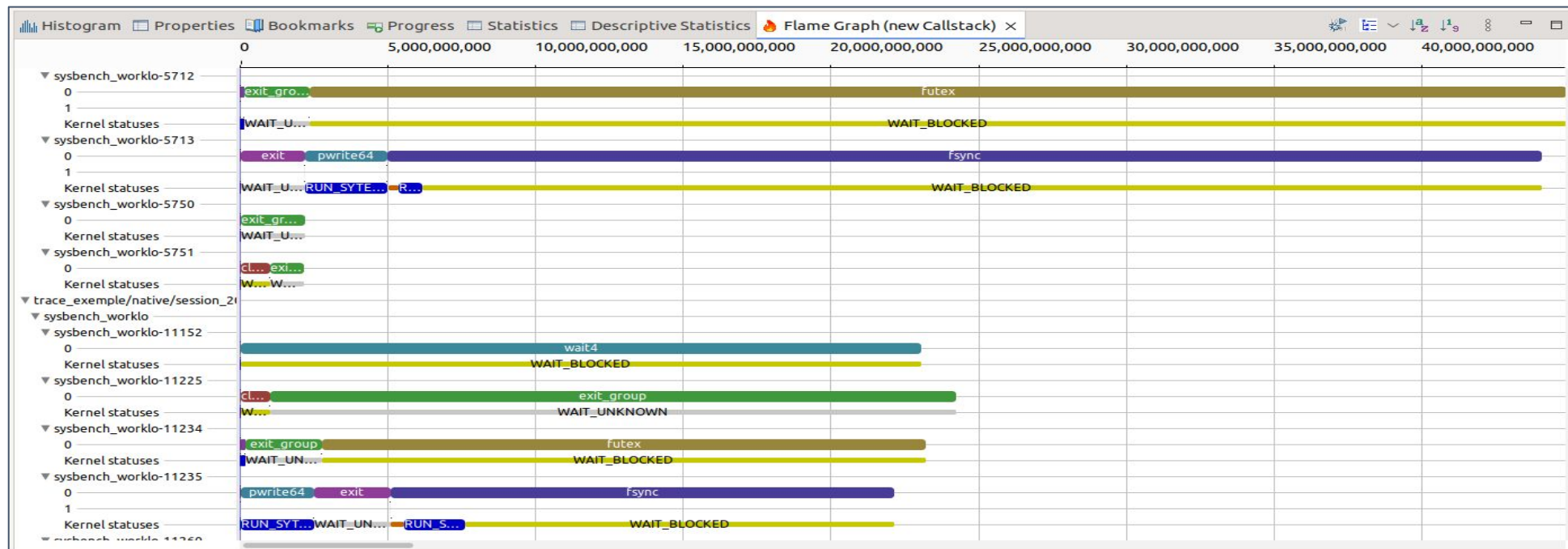
Integration of the distribution of KVM exits into Trace Compass



