

UNIVERSITY OF TWENTE.

## P4 Lab

Advanced Networking

Bas Bleijerveld





# P4 Lab

Teaching Assistant

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Bas Bleijerveld

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# Overview

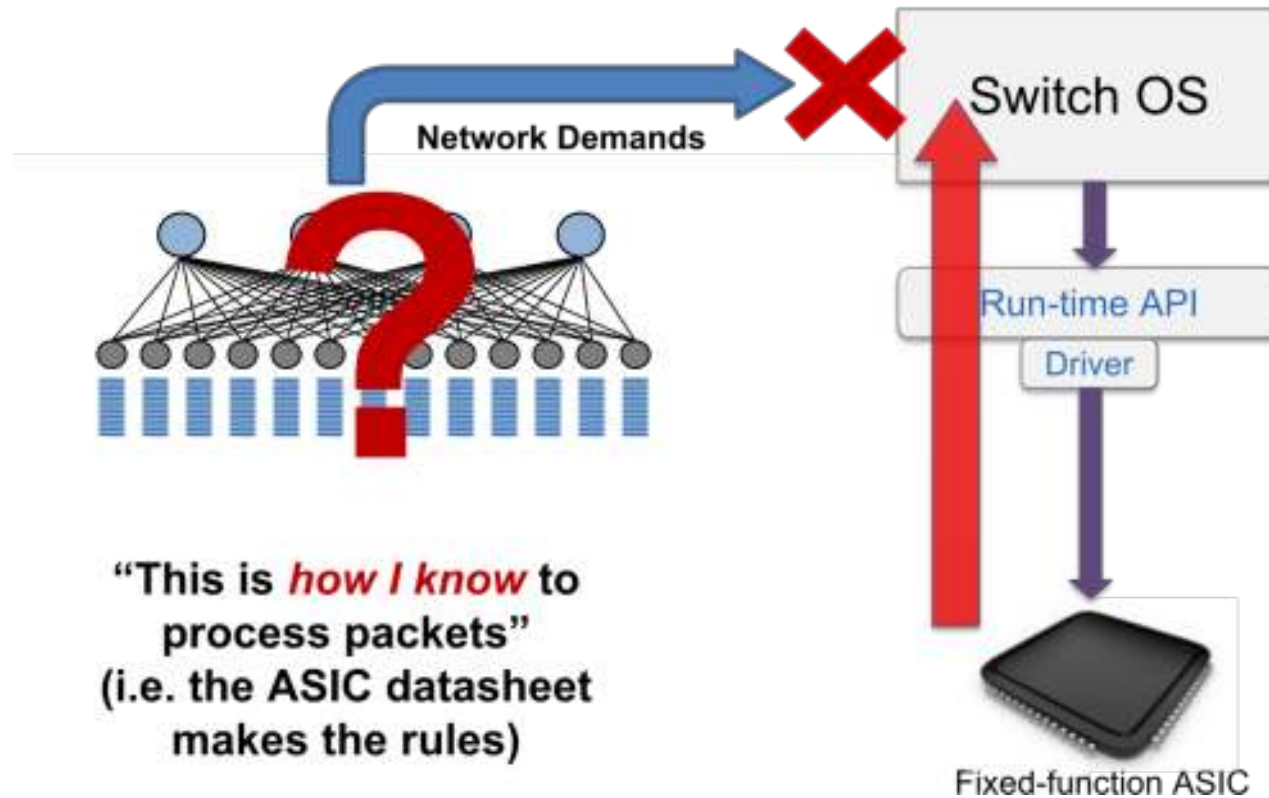
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- Today: Short introduction on P4
- Monday 21 September (online lecture):  
More in-depth information about P4 and the assignments



