A1 — NAP Envelope Form

Canonical key order; no blanks.

v

tick

gid

nid

layer {INGRESS|EGRESS|CTRL|DATA}

mode {I|P}

payload_ref

seq

prev_chain

sig

Canonical text form: one line per key as `key: value` with keys strictly ascending.
No empty values. payload_ref is the manifest_check from the referenced APX bundle.

A2 — UMX Tick Ledger

tick	Σ pre_u	Σ post_u	Σ_check (must match)

Pre-state, ordered edge fluxes, post-state, Σ-check

pre_u[1..N]:

u1	u2	u3	u4	u5	u6	u7	u8	u9	u10

Edges (ID order):

e_id	i	j	du	raw=floor(k*|du|/SC)	cap	f_e
post_u[1..N]:						

u1	u2	u3	u4	u5	u6	u7	u8	u9	u10

A3 — Loom P-Block

tick	seq	s_t	C_t

Per tick chain update; prev_chain feeds next envelope

Edge flux summary:

e_id	f_e
C_t = (17*C_{t-1} + 23*s_t + seq) mod M	

A4 — Loom I-Block

tick	W	C_t	Profile version
		Full checkpoint every W ticks	

post_u[1..N]:

u1	u2	u3	u4	u5	u6	u7	u8	u9	u10	u11	u12	u13	u14	u15	u16	u17	u18	u19	u20

Topology & params snapshot (edges i,j,k,cap,SC,c):

e_id	i	j	k	cap	SC	c

A5 — APX Manifest

Model+Residual selections and manifest_check

APX name	profile	manifest_check

Stream list:

stream_id	description	scheme	params	L_model	L_residual	L_total

P_state entries (replay core):

entry	ref

P_cite (external artefacts by check value):

artefact	check

A6 — APX SimA Model

stream_id	scheme	params	L_model (bits)
		Choose from {ID, ΔR, GR(p)}	

Model parameters & formulae:

name	value	notes

A7 — APX Residual Table

stream_id

L_residual (bits)

L_total (bits)

Residuals after model; integer table

index	value

A8 — MDL Tally

Compare candidates, pick argmin L_total

stream_id	candidate	L_model	L_residual	headers	L_total

A9 — CE PROPOSE

Propose change; show predicted ΔL and proofs

change	rationale	predicted ΔL (bits)	constraints proof sketch

A10 — CE REVIEW/COMMIT

Independent recompute; commit on accept

change	reviewer ΔL	decision	profile bump	chain bump

A11 — Profile Card (CMP-0)

Constants & allowances

key	value	notes

A12 — Topology Card

Nodes/Edges with parameters

N	SC	c

Edges (ID order):

e_id	i	j	k	cap

A13 — PFNA Integerization Worksheet

Units → integers using Δ and O; record clamps

qty	unit	Δ	O	value	n=floor((x−O)/Δ)	clamp?	notes

A14 — Scene/Frame & Payload Ref

scene_check and cited APX manifest_check

scene_id	scene_check	APX name	manifest_check	notes