Replay, Relay and Inverse-Sybil Attacks on Proximity Tracing Apps

Krzysztof Pietrzak

IST AUSTRIA
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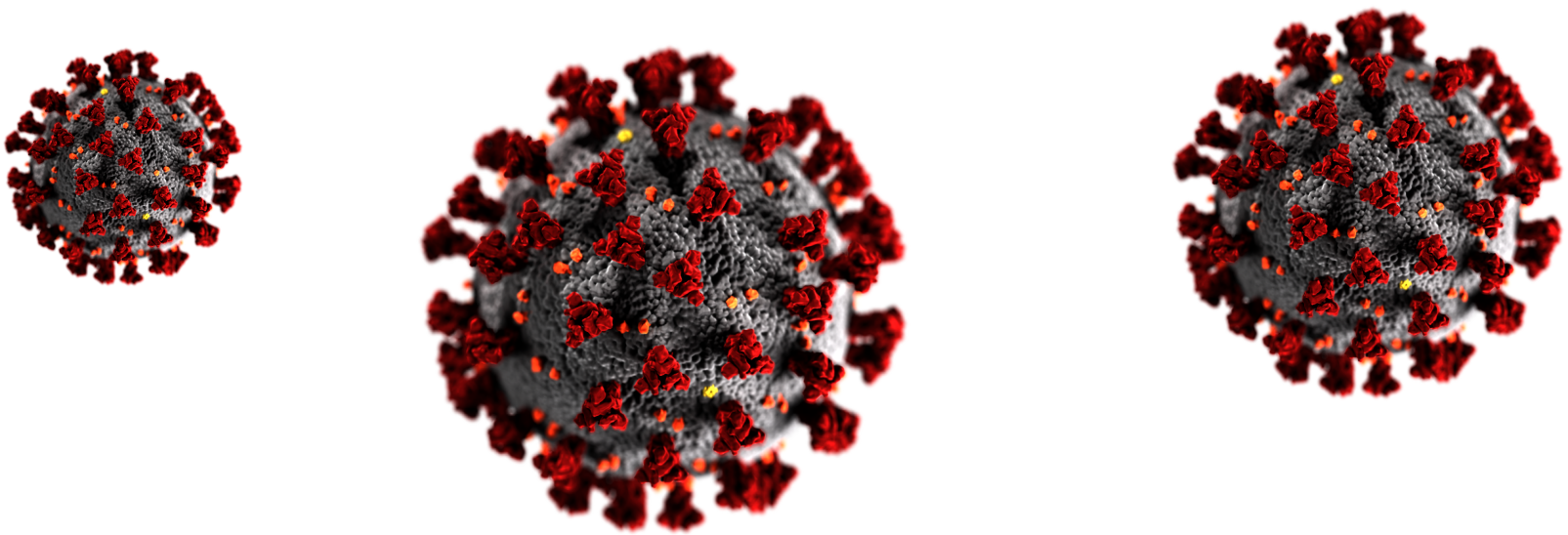

2020 Eurocrypt Rump Session, May 13th, Living Room

Proximity Tracing

