



UNIVERSITY OF
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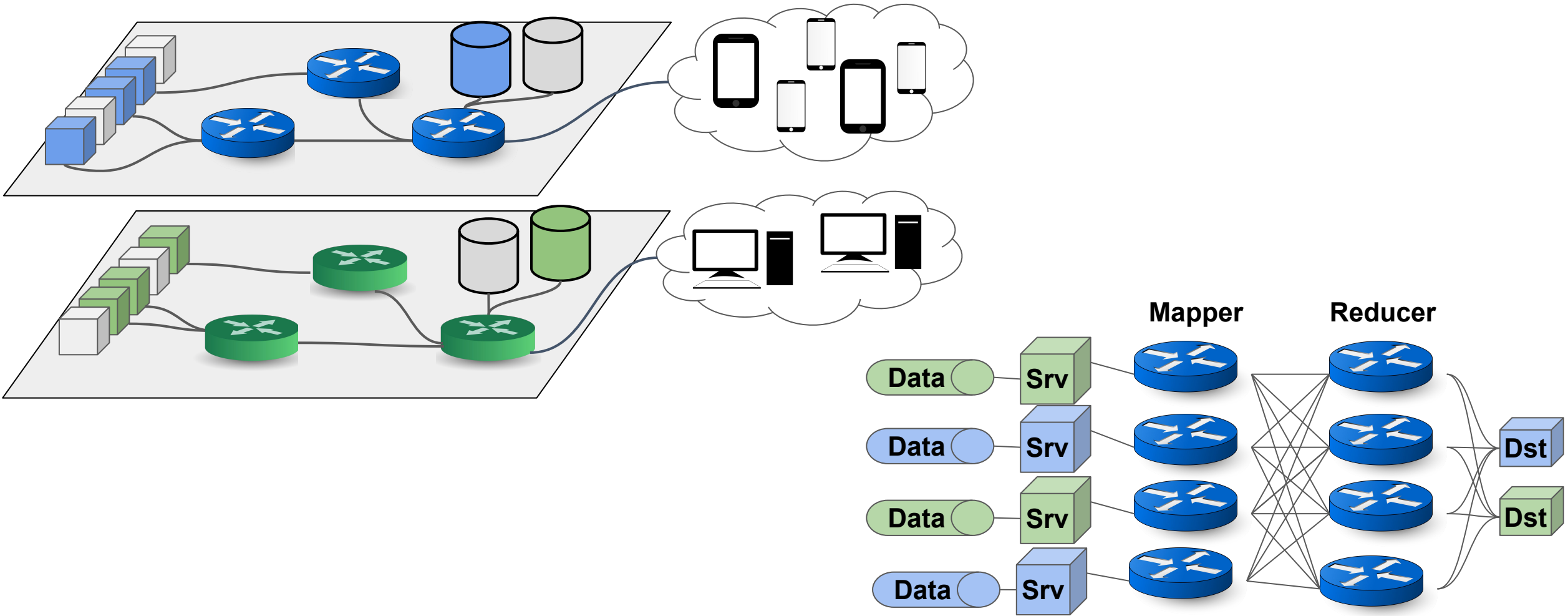
Multi-Tenant Programmable Network Switches

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Research Advisor: Prof. Noa Zilberman

