

Online Trust Update Flow

Runtime observations (ONLINE)

Data-plane evidence
forwarding outcomes
(success / failure)

Beta update
posterior mean
(estimate)

EWMA smoothing
reduce short-term
noise

Control-plane evidence
RPL control traffic
(DIO/DAO etc.)

Anomaly / deviation score
rank/metric deviation
(implementation-defined)

Stability signal
parent/rank changes
(window W)

Routing decision (ONLINE)

Trust aggregation
produce T_{total} from available signals

Penalty & parent selection
apply $..(T_{total})$ to the BRPL metric
... preferred parent / forwarding choice

Offline log parsing (if used) is for evaluation/diagnostics only and is not part of the online routing loop.