GF-01 APX Capsule — Press Prefilled (Ticks 1–2)

Schemes considered: ID, ΔR (Δ + zero-RLE), GR(p) for p∈{0..4}. MDL = L_total (bits).

Computed manifest_check: 869911338

S1_post_u_deltas: Per-tick net change per node (t=1..2, nodes asc) len=12 chosen=ΔR L_total=5

S2_fluxes: Per-tick edge flux f_e (t=1..2, edges in ID order) len=16 chosen=ΔR L_total=6

A5 — APX Manifest (Prefilled)

APX name

GF01_APX_v0

profile

CMP-0

manifest_check

869911338

stream_id	description	scheme	params	L_model	L_residual	L_total
S1_post_u_deltas	Per-tick net change of B	ΔB	per node (t=1..2, nodes asc)	0	0	5
S2_fluxes	Per-tick edge flux f_e	ΔR	(t=1..2, edges in ID order)	0	0	6

A6 — APX SimA Model (Prefilled) — S1_post_u_deltas

Chosen scheme: ΔR; L_total=5 bits

candidate	param	L_total(bits)
ID		12
GR	p=0	12
GR	p=1	24
GR	p=2	36
GR	p=3	48
GR	p=4	60
ΔR		5

ID: per value bits = 1(sign) + ⌈log2(|z|+1)⌉ for magnitude; z=0 uses 1 bit total.

GR(p): zigzag map y=0 for 0; y=2z−1 (z>0); y=−2z−1 (z<0). Bits = (⌊y/2^p⌋+1) + p.

ΔR: d0=x0; dk=xk−x(k−1). Zero-run → (marker 0 + ⌈log2(L+1)⌉).

Non-zero delta → (marker 1 + GR with p=0 on the value).

Totals exclude fixed headers in V0 (L_model=L_residual=0).

A6 — APX SimA Model (Prefilled) — S2_fluxes

Chosen scheme: ΔR; L_total=6 bits

candidate	param	L_total(bits)
ID		16
GR	p=0	16
GR	p=1	32
GR	p=2	48
GR	p=3	64
GR	p=4	80
ΔR		6

ID: per value bits = 1(sign) + ⌈log2(|z|+1)⌉ for magnitude; z=0 uses 1 bit total.

GR(p): zigzag map y=0 for 0; y=2z−1 (z>0); y=−2z−1 (z<0). Bits = (⌊y/2^p⌋+1) + p.

ΔR: d0=x0; dk=xk−x(k−1). Zero-run → (marker 0 + ⌈log2(L+1)⌉).

Non-zero delta → (marker 1 + GR with p=0 on the value).

Totals exclude fixed headers in V0 (L_model=L_residual=0).

A7 — APX Residuals (Prefilled)

Exact schemes selected; residuals not required (L_residual=0).

stream_id	residual_entries
S1_post_u_deltas	(none)
S2_fluxes	(none)

A8 — MDL Tally (Prefilled)

stream_id	candidate	param	L_total(bits)	chosen?
S1_post_u_deltas	ID		12	
S1_post_u_deltas	GR	p=0	12	
S1_post_u_deltas	GR	p=1	24	
S1_post_u_deltas	GR	p=2	36	
S1_post_u_deltas	GR	p=3	48	
S1_post_u_deltas	GR	p=4	60	
S1_post_u_deltas	ΔR		5	✓
S2_fluxes	ID		16	
S2_fluxes	GR	p=0	16	
S2_fluxes	GR	p=1	32	
S2_fluxes	GR	p=2	48	
S2_fluxes	GR	p=3	64	
S2_fluxes	GR	p=4	80	
S2_fluxes	ΔR		6	✓

A1 — NAP Envelope (Updated with payload_ref)

v	tick
1	1
gid	nid
GF01	N/A
layer	mode
DATA	P
payload_ref	seq
869911338	1
prev_chain	sig
1234567	(witness at I-block)

payload_ref equals APX manifest_check for this window.

A1 — NAP Envelope (Updated with payload_ref)

v	tick
1	2
gid	nid
GF01	N/A
layer	mode
DATA	P
payload_ref	seq
869911338	2
prev_chain	sig
20987847	(witness at I-block)

payload_ref equals APX manifest_check for this window.