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Travis: GPU Accelerated Computing Tool for Monitoring and Analyzing Network Traffic

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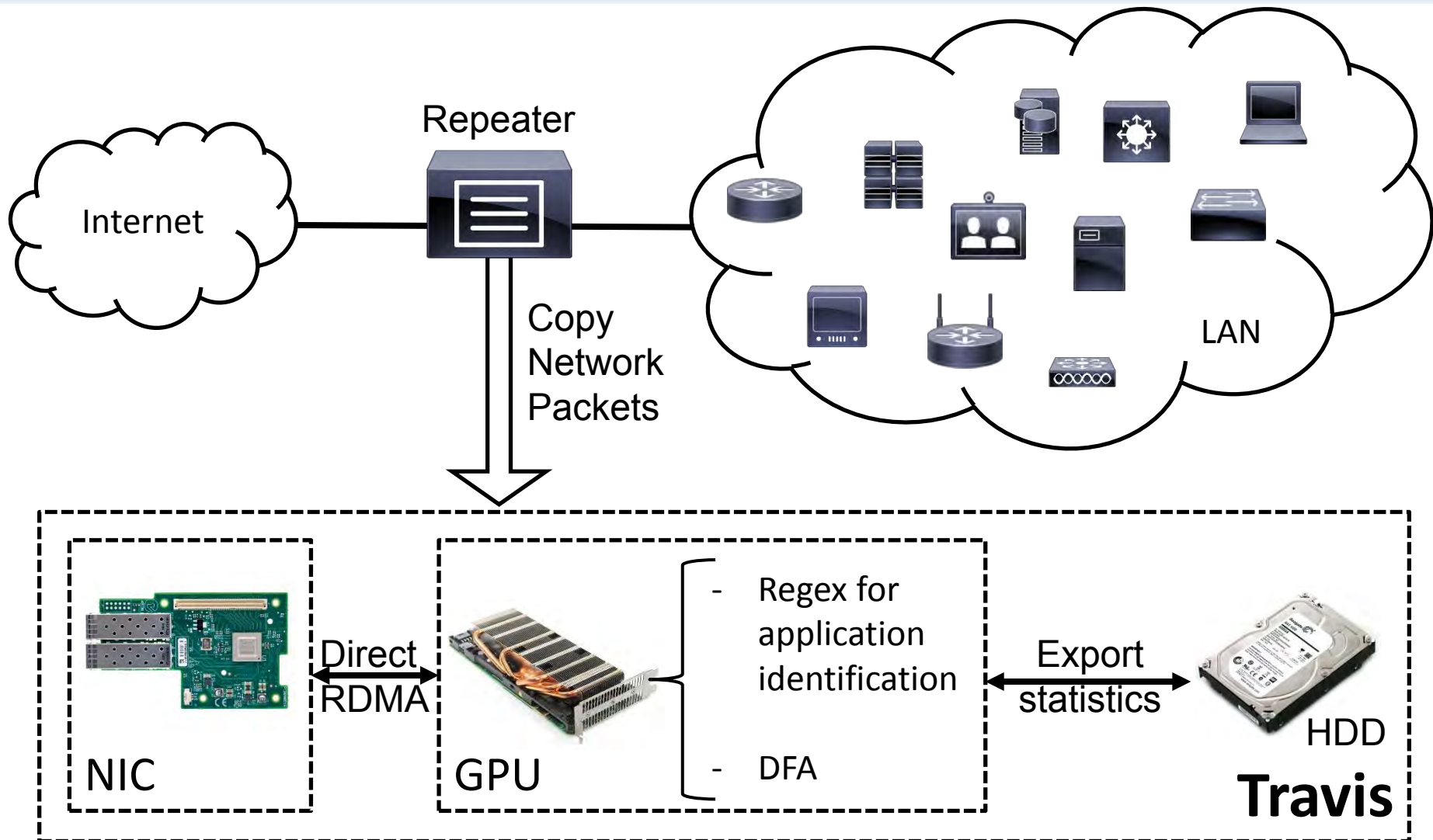
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- PacketShader, SIGCOMM 2010
 - GPU-based router
- GASPP, Usenix 2014
 - Stateful packet processing on top of GPU

