Introductory and Advanced Topics on
P4 Programmable Data Plane Switches

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http://ce.sc.edu/cyberinfra
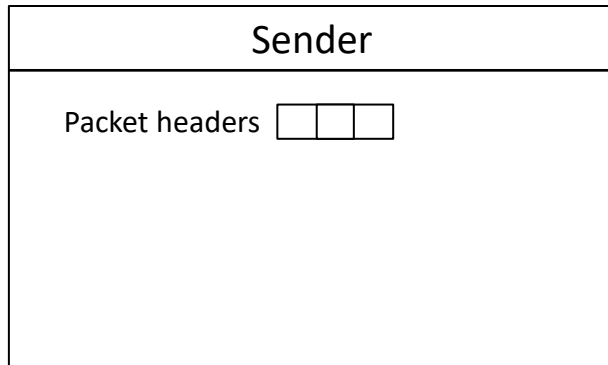ekfoury@email.sc.edu, gomezgaj@email.sc.edu

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Checksum Recalculation and Packet Deparsing

Lab activities are described in Lab 8, P4 Programmable Data Plane Switches (BMv2) lab series
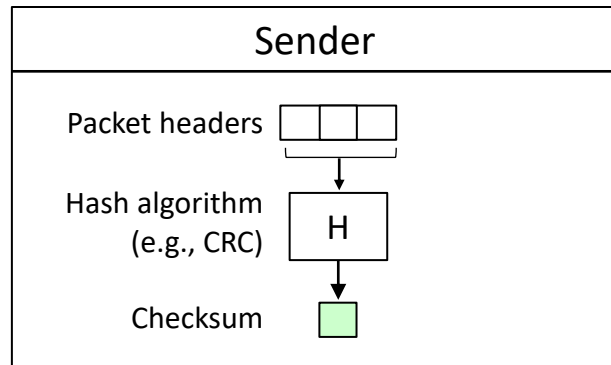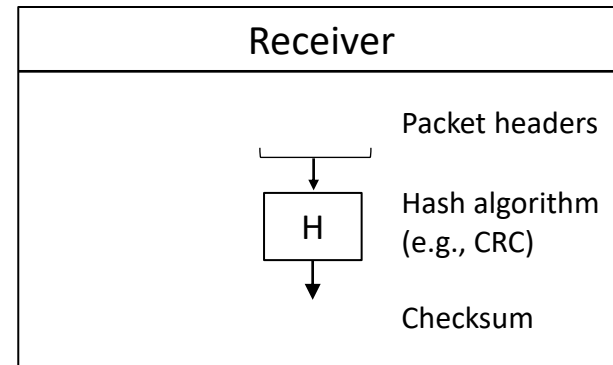
Checksums

- Several protocols use checksums to validate the integrity of the packet headers
- A checksum is a small value derived using a checksum algorithm such as the Cyclic Redundancy Check (CRC)
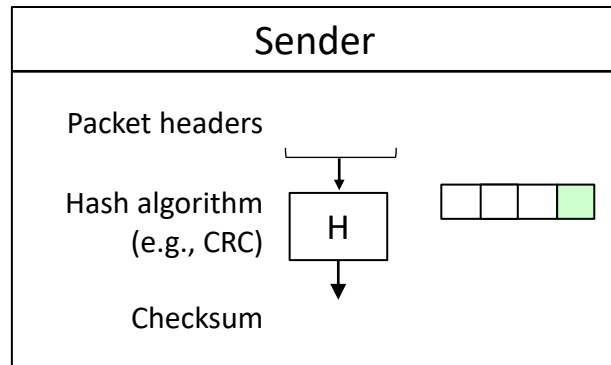
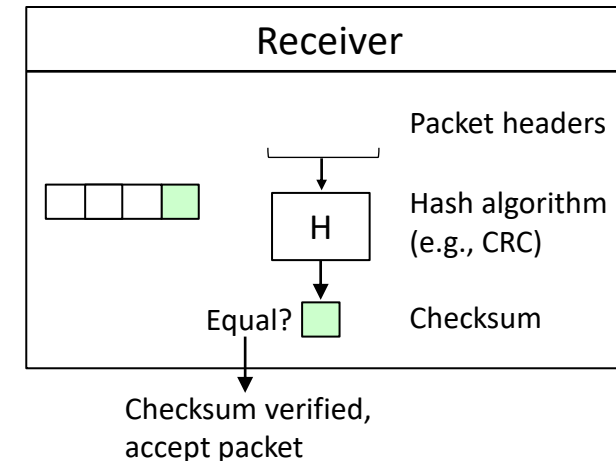| Sender |
|---|
| Packet headers ☐☐☐ |