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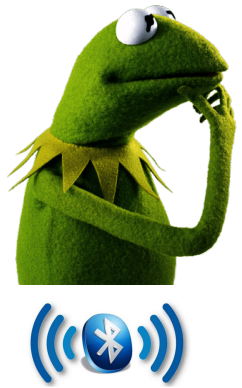

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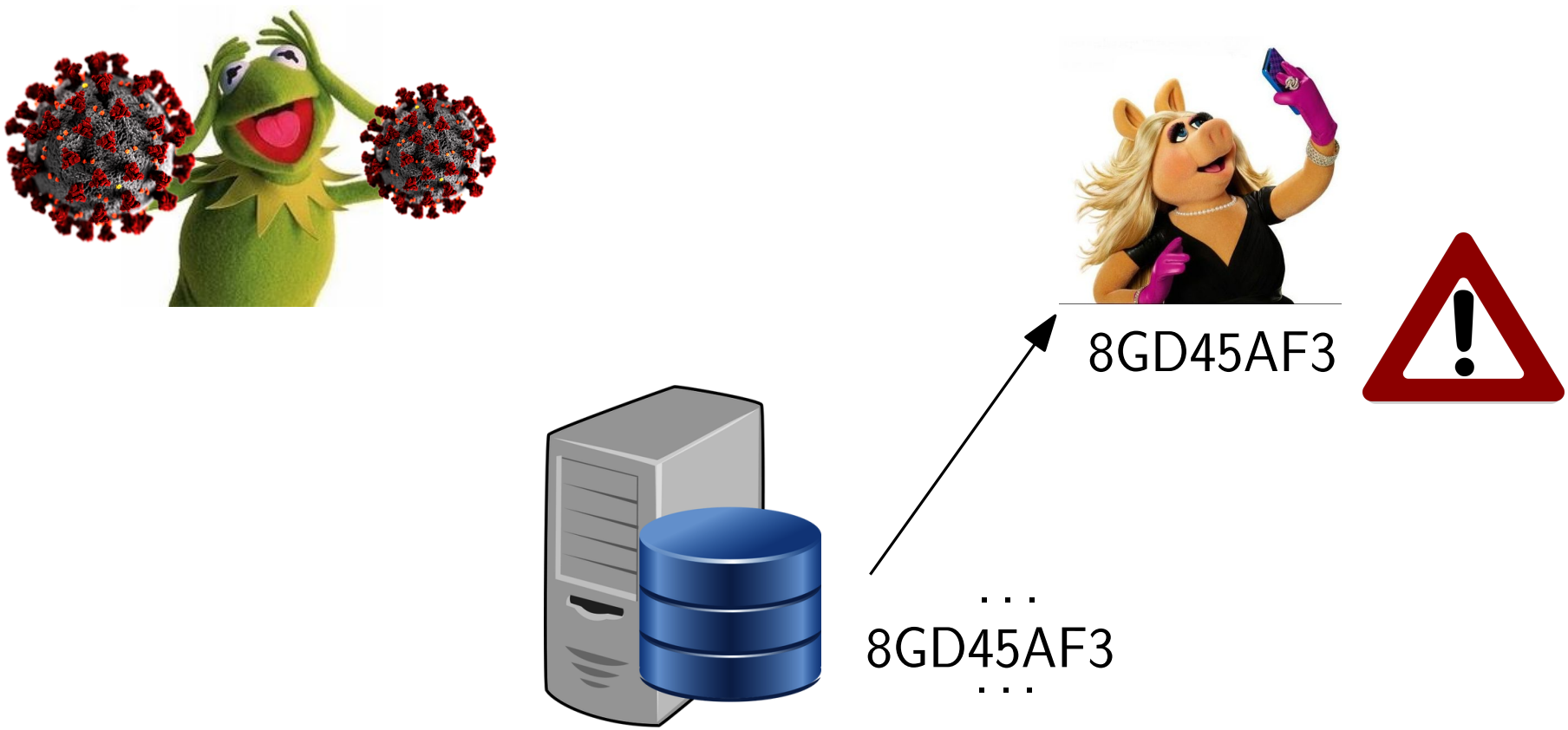
Proximity Tracing



Replay and Relay Attacks

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