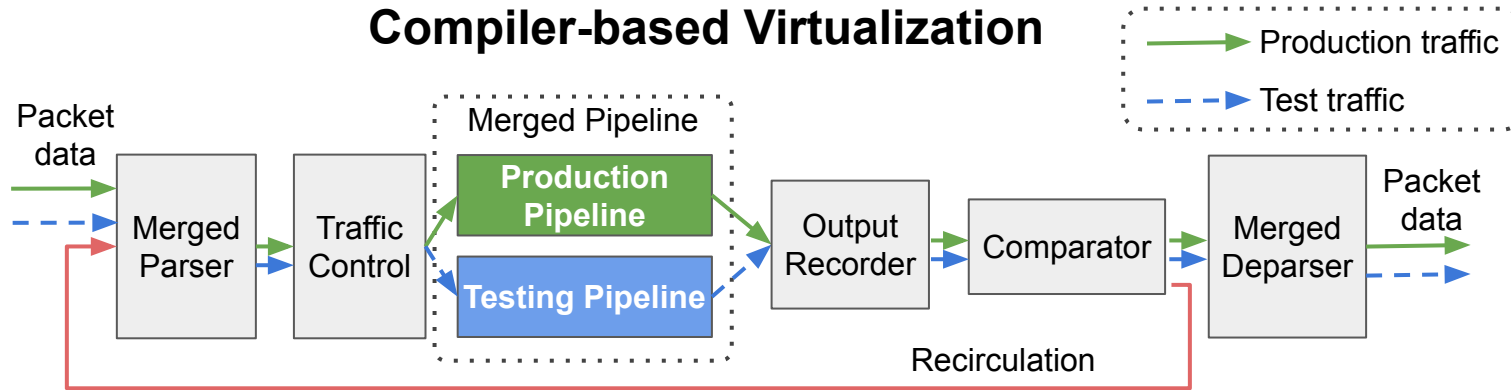
32nd Multi-Service Networks workshop (MSN 2020) - 9 July 2020

What is PDP Virtualization, and Why Should You Care?