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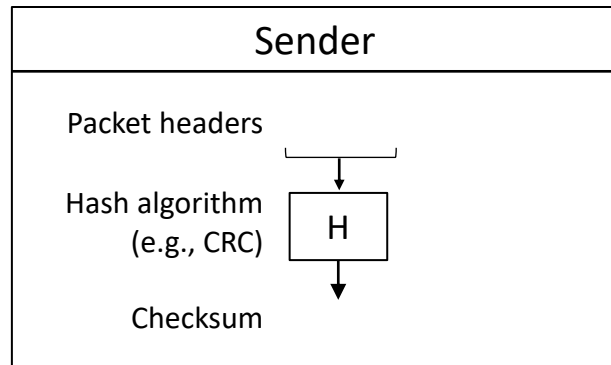
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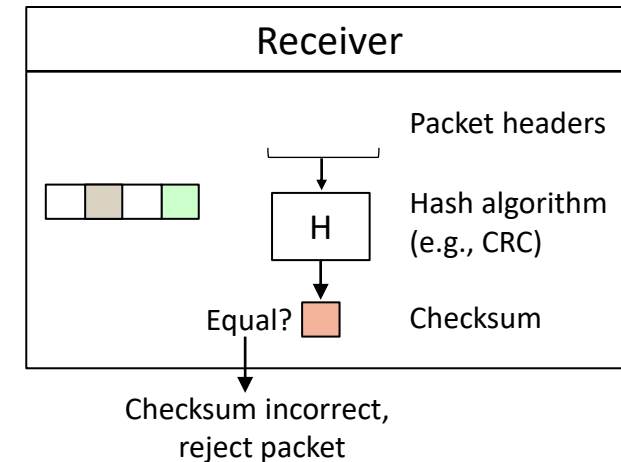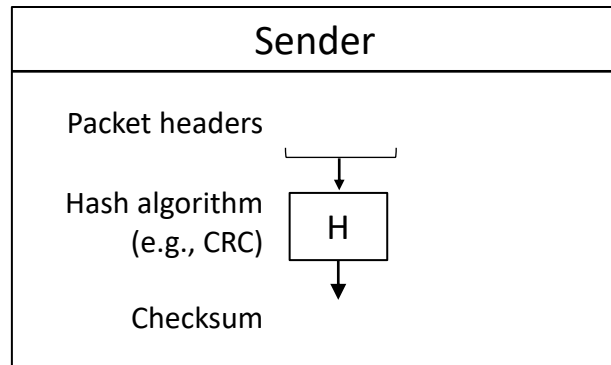
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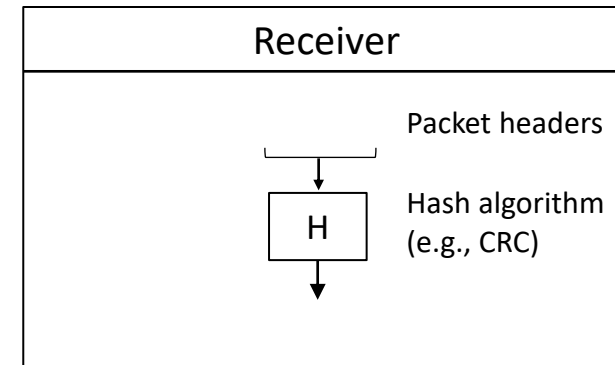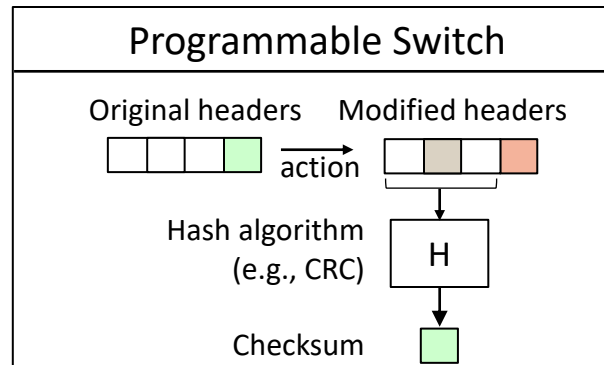
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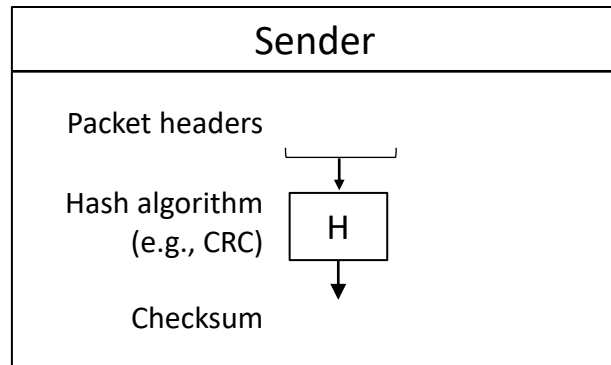
