Unleashing the Power of Learning: An Enhanced Learning-based Approach for Dynamic Binary Translation

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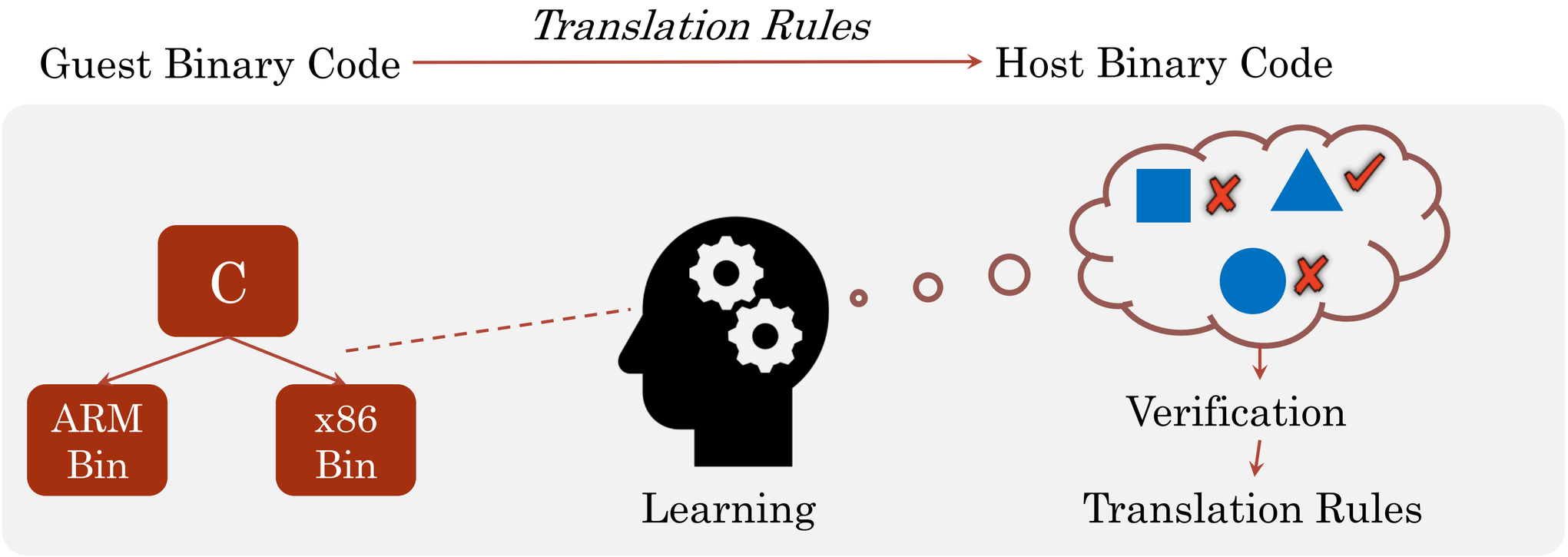
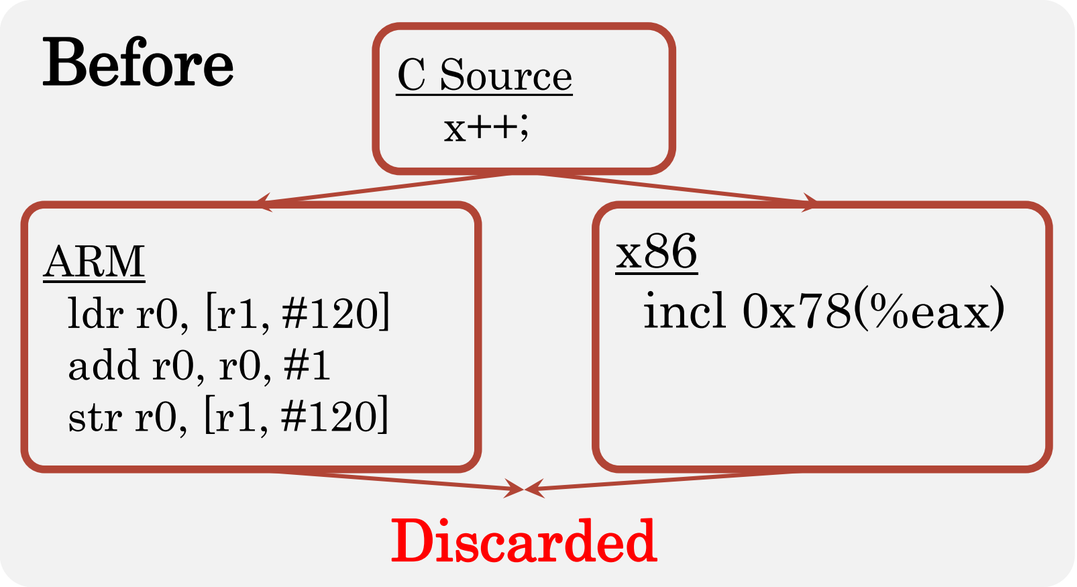
DBT: A Key Enabling Technology

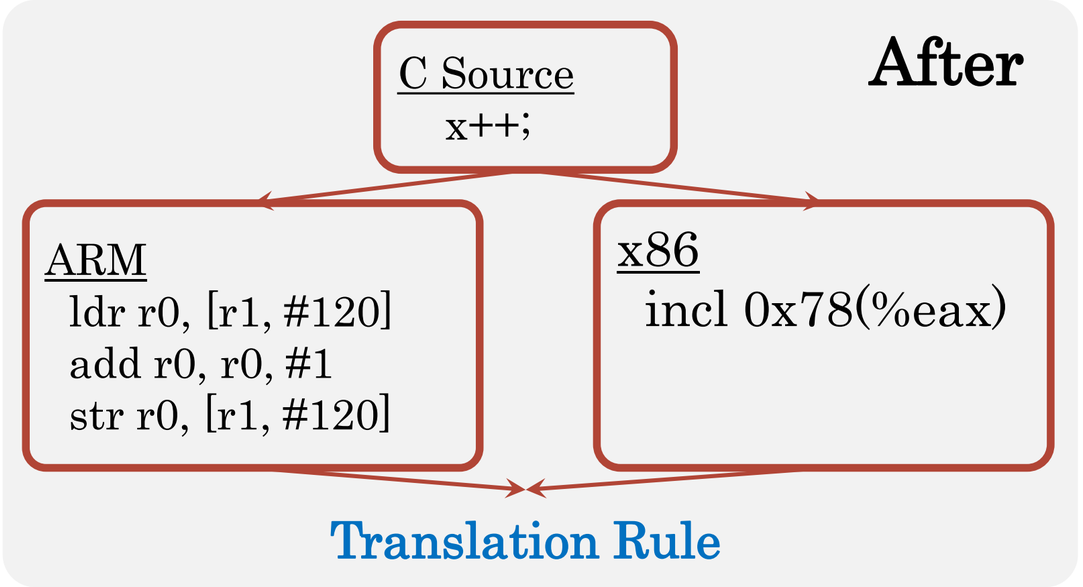


- **Fundamental Limitations**
  - **Low success rate** of the learning process
  - **Limited translation coverage** when applying the learned rules
  - **Inefficient host binary code** generated by using the learned rules

Problem and Our Solution

Problem: equivalence verification is **unduly restrictive**.





- An Enhanced Learning-Based Approach for DBT
  - **Constrained equivalence verification** to harvest more rules
  - **Dynamic context analysis** to achieve higher coverage
  - **Conditional code handling** to generate more efficient host binaries

Thanks

Track II

“Runtimes”

11:20 am–12:40 pm

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