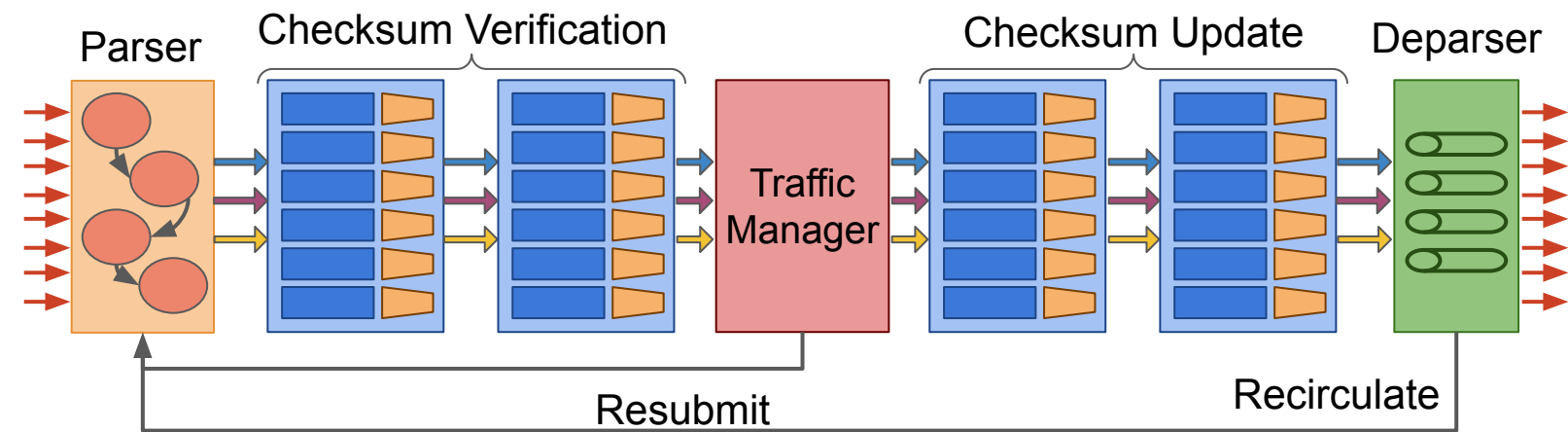


Programmable Data Plane Virtualization

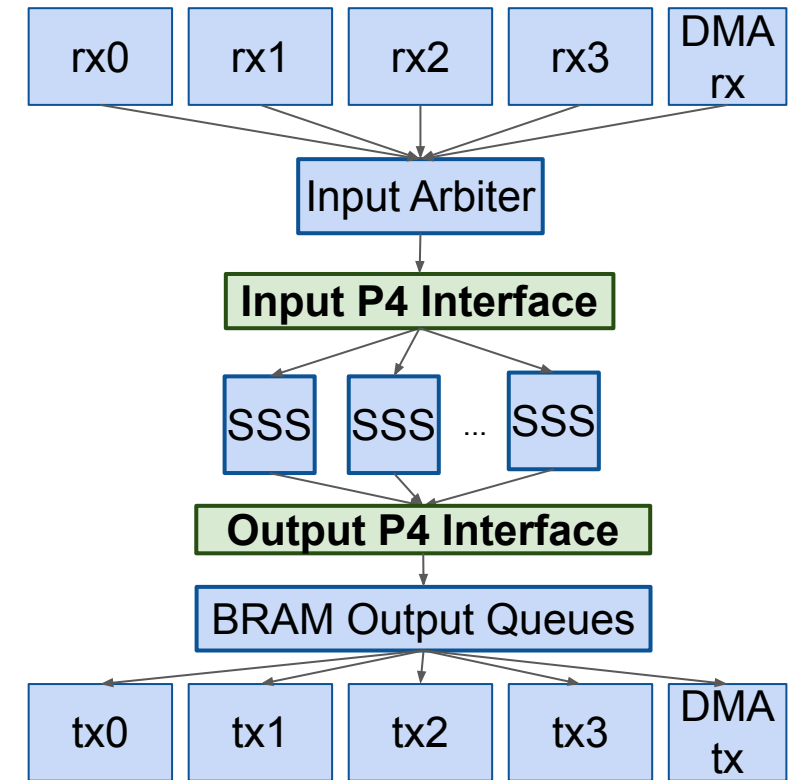
Compiler-based Virtualization



