

## v3.4-EDGE-002 – Edge-Triggered Twin Spawning & Schema-Limited Footprint

Document Title	Edge-Triggered Twin Spawning & Schema-Limited Footprint
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### 1. Purpose & Scope

This document defines the logic and certification requirements for edge-triggered twin spawning and schema-limited execution footprints in MaxOneOpen. It enables event-driven edge runtimes while limiting memory and security exposure.

### 2. Twin Spawning on Edge Nodes

- Edge twins are instantiated only upon verified trigger event
- Trigger types include sensor data, local inference, encrypted tokens
- Spawn logic must bind runtime to schema fingerprint
- Forks must track all spawned instances with signed ZK logs

### 3. Schema-Limited Execution Footprint

Constraint Domain	Limitation	Trigger Logic
Memory	Runtime schema max bound	ZK-controlled allocation
Execution Scope	One namespace only	Policy enforcer
Access Tokens	Vault-only, no global	Token seed
Duration	TTL or activity loop	Twin spawn call

### 4. Reintegration Path

- Spawns must archive results and logs locally
- On reintegration, only signed diffs may be applied to source twin
- Unused spawns must self-expire and leave no orphan state
- Parent twin must validate all reintegration steps with ZK-hash

### 5. Certification Triggers

- Twin spawn logic must be schema-bound and log-generating
- Runtime must reject oversize or multi-schema spawn attempts
- Reintegration mismatch or orphan state disqualifies certification

## 6. Certification Relevance

Only forks with schema-bound edge spawning logic and execution footprint constraints qualify for MaxOneOpen certification. All edge activity must remain provable, bounded and auditable.