PersonAddress scenario - Reverse rule order Plain implementation Separate indexes alternative implementation Indexes on Nodes and Relationships — Indexes on Nodes and Relationships Indexes on Nodes only Indexes on Nodes only — Indexes on Relationships only Indexes on Relationships only Without indexes Without indexes  $10^{3}$  $10^{3}$ time (ms) 10<sup>2</sup>  $10^{2}$ 200 600 800 1000 200 600 800 1000 400 400 number of rows per input relation number of rows per input relation Conflict Detection over Separate indexes Conflict Detection over Plain implementation Indexes on Nodes and Relationships Indexes on Nodes and Relationships — Indexes on Nodes only Indexes on Nodes only — Indexes on Relationships only Indexes on Relationships only Without indexes Without indexes  $10^{3}$  $10^{3}$ time (ms)  $10^{2}$  $10^{2}$ 200 400 600 1000 200 600 1000 800 400 800 number of rows per input relation number of rows per input relation