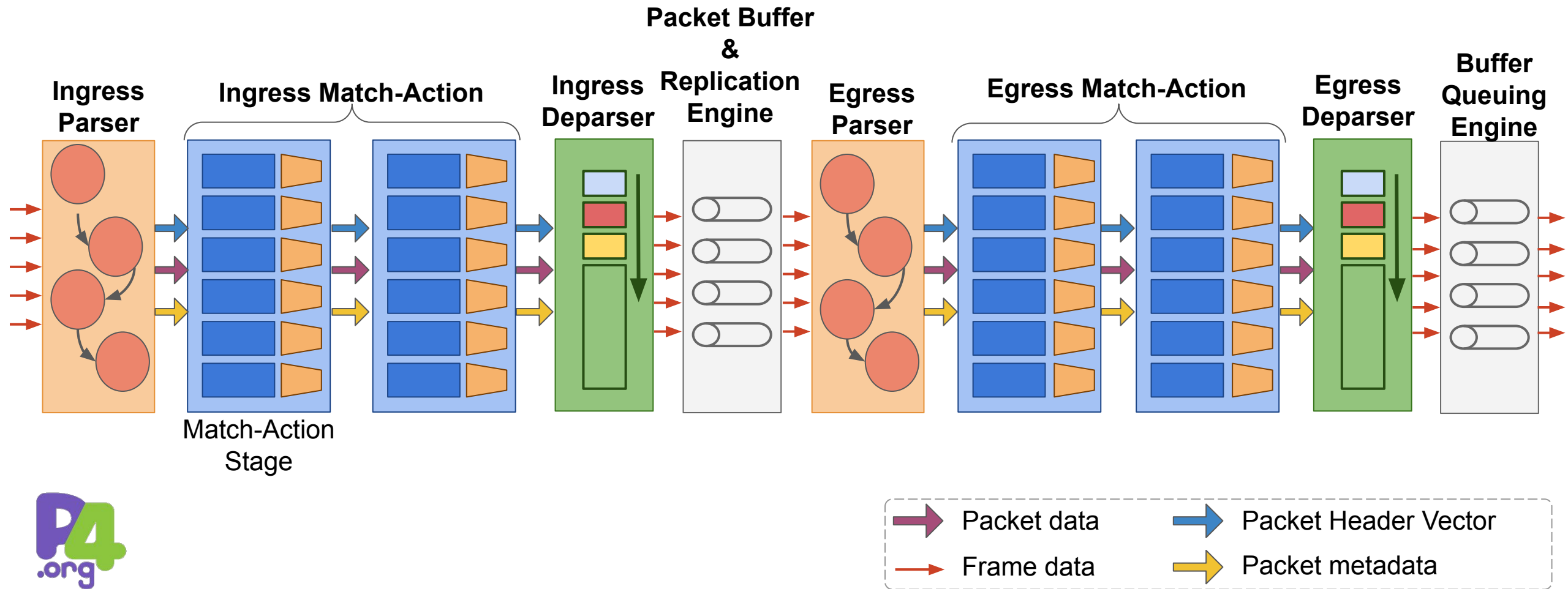
Recirculation-based Virtualization



Architecture-driven Virtualization

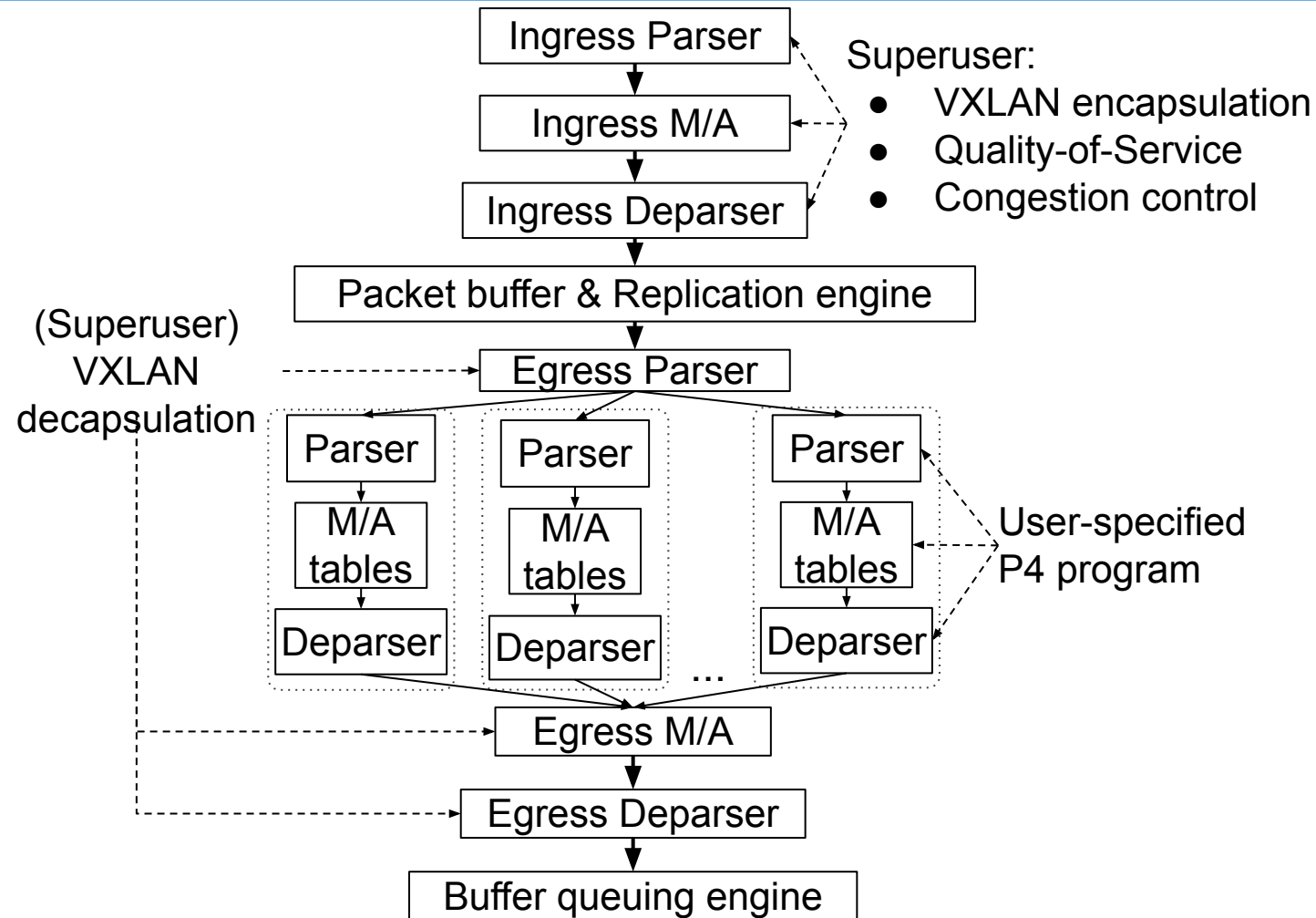


