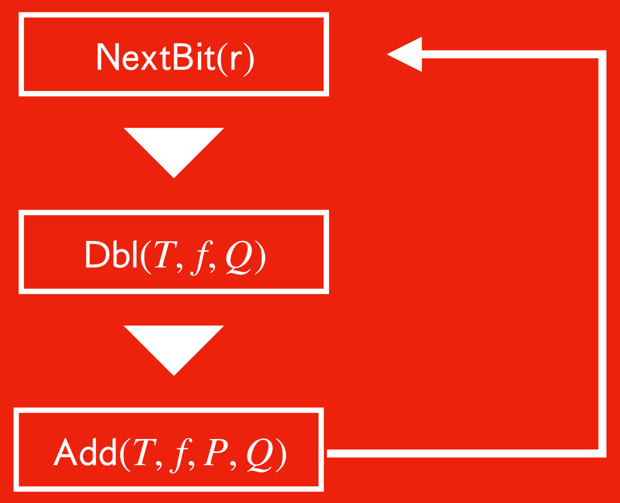
2



Speeding-up general pairings

!

general notice

Computing pairings fast is quite technical.
Better suited for papers than slides

✓

core idea

For $P \in E(\mathbb{F}_p)$ and $Q \in E'(\mathbb{F}_p)$,
don't use curve arithmetic
but pairing $e(P, Q)$ to get
overlap in orders!

