

# Conflict resolution strategies

A view from a completely different angle

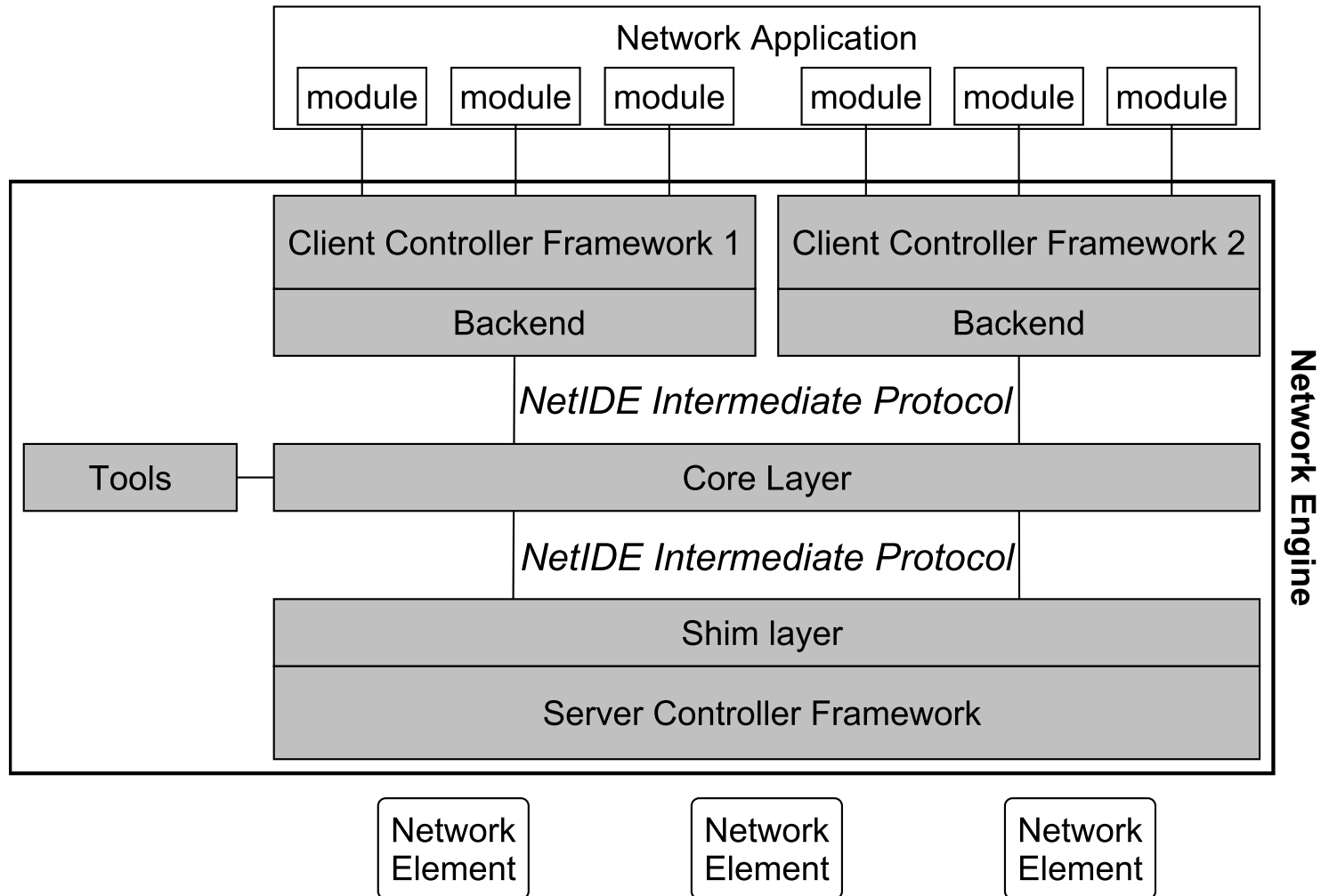
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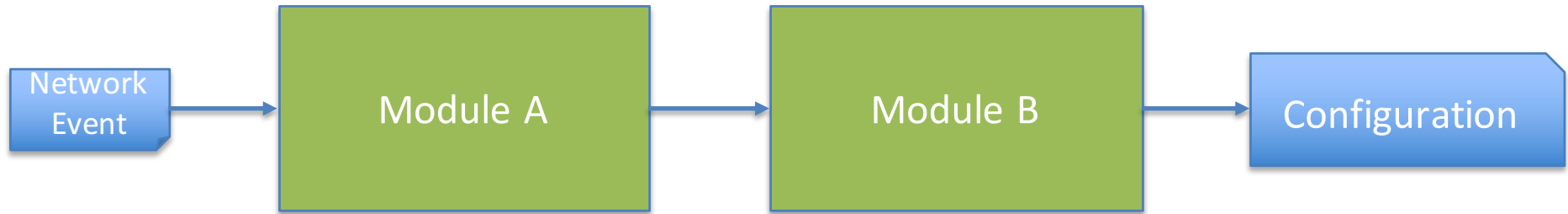
# Context

