



Updates on ROCm and DPDK integration

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Introduction

- ROCm:
 - Collection of libraries for AMD GPUs
 - Includes profiling and tracing tools

- DPDK:
 - Collection of user-space libraries for fast packet processing
 - Supports many processor architectures

Agenda

- ① ROCm
 - Updates
 - Future Work
- ② DPDK
 - Changes done
 - Tracepoints needed
 - Future Work



ROCm – Updates

- CTF trace with HIP and HSA api
- GPU operations correlated with an identification number
- The events are no longer time intervals



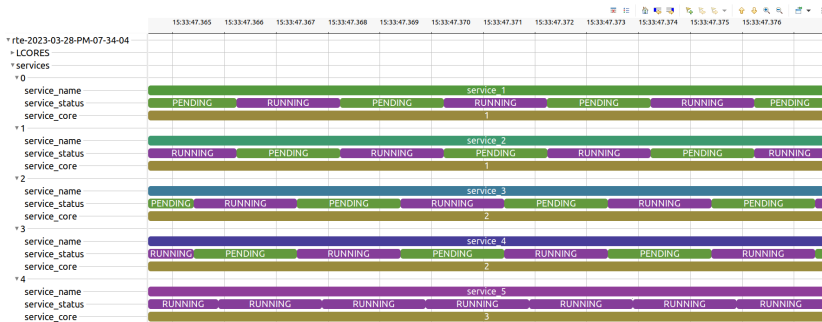
ROCM – Future Work

- Create dependency links depending only on the State System
- Use the partial state system to scale the analysis



DPDK – Changes done

- Work done by Adel is being merged
- Tracepoints are being contributed to DPDK



DPDK – Tracepoints needed

- dsw_eventdev 11
- librte_eal 10 (patch under review)
- librte_eventdev_ring 2
- librte_flow_classify 6
- librte_lpm 7
- librte_pipeline 17
- librte_port_ring 5
- librte_port_source_sink 4
- librte_port_sym_crypto 4
- librte_table_acl 5
- librte_table_array 1
- librte_table_hash 5
- librte_table_lpm 1
- librte_table_stub 1
- librte_vhost 6
- sw_eventdev 11
- vhost_pmd 2



DPDK – Tracepoints needed

- A total of 98 tracepoints
- Most changes required are small
- The tracing library in DPDK is easy to use and generates CTF traces



DPDK – Future Work

- A total of 7 analysis module were developed by Adel
- These need to be progressively modified to work with new tracepoints



References

- https://doc.dpdk.org/guides/prog_guide/trace_lib.html
- <https://github.com/DPDK/dpdk>
- <https://github.com/ROCm-Developer-Tools/rocprofiler>

