



Software Defined Networking

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In this course, you will learn about software defined networking and how it is changing the way communications networks are managed, maintained, and secured.

P4 Examples

- ⦿ Components of a P4 Program
 - Parser
 - Headers
 - Behavioral Model
- ⦿ Example Compilation

Parser

- ⦿ Specifies header fields
- ⦿ Field list defines the list of fields in the header
 - Calculation defines various operations on the header (e.g., checksum)
- ⦿ Specifies to the parser what to extract

Header

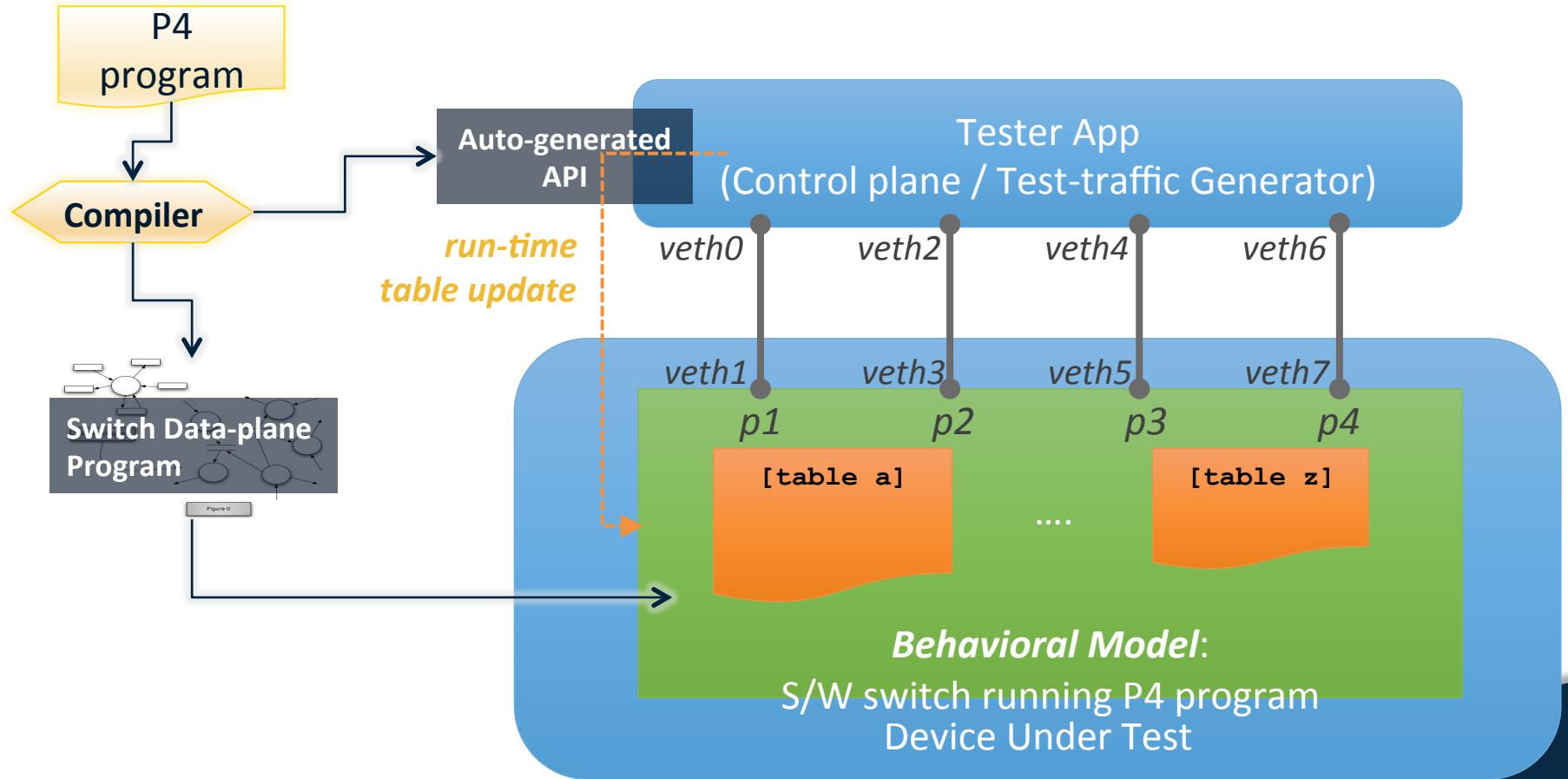
- ⦿ Defines all of the header fields that are used in the parser
- ⦿ All field definitions, including bit widths

Behavioral Model

- ⦿ Defines tables and control flow
- ⦿ Tables include both read/match and lists of possible actions

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Demo Setup



Takeaways

- ◎ P4 is real
 - Reference P4 program available, implementing various popular protocols
 - One can easily extend it to add fresh new features, such as VXLAN/NVGRE/Geneve routing
- ◎ Demonstrated P4 compiler and Simulation model
 - Public release of the P4 development tools via P4.org