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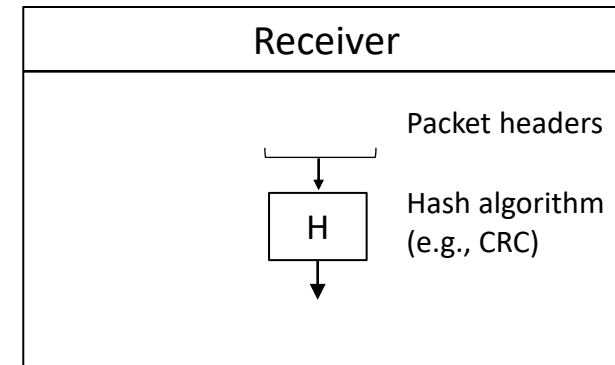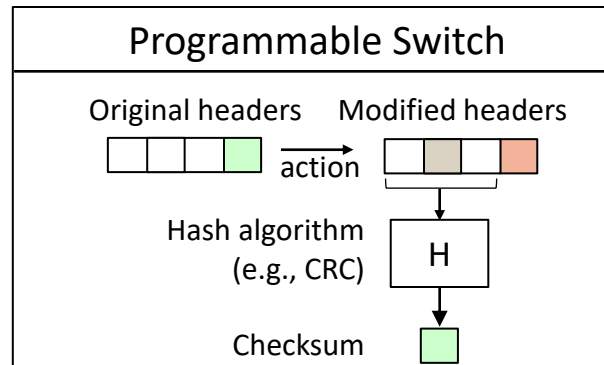
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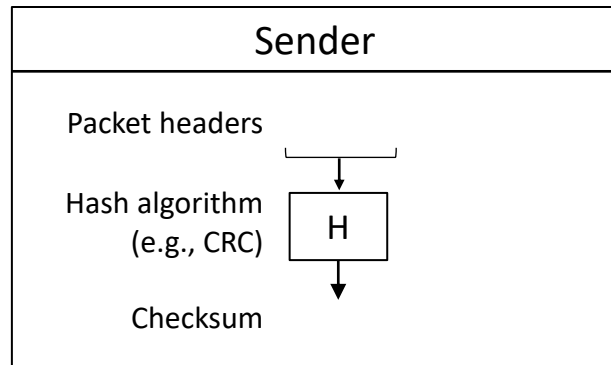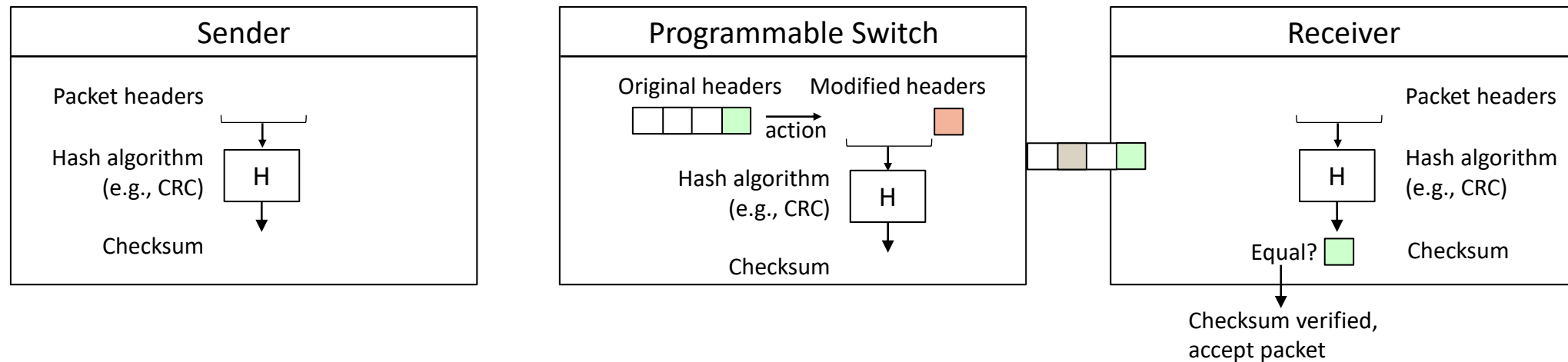
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Lab Topology and Objectives

- The topology consists of three hosts: h1, h2, and h3; one P4 switch: s1
- The P4 program modifies the headers of the packet
- The P4 program recomputes the checksum of the updated headers