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Packet Generators

- Poor support of traffic flow characteristics (e.g., packet size and address distribution)
- Limited generation of table traces
- Limited protocol support

P4 Compilers

- Multi-architecture Compiler System for Abstract Data plane - MACSAD
- Translator for P4 Switches - T4P4S

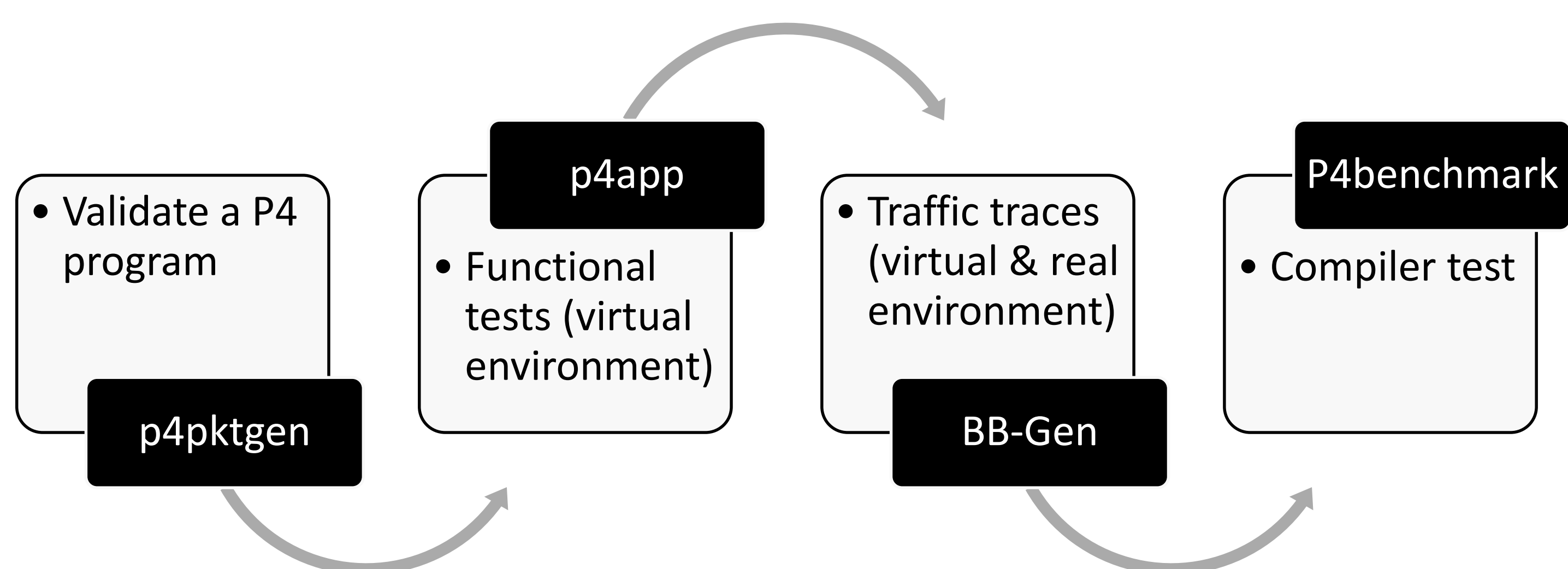
Main Characteristics

- Open Source
- P4 code input
- Written in Python, includes Scapy library
- Simple and intuitive CLI interface
- Crafts packets for standard and custom protocols
- Simple integration with Traffic Generator tools (e.g., pktgen-dpdk, NFPA, TCPDUMP, etc.)

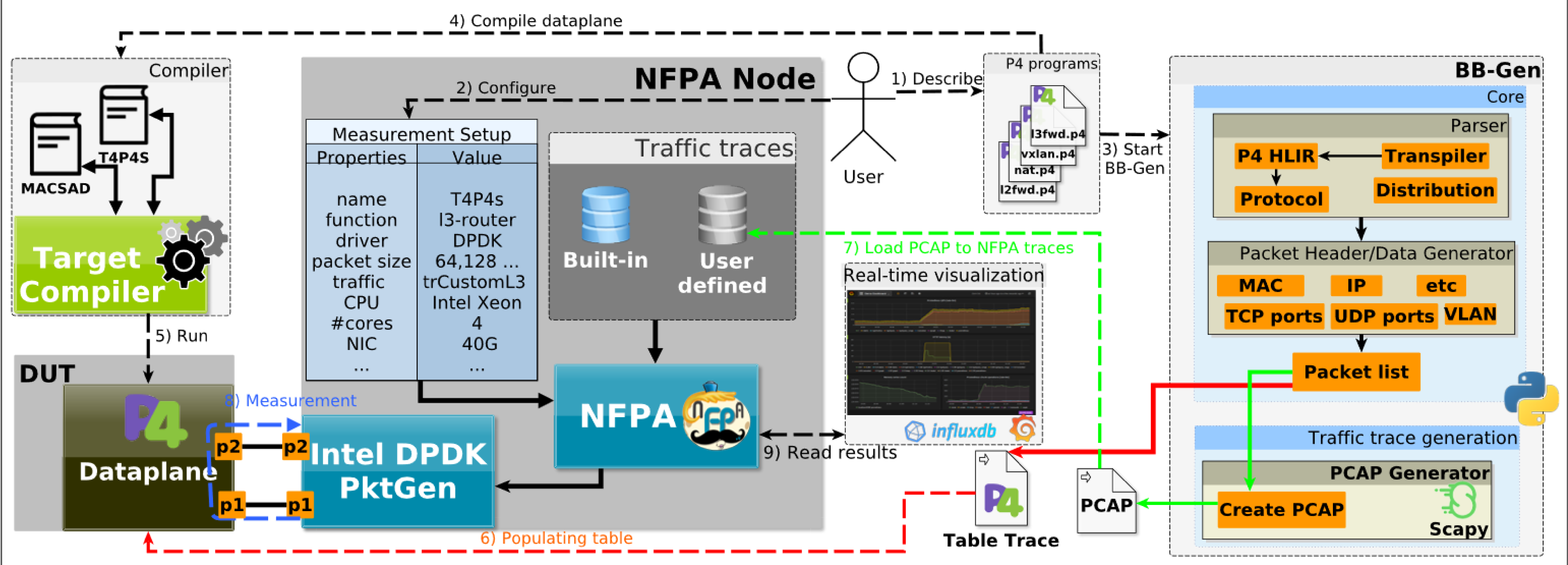
Other Characteristics

- Easy to build, use and extend
- Best-case and worst-case testing (e.g., field value distribution)
- Generates table trace files along with every set of PCAPs
- Generates more than 1 million packet flows
- Custom packet sizes for performance testing (e.g., 64, 128, 256, 512, 1024, 1280, 1518 Bytes)

Tool-chain flow in support of P4 dataplane development



Architecture and demo Workflow



<https://github.com/intrig-unicamp/BB-Gen>