- The ideas presented are the result of an on-going project
  - NetIDE: An integrated development environment for portable network applications
  - Co-funded by the European Commission DG CONNECT in FP7
- Context: Software design principles for SDN applications
  - Write once, use everywhere
  - Reuse: applications as bricks for new applications

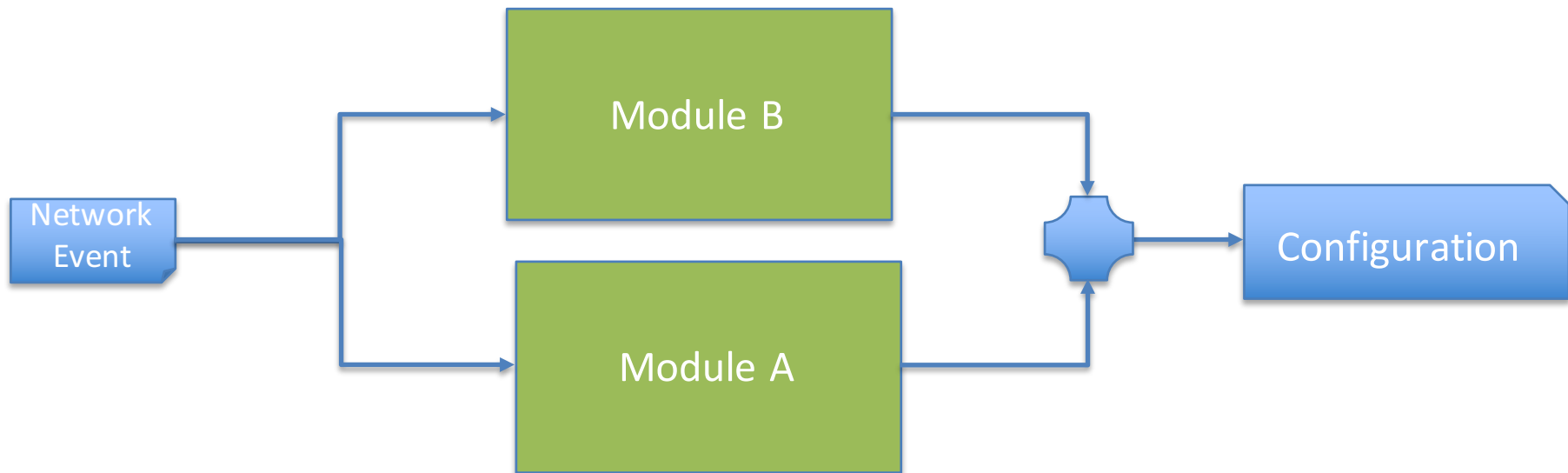
# High-level architecture



# Our composed applications



Core shuffles messages around



Core composes commands from results

# Conflict handling

- Looking at atomic building blocks
  - The simplest possible actions
  - Examples
    - Drop packet
    - Forward packet (to 1 interface only)
    - Flood packets (to all interfaces in a switch)
- Define when a conflict arises
  - Example: drop and forward
- Define conflict resolution strategies
  - By weights, etc.

# Lessons learnt

- Atomicity matters
  - Always group network commands that are a response to a network event
- Keep global knowledge
  - This gives a common grounds for understanding:
    - *When* conflicts arise
    - *If* conflicts can be *resolved*
    - *How* to resolve them