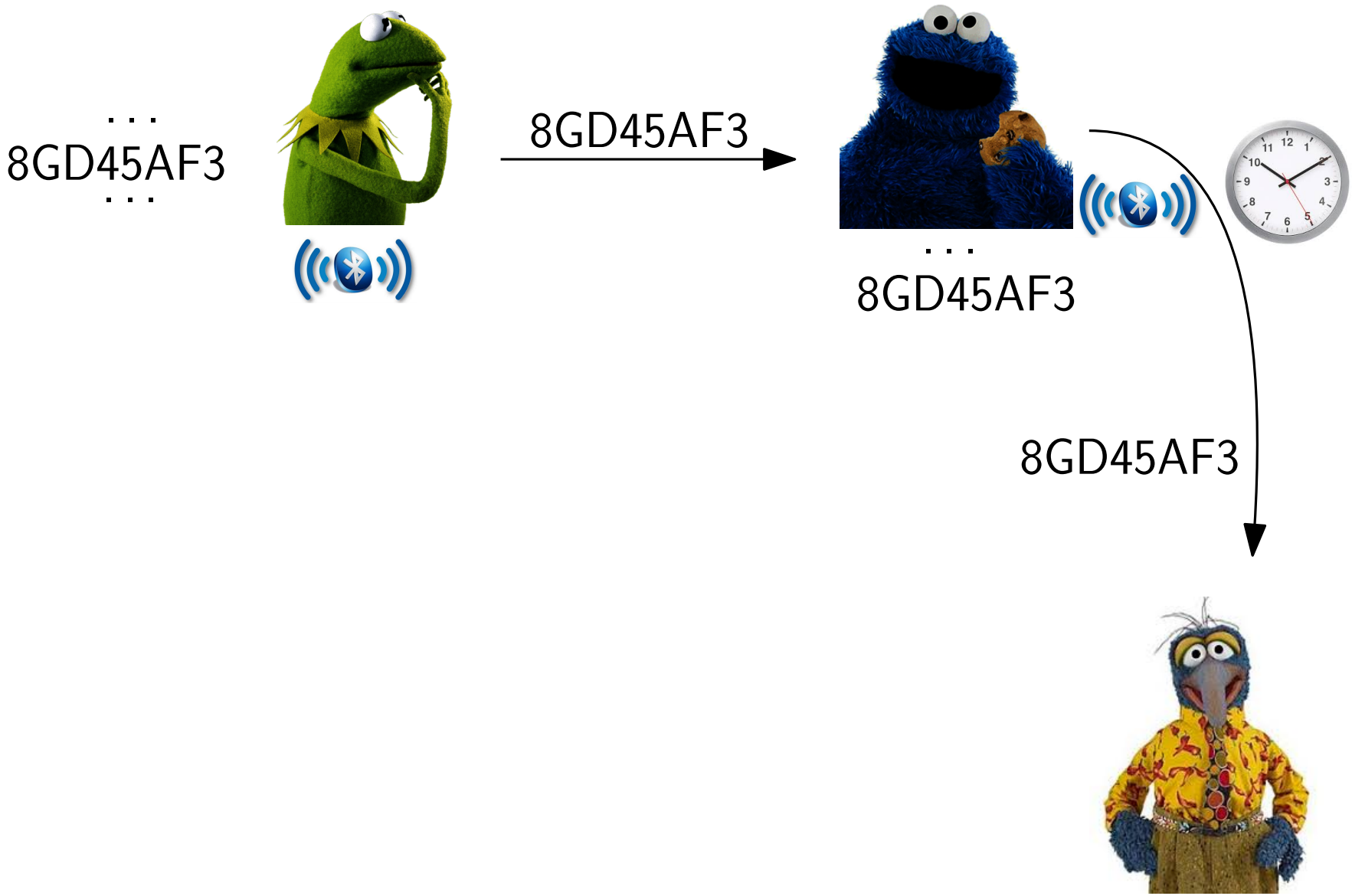
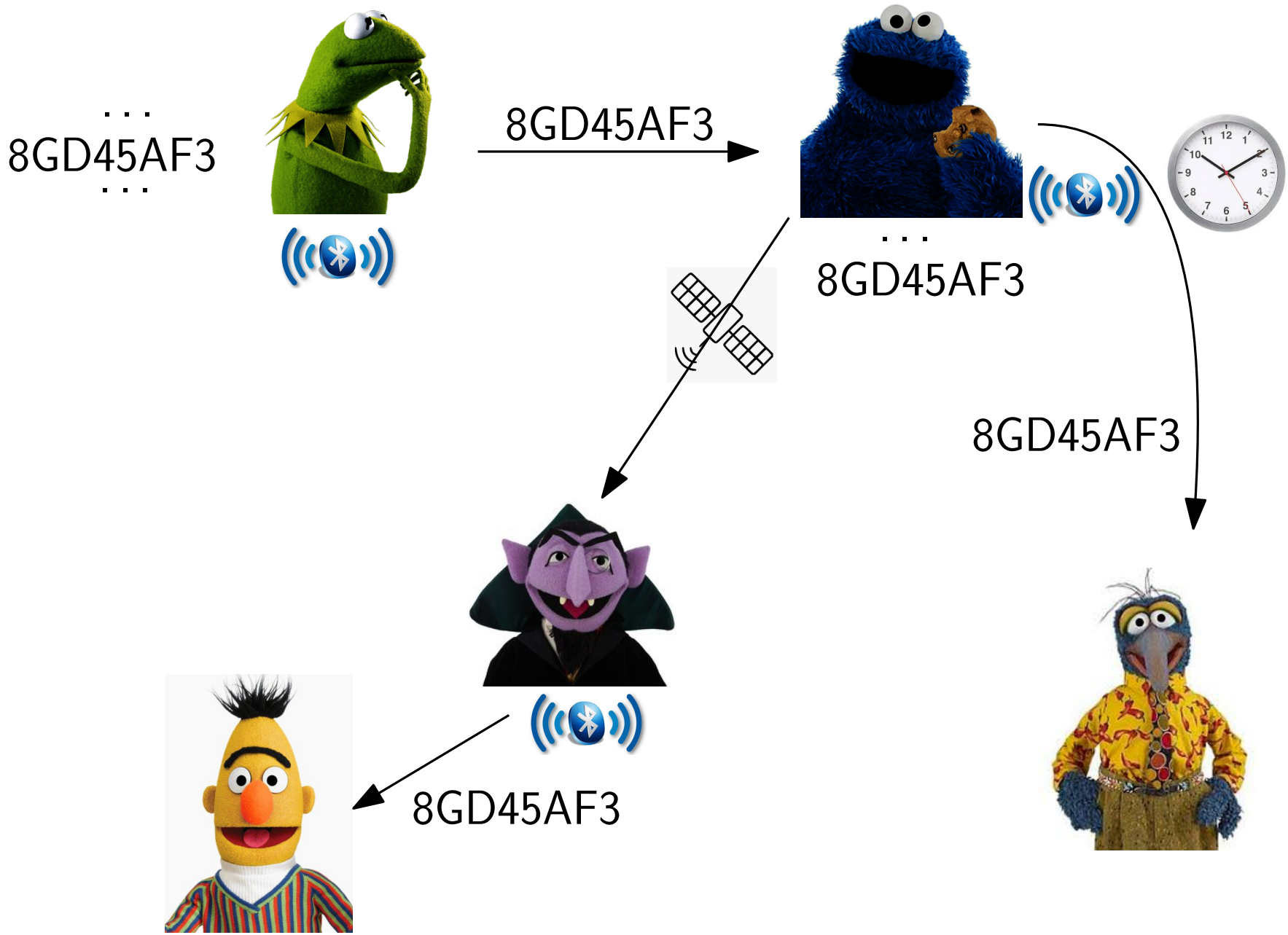
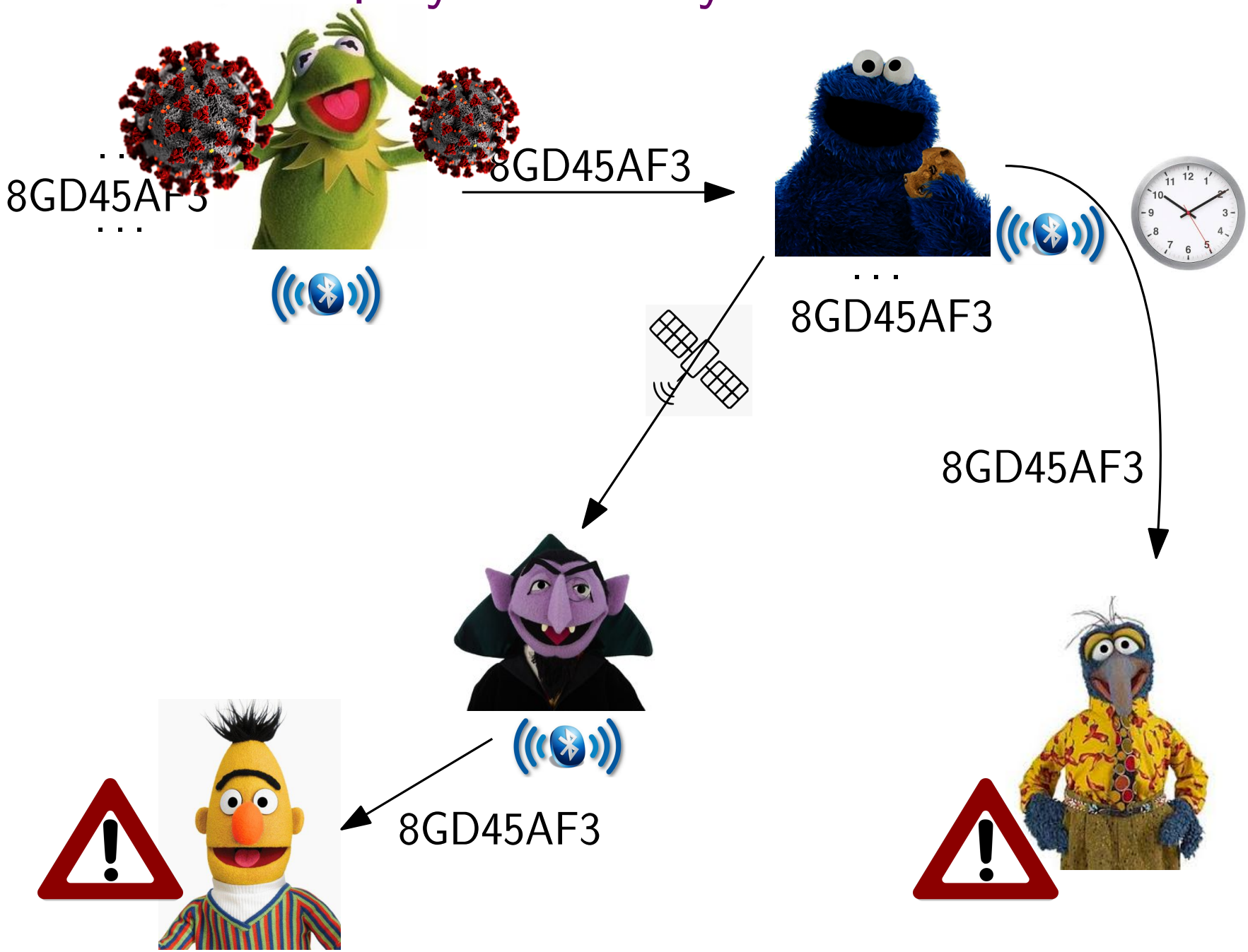


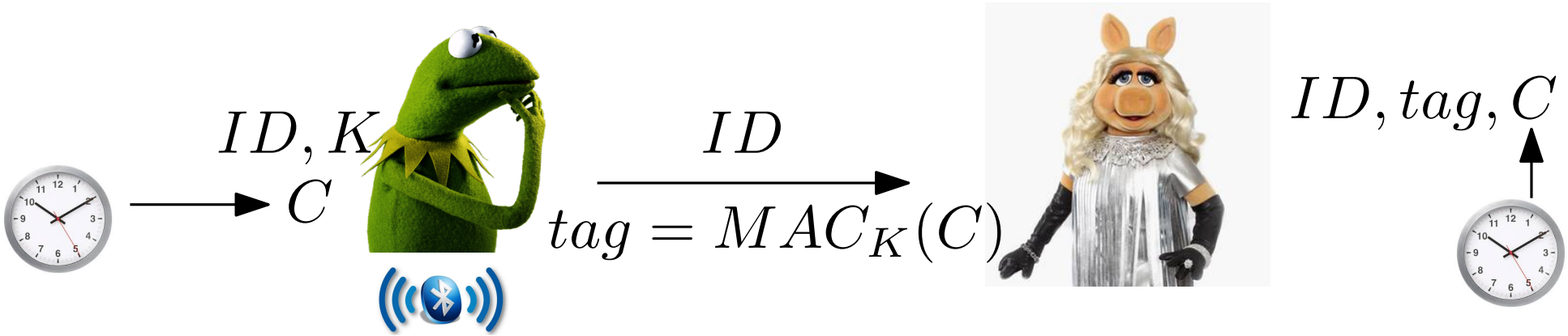