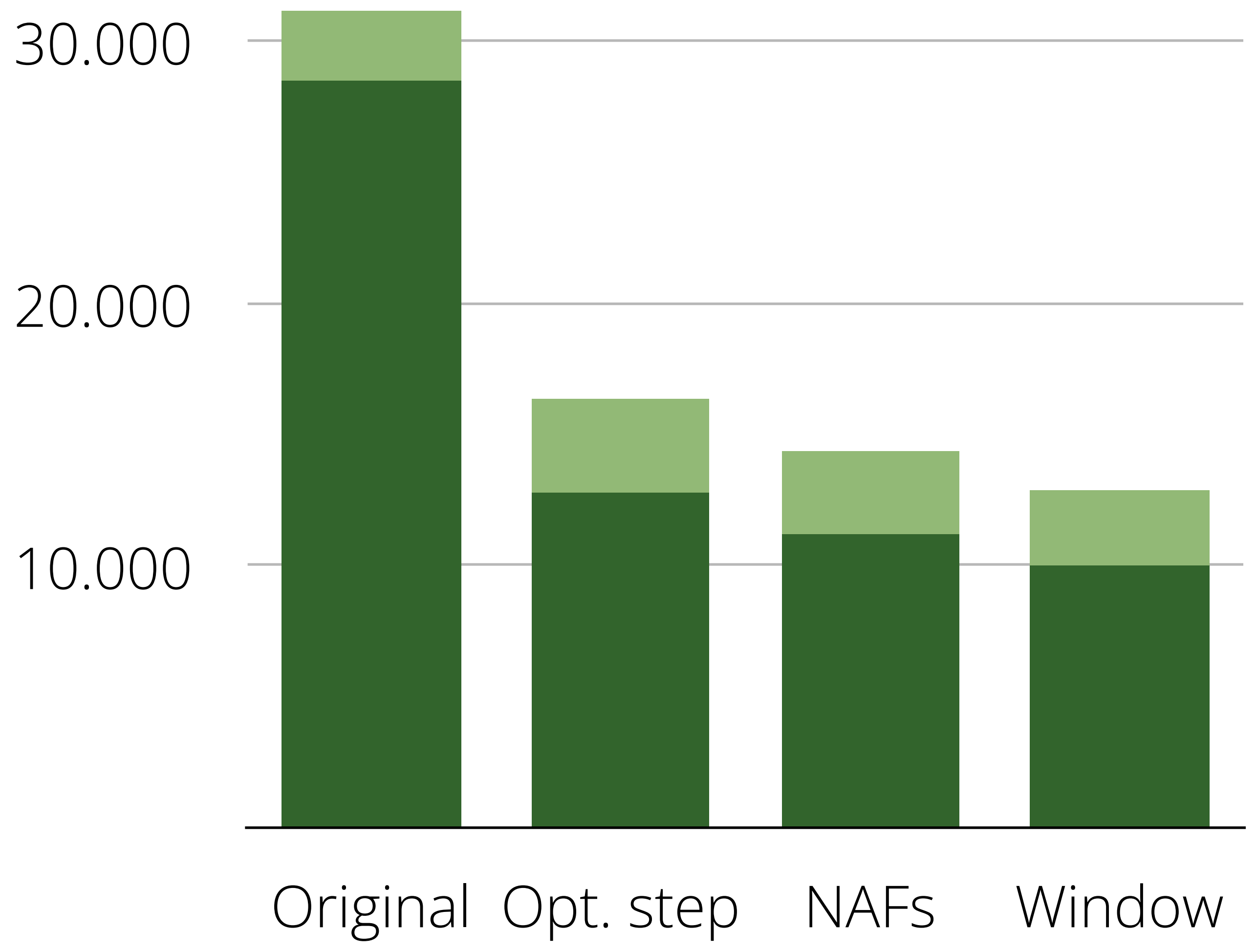
✓

general approach

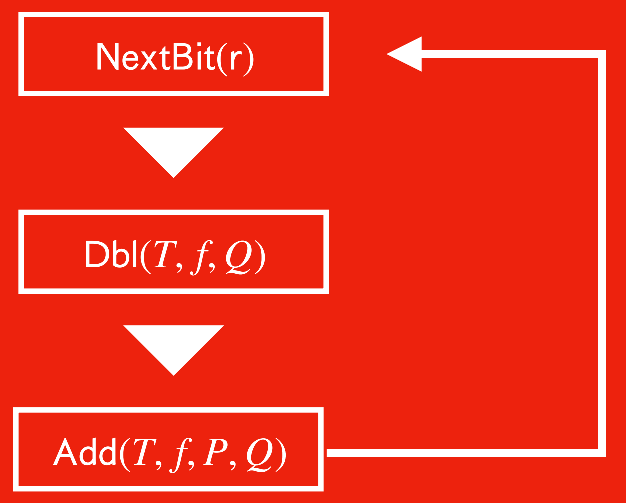
Instead I describe the general approach,
and leave all details out

3

fast pairings



2



Speeding-up general pairings

!

general notice

Computing pairings fast is quite technical.
Better suited for papers than slides

✓

general approach

Instead I describe the general approach,
and leave all details out

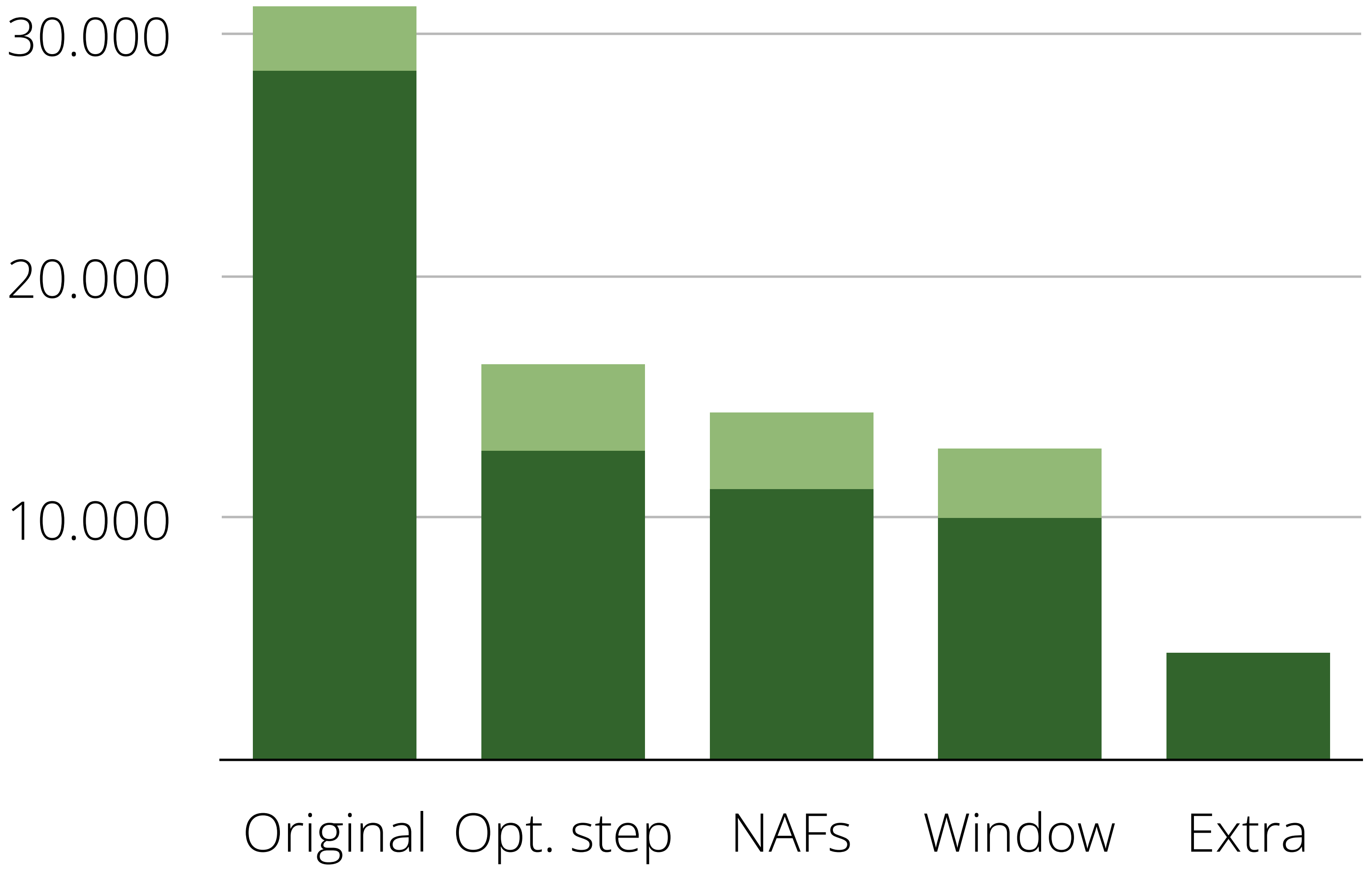
✓

core idea

For $P \in E(\mathbb{F}_p)$ and $Q \in E'(\mathbb{F}_p)$,
don't use curve arithmetic
but pairing $e(P, Q)$ to get
overlap in orders!

3

fast pairings



extra pairings

if you have already computed
$e(P, Q_1)$,

it is very efficient to compute
$e(P, Q_2)$