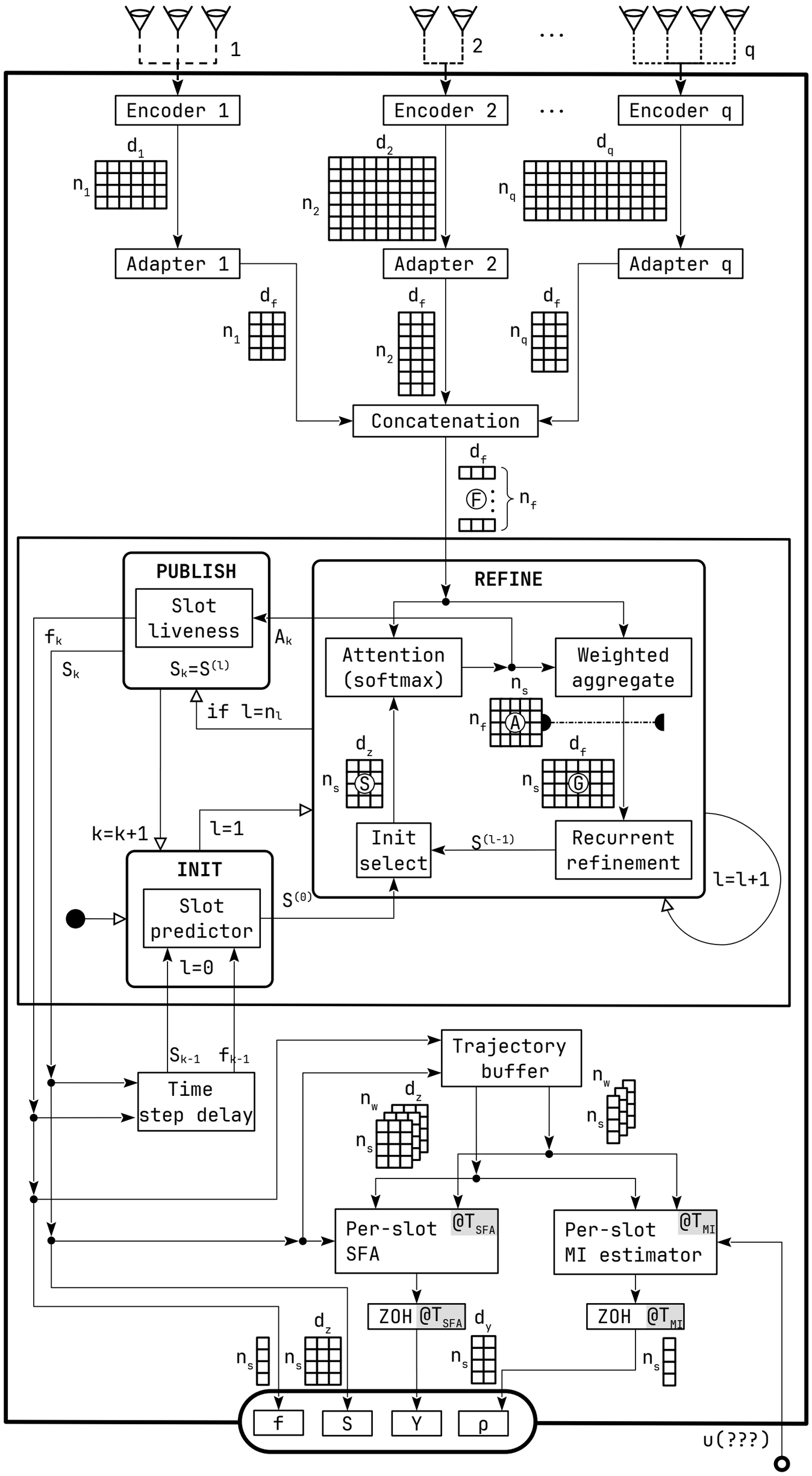
Layer 1 internal structure (working sketch)



Sizes

d_f: common token width at adapter output
d_m: native token width of modality m
d_y: width of the published state Y
d_z: slot width
n_c: coherence window length
$n_f=n_1+n_2+\ldots+n_q$: total token count
n_j: candidate count (Layer 4)
n_l: intra-step iteration count
n_s: slot count
n_w: trajectory window depth
q: modality count

Periods

T_s: base sample period
$T_{L1}=p_{L1}T_s$: Layer 1 time step
$T_{SFA}=p_{SFA}T_s$: SFA period
$T_{MI}=p_{MI}T_s$: MI estimator period
p_{L1}, p_{SFA}, p_{MI} integers, >0

Symbols

S: slot matrix
Y: published SFA state
ρ: pooled MI estimates

Implementation details

Slot liveness accumulates evidence of slot existence across time steps.

All blocks update at T_{L1} except those tagged with a gray @T.

Acronyms and abbreviations

Init select: initialization selector
MI: Mutual Information
SFA: Slow Feature Analysis
ZOH: Zero-Order Hold

Output port
Unresolved connection
Branching point
Data flow
Asynchronous sensor inputs
Diagnostics output
Transition between states
Array
Trajectory window
X State of a finite state machine