# Introduction

Bottom-up



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# Introduction

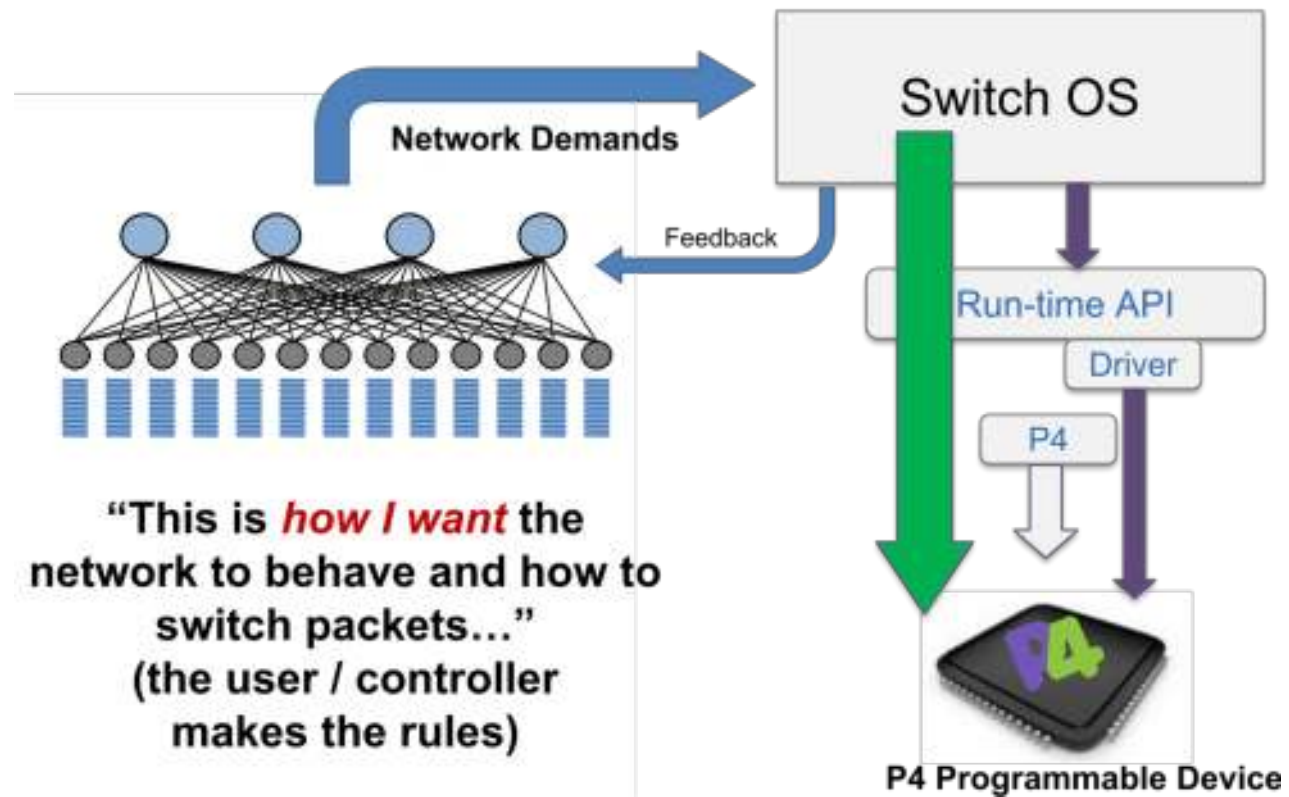
What is P4?

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- “Programming Protocol-Independent Packet Processor”
- Target independence (CPU’s , FPGA’s, SOC’s, etc.)
- Protocol independence
- Reconfigurability

# Introduction

Top-down



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# Architectural Overview

## BMV2 Switch

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- Simulated switch
- Used for lab assignments

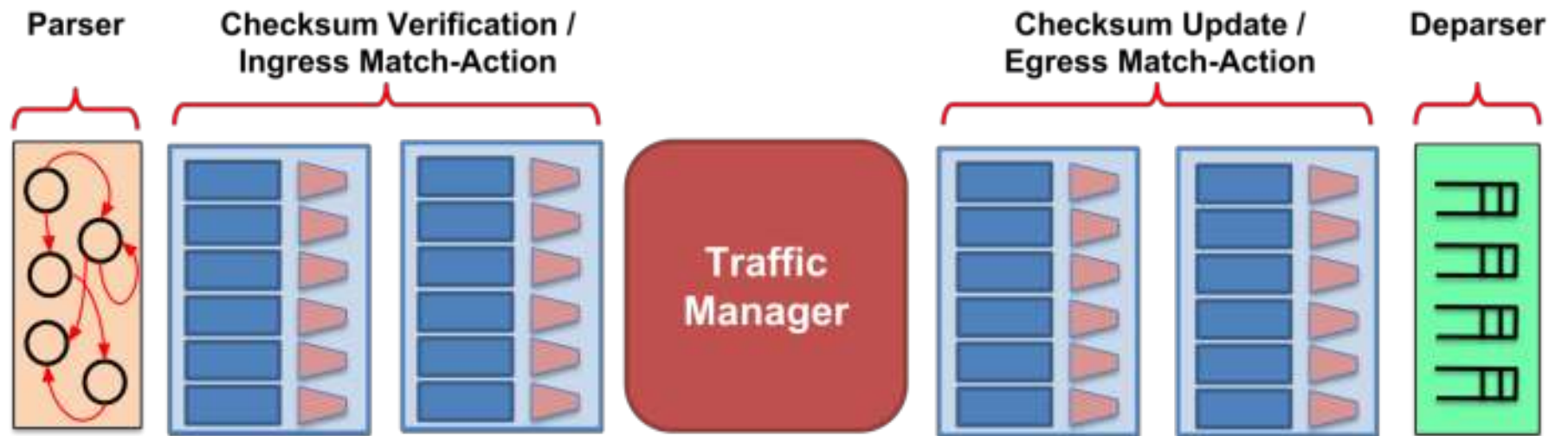






# Architectural Overview

## Stages







# What can you do with P4?

Add extra functionality

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- Layer 4 load balancers (transport layer)
- Congestion Control
- In-band Network Telemetry

And a lot more...



# Lab Assignments

## Virtual Machine

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- All necessary tools installed
- Repository cloned
- Link will be on Canvas

# Lab Assignments

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- Exercises: add packet handling functionality
- Lab assignment: Pass/Fail





# Lab Assignments

## Sessions

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- Mon 21st of September: Online lecture about P4 and assignments
- Mon 28th September: Online sign-off session #1
- Mon 5th October: Online sign-off session #2
- Mon 12th October: Online sign-off session #3
- Mon 19th October: Online sign-off session #4