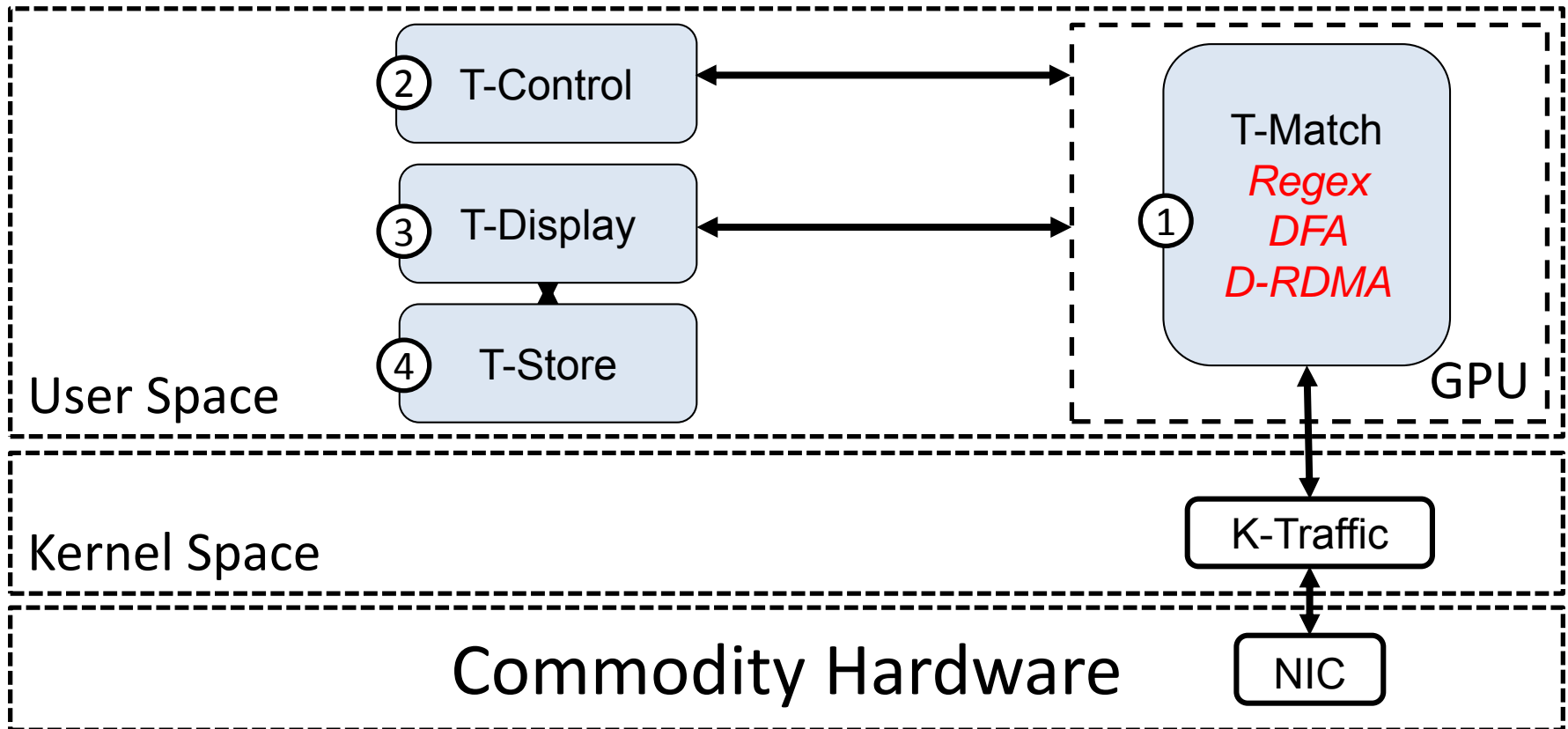


Architecture



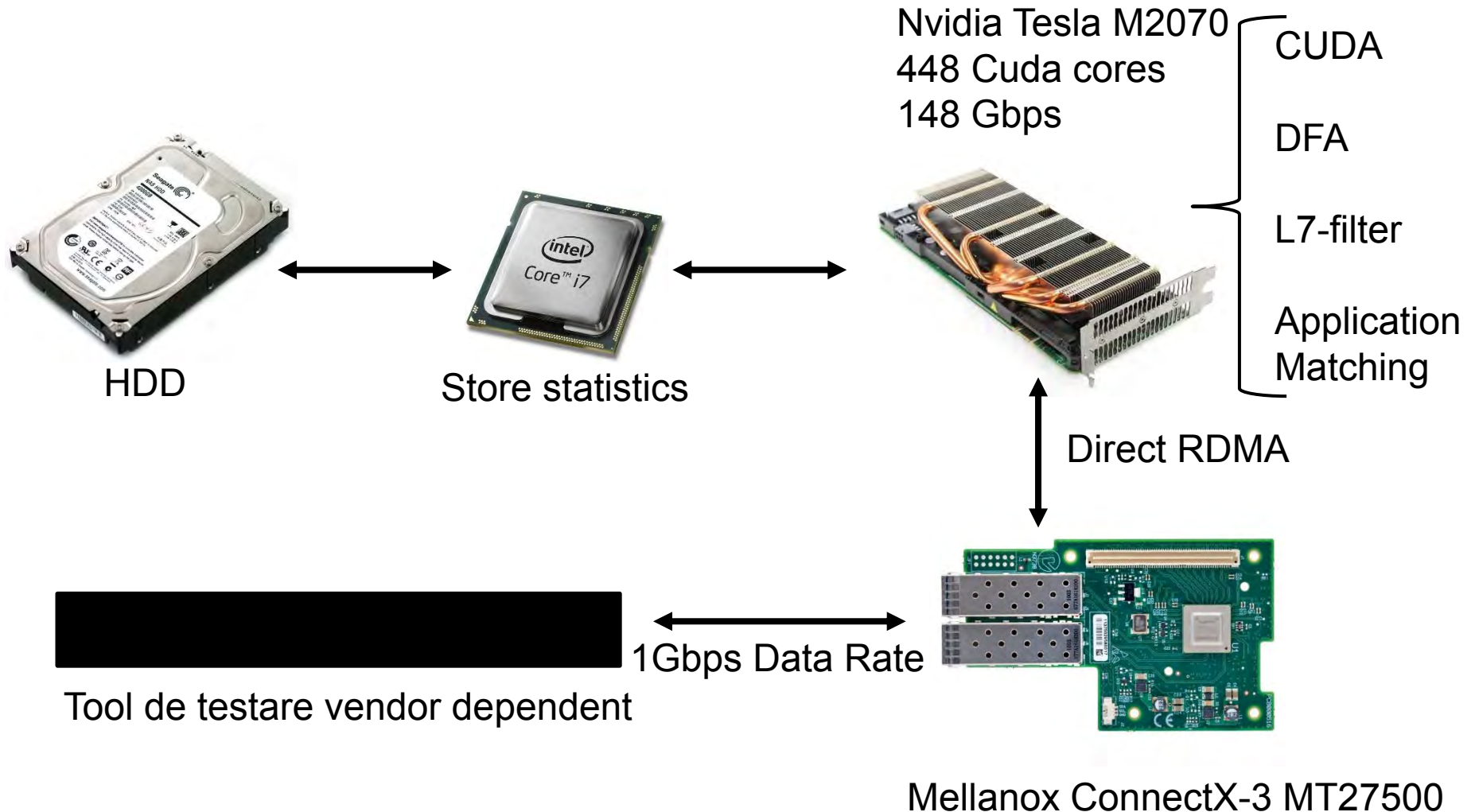


Implementation





Implementation





Similar applications

- PaloAlto
 - 2 Gbps firewall throughput (App-ID enabled1)
- CheckPoint Gaia Virtual Security Gateway R77
 - 2 Gbps firewall throughput
- pfSense 2.2.4
 - 2 Gbps firewall throughput
- Ixia ATIP
 - DPI engine for App classification



- **Testing Tool configuration**
 - Data rate: 1 Gbps
 - Load profile: Start: 100 Conn/Sec – 10.000 Conn/Sec
- **Tested protocols:**
 - HTTP, SMTP, DNS, FTP, App-MIX
 - MSS = 64, 128, 256, 512, 1024, 1460
- **300 tests**



- Comparable to open source solutions
- Future work
 - Optimizing the packet analysis
 - Add support for more protocols