Temporal view of KVM exit distribution for an Idle VM

Update

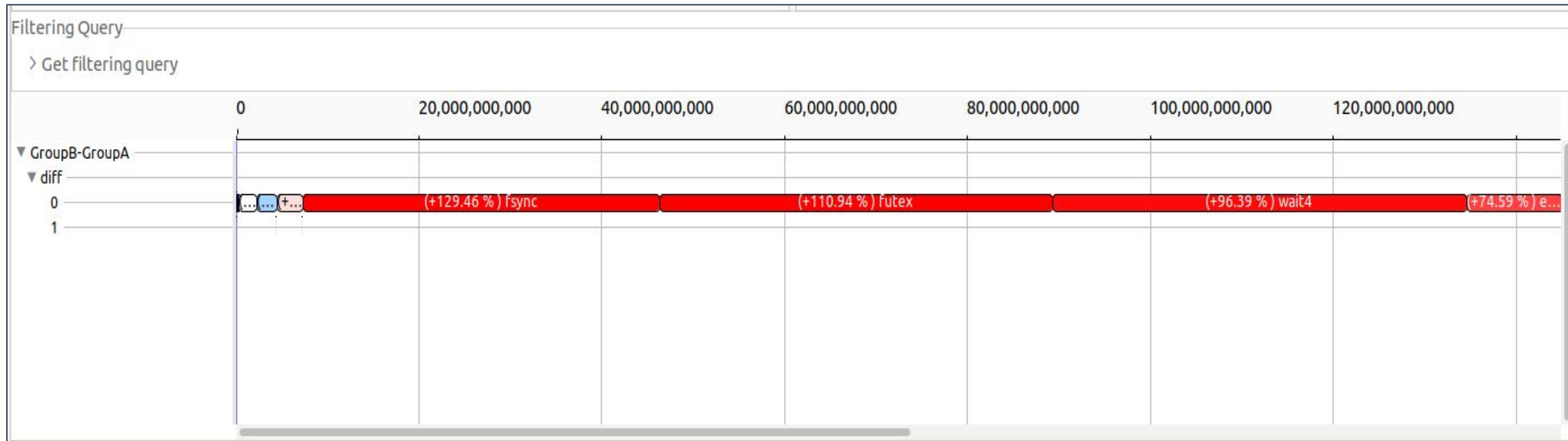
Integration of the differential analysis into Trace Compass



Flamegraph of the activity of the workload

Update

Integration of the differential analysis into Trace Compass



Host Trace Analysis

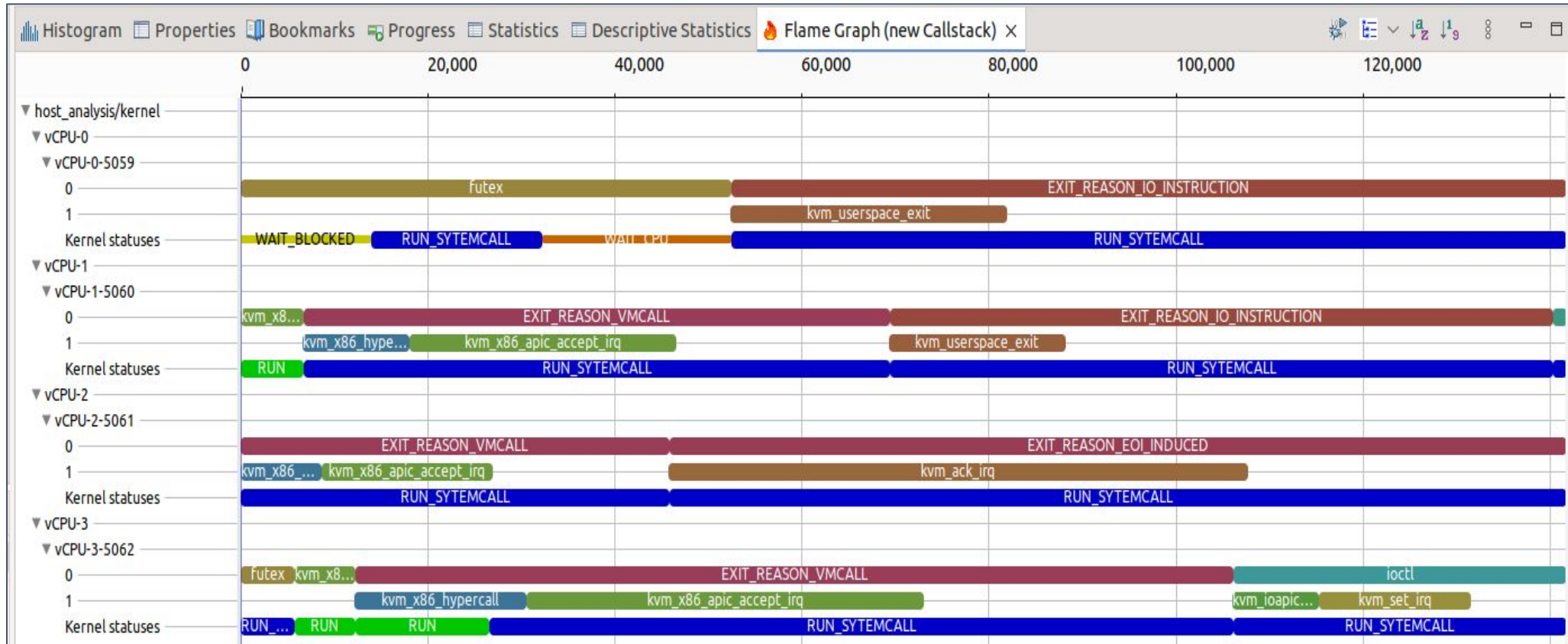
Previous analyses help:

