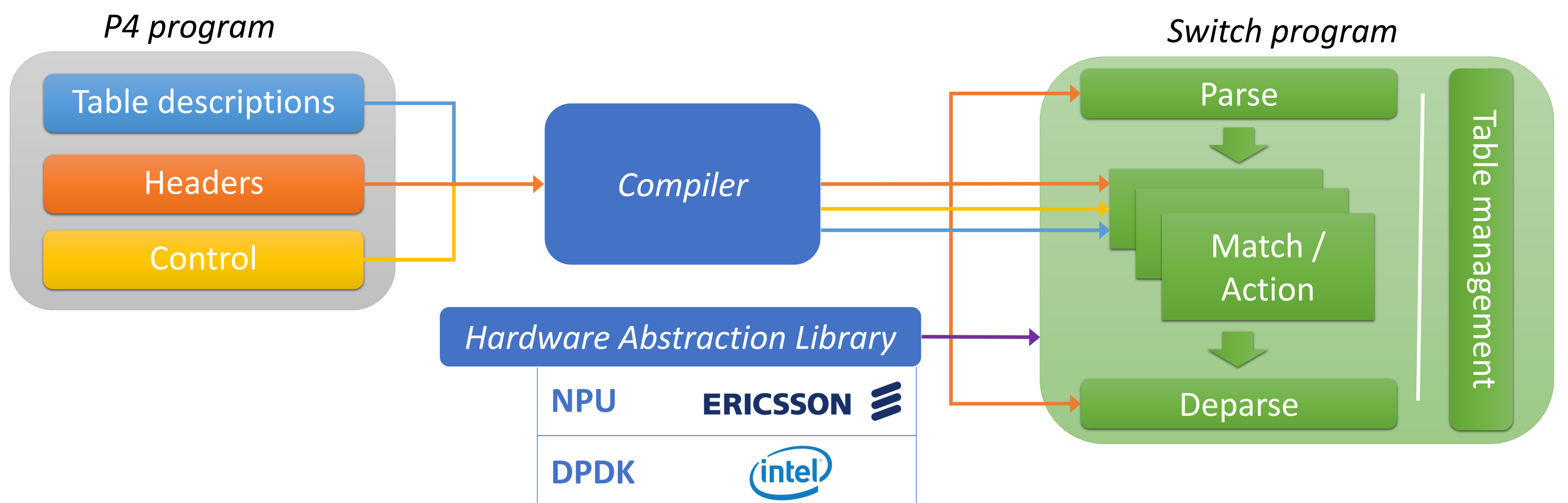


HIGH-SPEED FORWARDING WITH P4

WE DEVELOP A RETARGETABLE COMPILER FOR THE P4 LANGUAGE. WE PRODUCE SWITCH CODE THAT IS NUMA-AWARE AND EFFICIENT.



GOALS

- High abstraction level
- High performance
- Retargetable
- Reconfigurable
- Modular