Replay and Relay Attacks



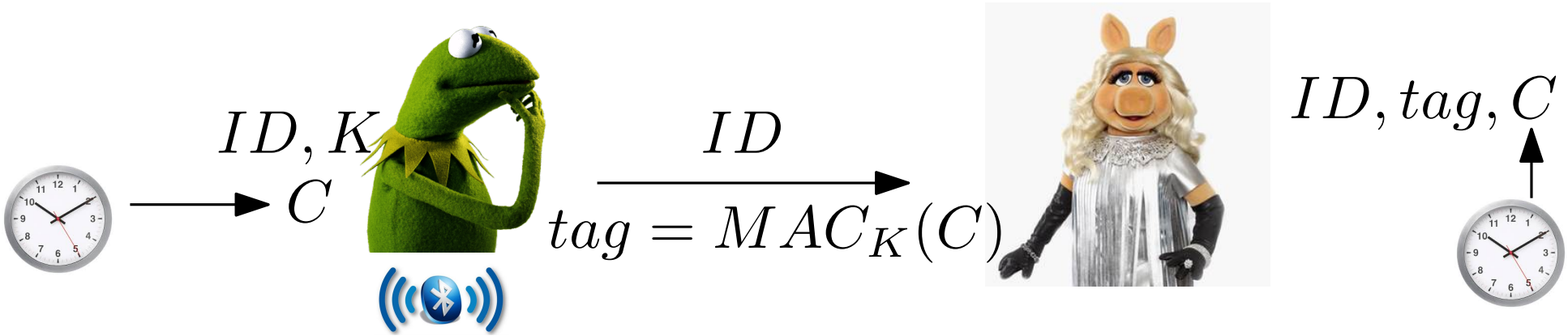
Replay and Relay Attacks

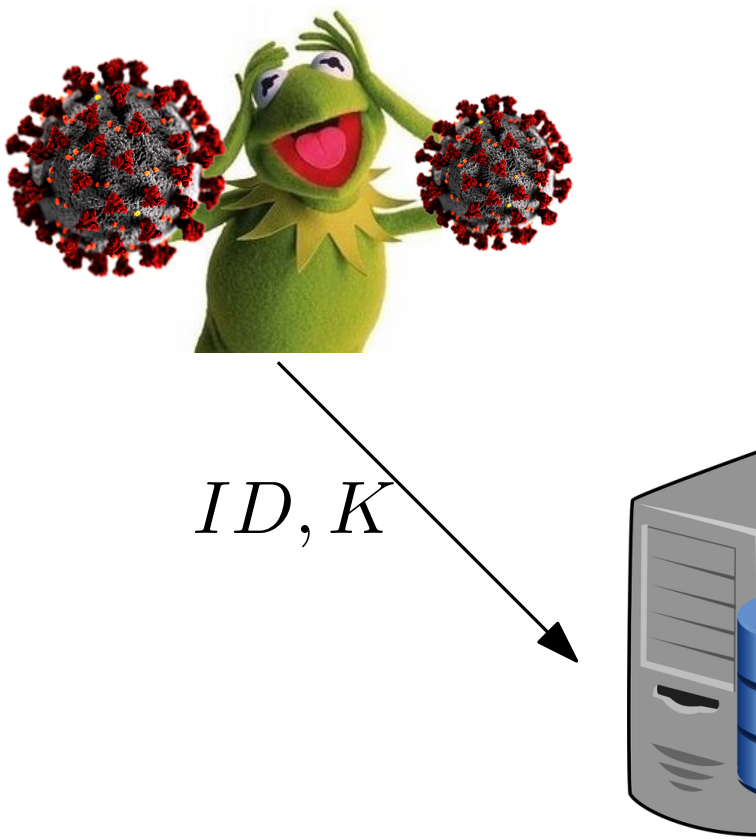