- When it comes to understand the behaviour of the virtual machine
- What is causing the slow

But they cannot say the *why* ?

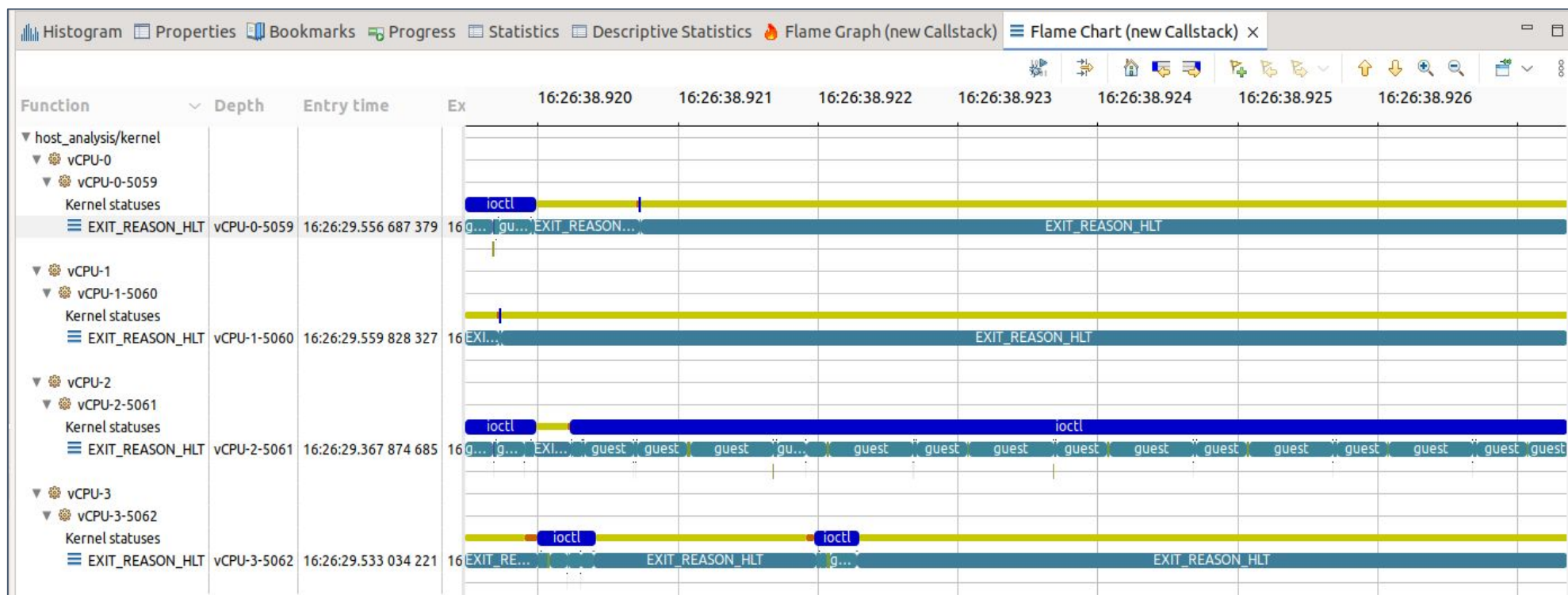
- A view that can show of each Vcpu the timeline of it execution with the different syscall and kvm events that occurred
- Give a better understand of what the hypervisor has to do to handle exit of virtual machine
- It is easier to see patterns (overhead tax)