Portable Switch Architecture (PSA)

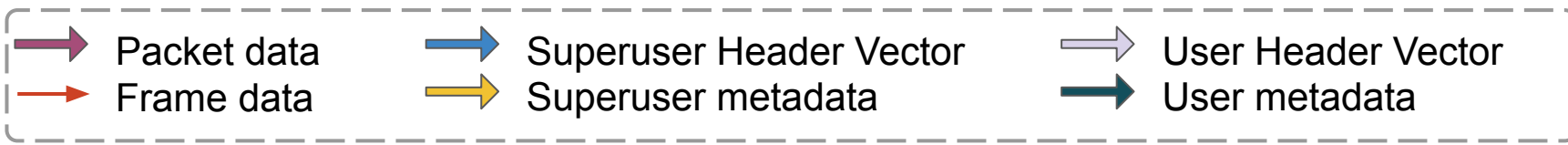
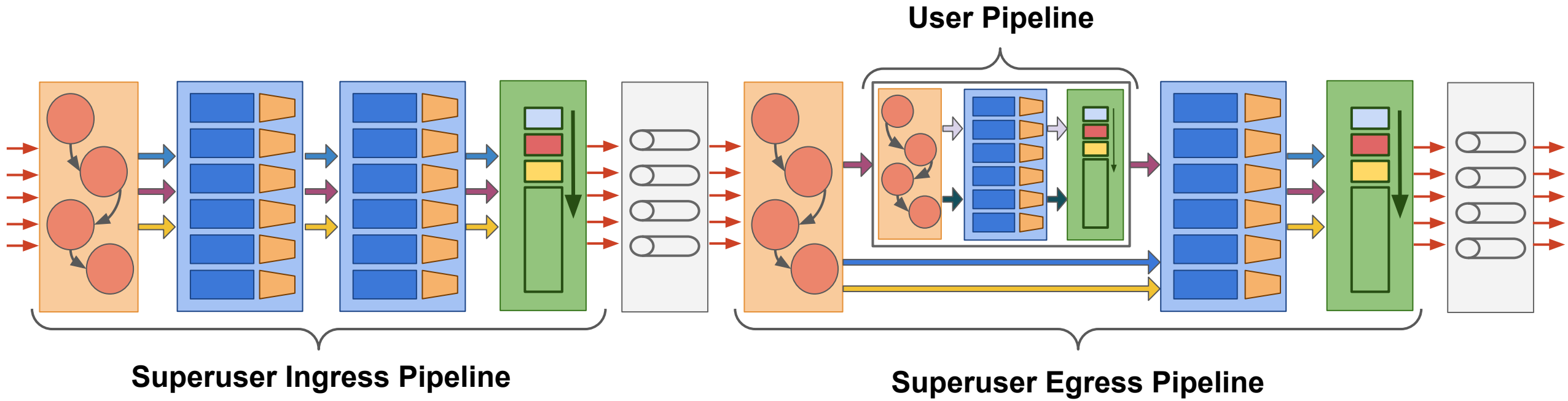


Multi-Tenant Programmable Switch (MTPSA)

