

# | TEEcorrelate

## An Information-Preserving Defense against Performance-Counter Attacks on TEEs

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Stefan Gast   Jan Wichelmann   Thomas Eisenbarth   Daniel Gruss

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# Prior Work

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Stefan Gast et al. **CounterSEVeillance: Performance-Counter Attacks on AMD SEV-SNP**. NDSS. 2025

- AMD SEV-SNP: Confidential VM implementation by AMD



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- Mitigation by AMD: **Disable performance counters**



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- **Decorrelates** real and reported performance counter values

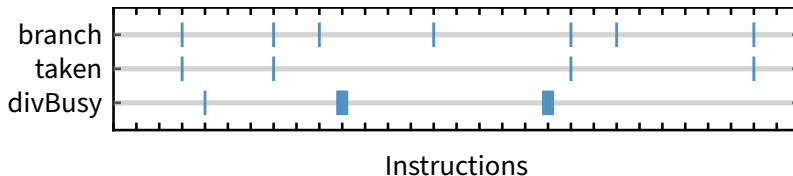


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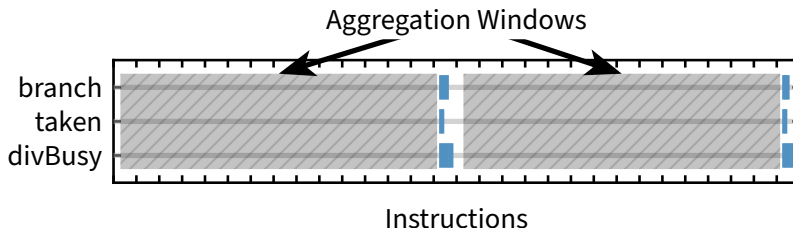


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- **Decorrelates** real and reported performance counter values
- Keeps coarse-grained trends intact
- 2 main components:

# Temporal Decorrelation

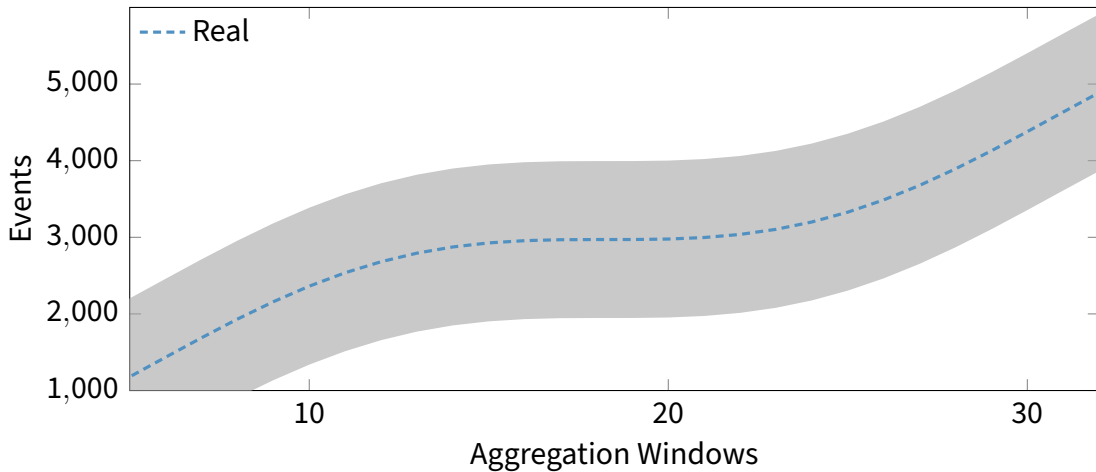


(a) Native Events

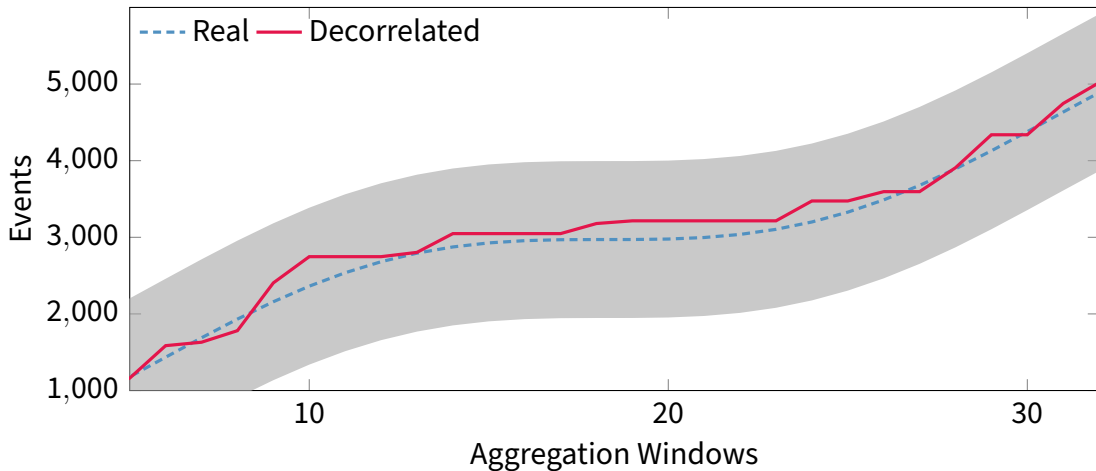


(b) Temporal decorrelated events

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- Estimated runtime overhead:  $\approx 0.09\%$

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