New Feature: Host Trace Analysis



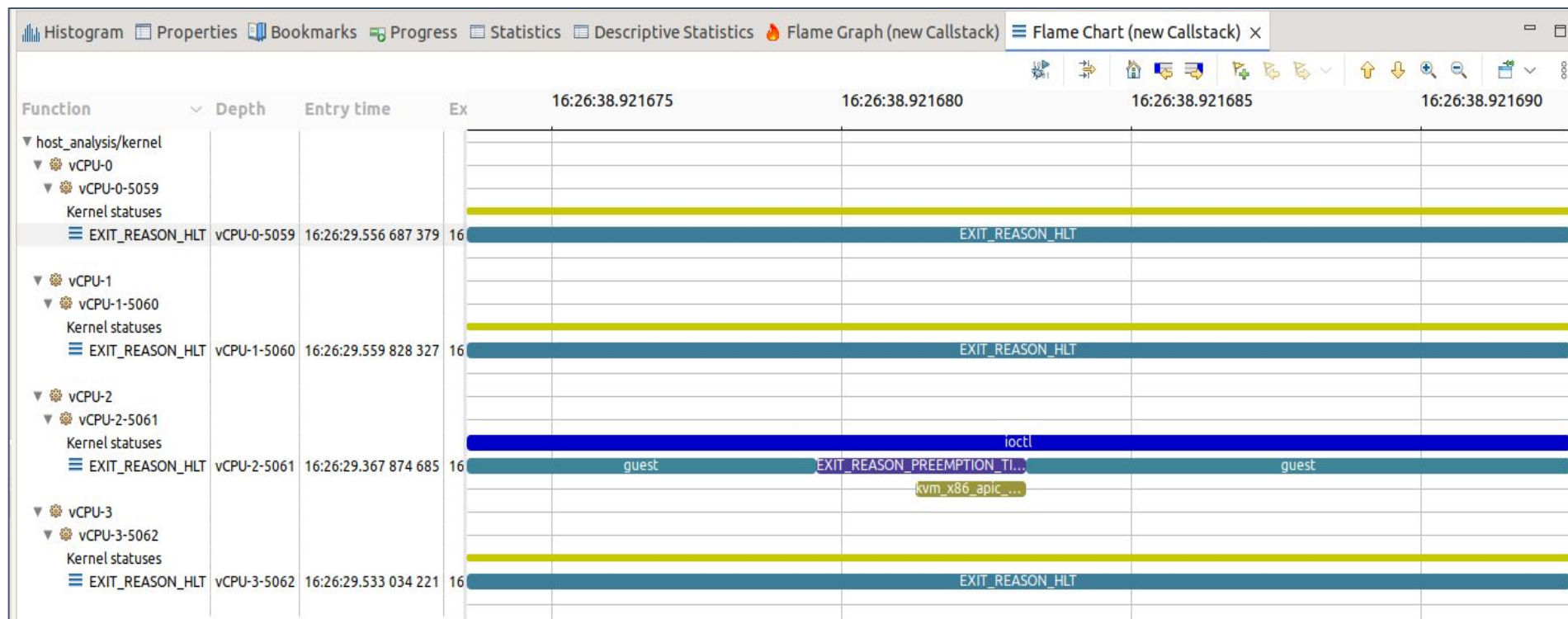
Flame Graph of the activity of each vCPU

New Feature: Host Trace Analysis



Flame Chart of the activity of each vCPU

New Feature: Host Trace Analysis



Flame Chart of the activity of each vCPU

Conclusion and in-progress

Summary

- Integration of the analyses into trace compass

Going further

- Still some events missing from the host analysis
- Better track the activity of the hypervisor

Questions ?

*Workload suggestions ? send a
description to
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