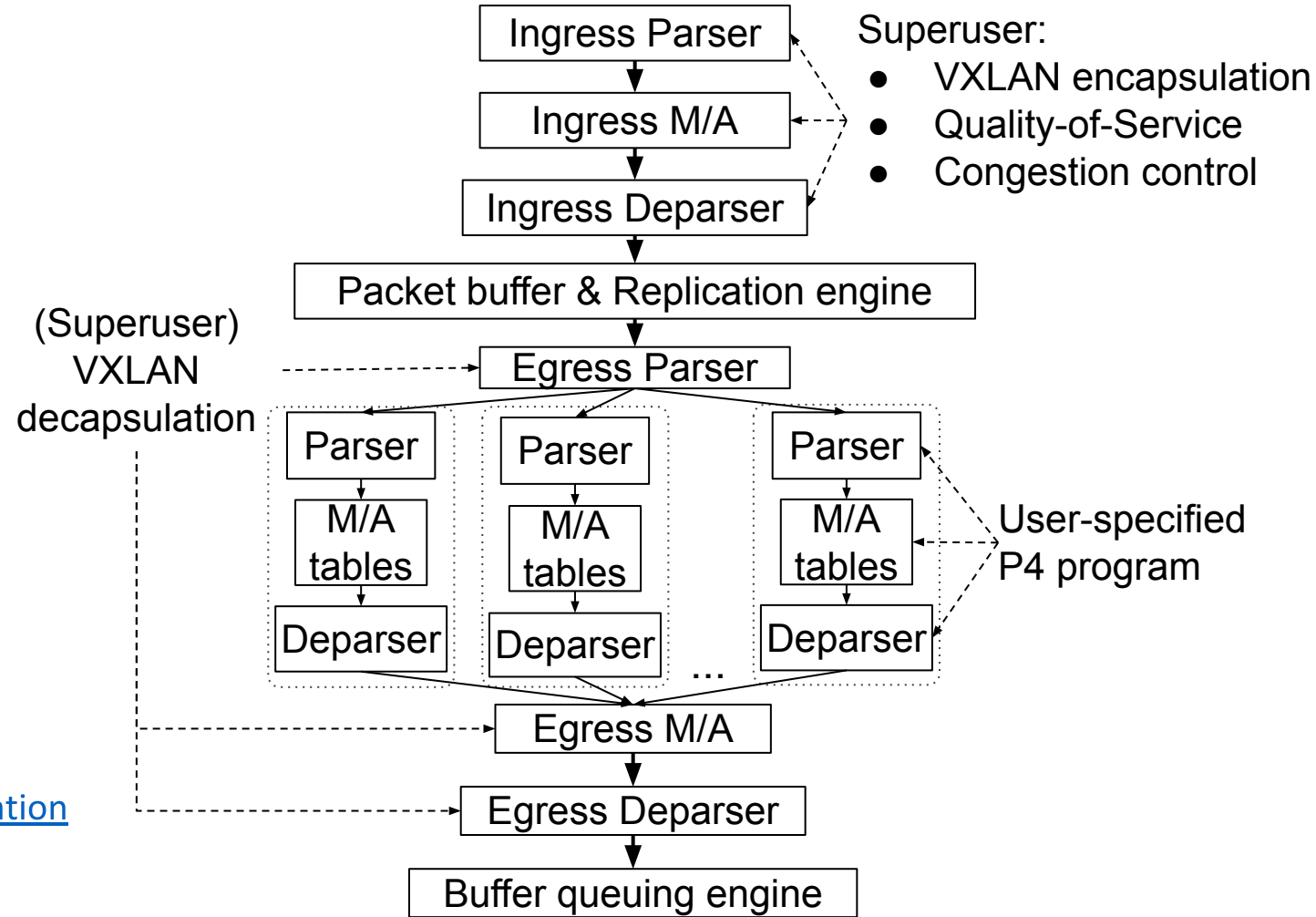
- Superuser vs User architecture
- User isolation:
 - Security (ACL, VxLAN)
 - Performance (QoS)
 - Resource (Switch Context)



Multi-Tenant Programmable Switch (MTPSA)



Summary & Questions?



Switch Target: <https://github.com/rst0git/behavioral-model>

P4 Compiler: <https://github.com/rst0git/p4c>

Examples: <https://github.com/rst0git/p4-data-plane-virtualisation>