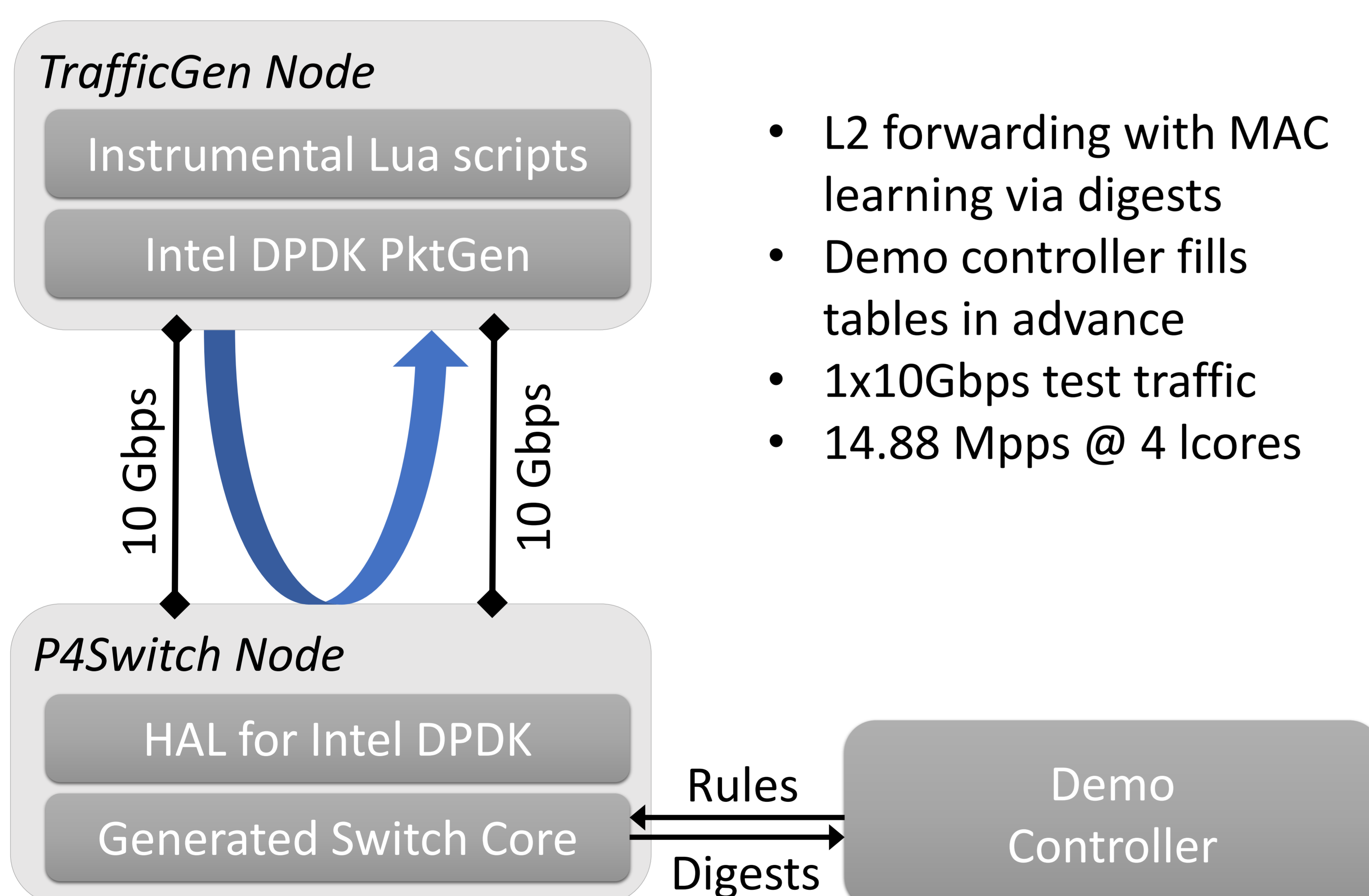
DECISIONS

- P4 language
- Separation
- Core + HW libraries
- Intel DPDK
- Ericsson NPU

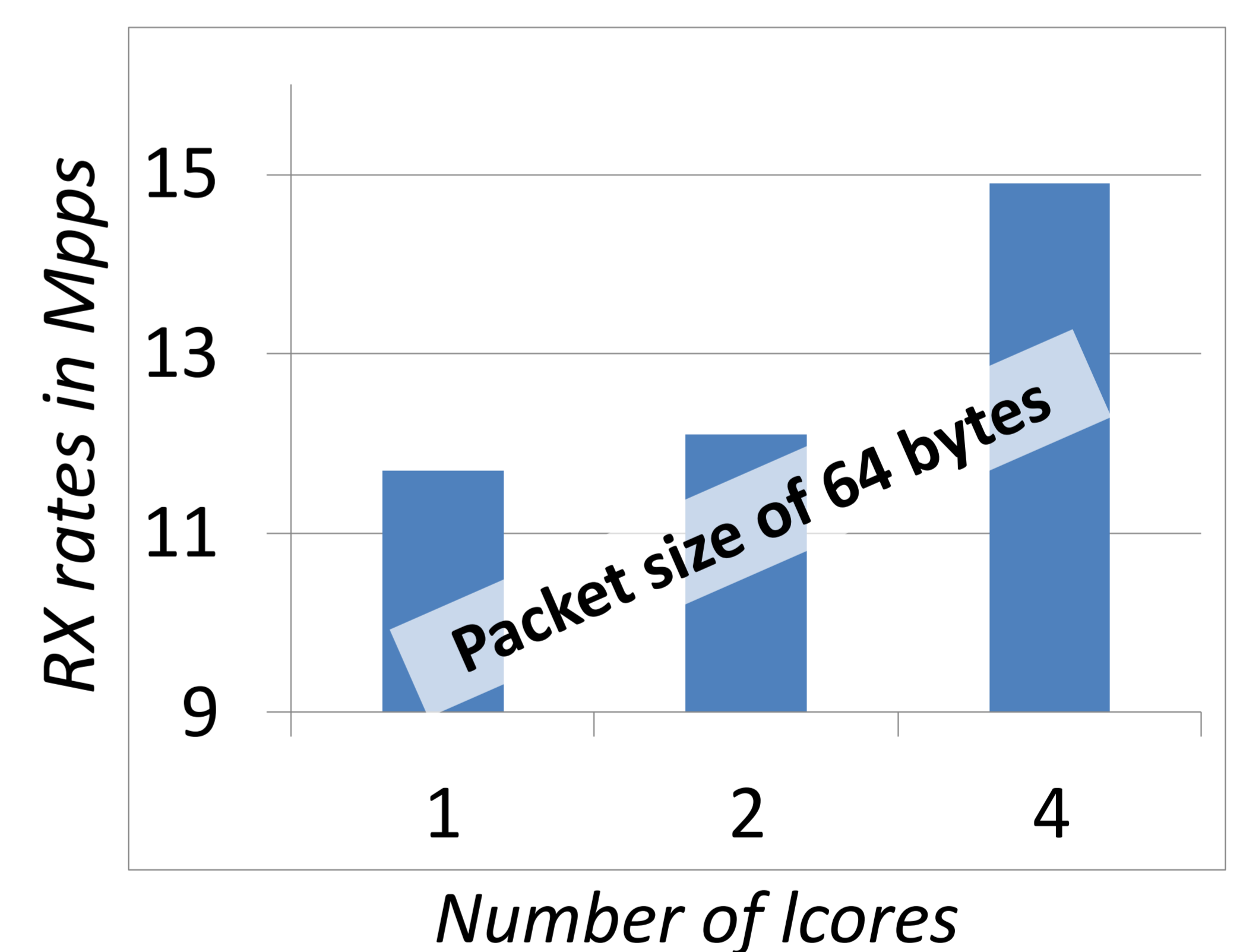
RESULTS

- Almost complete compiler
- Working L2/L3 switch
- NUMA support
- Performance comparable to official DPDK implementation

EVALUATION



- L2 forwarding with MAC learning via digests
- Demo controller fills tables in advance
- 1x10Gbps test traffic
- 14.88 Mpps @ 4 lcores



Interface: Dual 10 Gbps NIC (Intel 82599ES)
CPU: Intel XEON E5-2630 6 cores 2.3GHz
Memory: 2x8 GB DDR3 SDRAM



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