Preventing Relay and Replay Attacks without Privacy



Preventing Relay and Replay Attacks without Privacy





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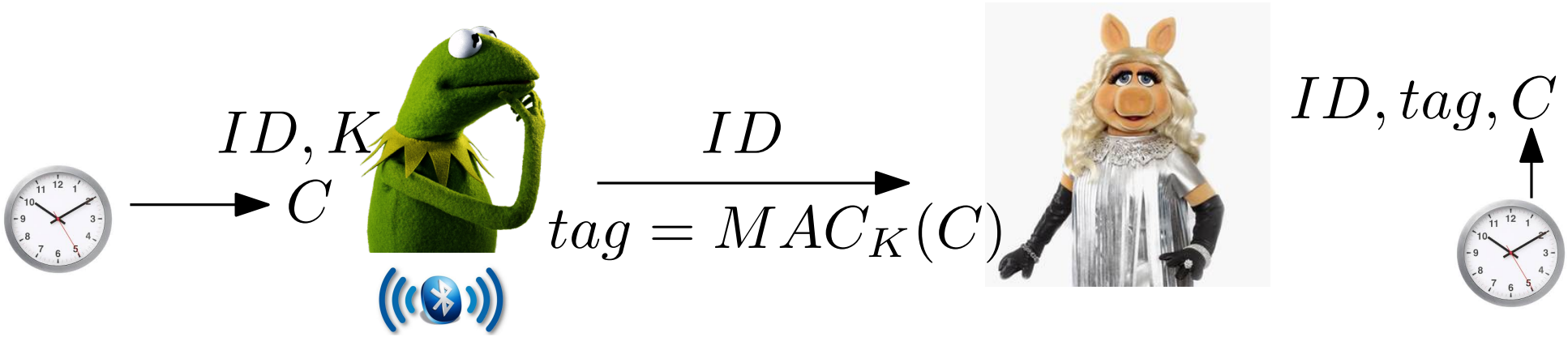
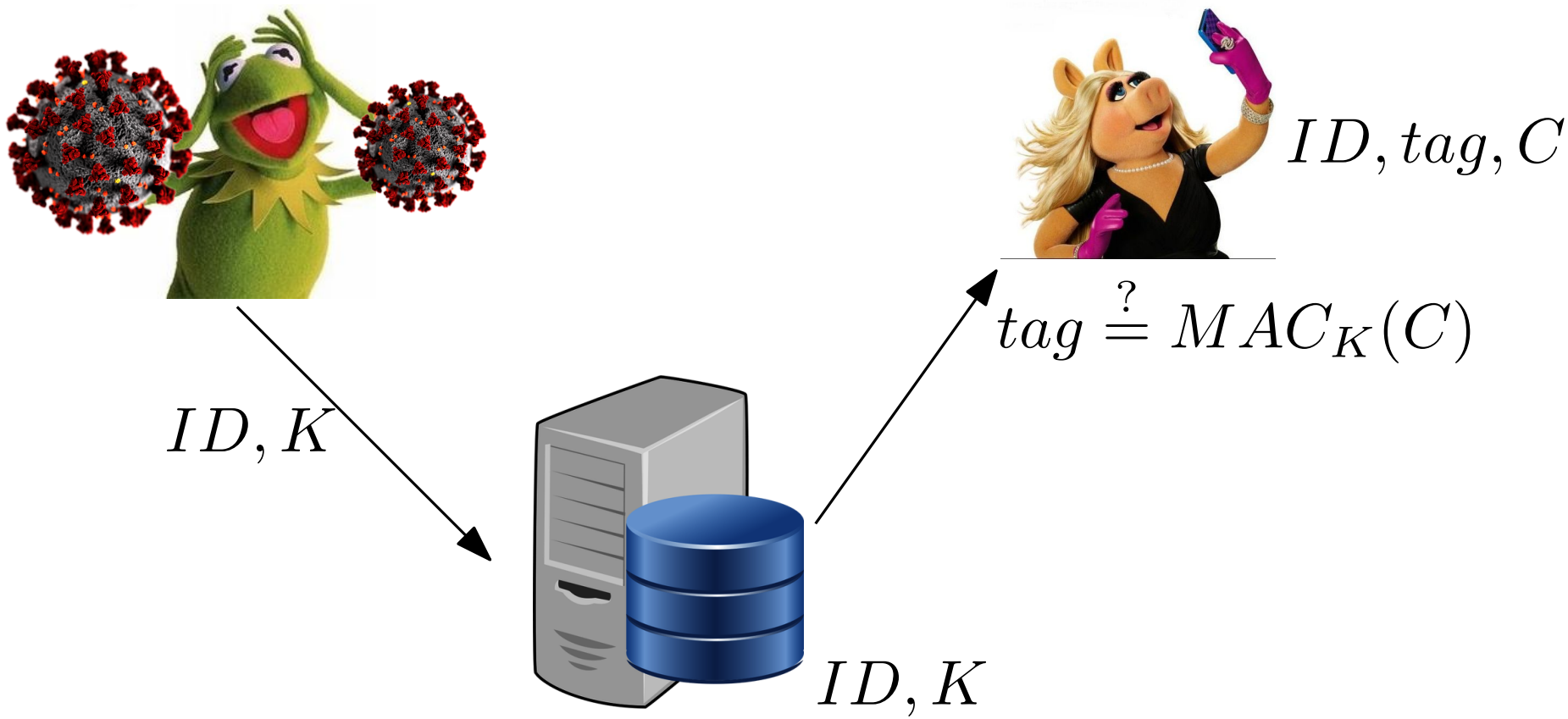
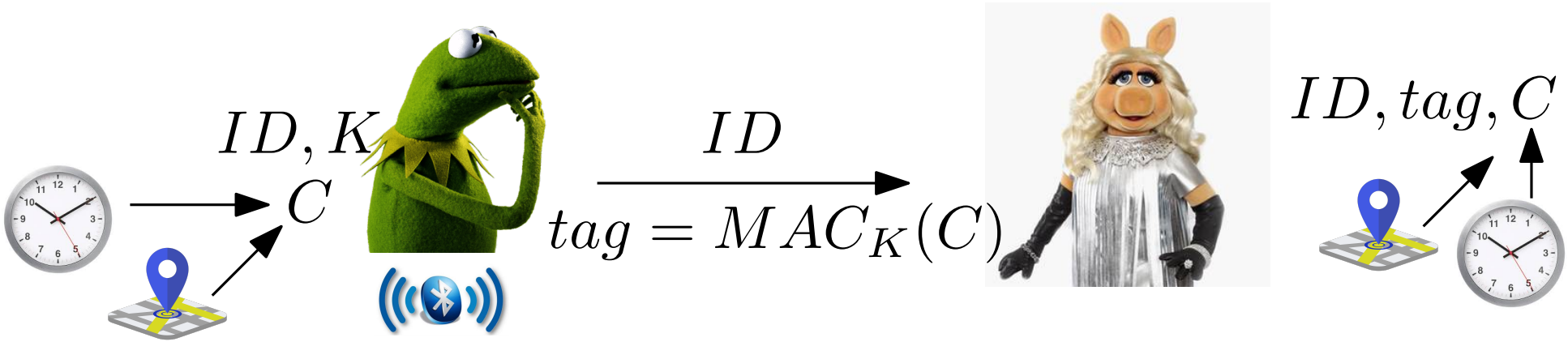
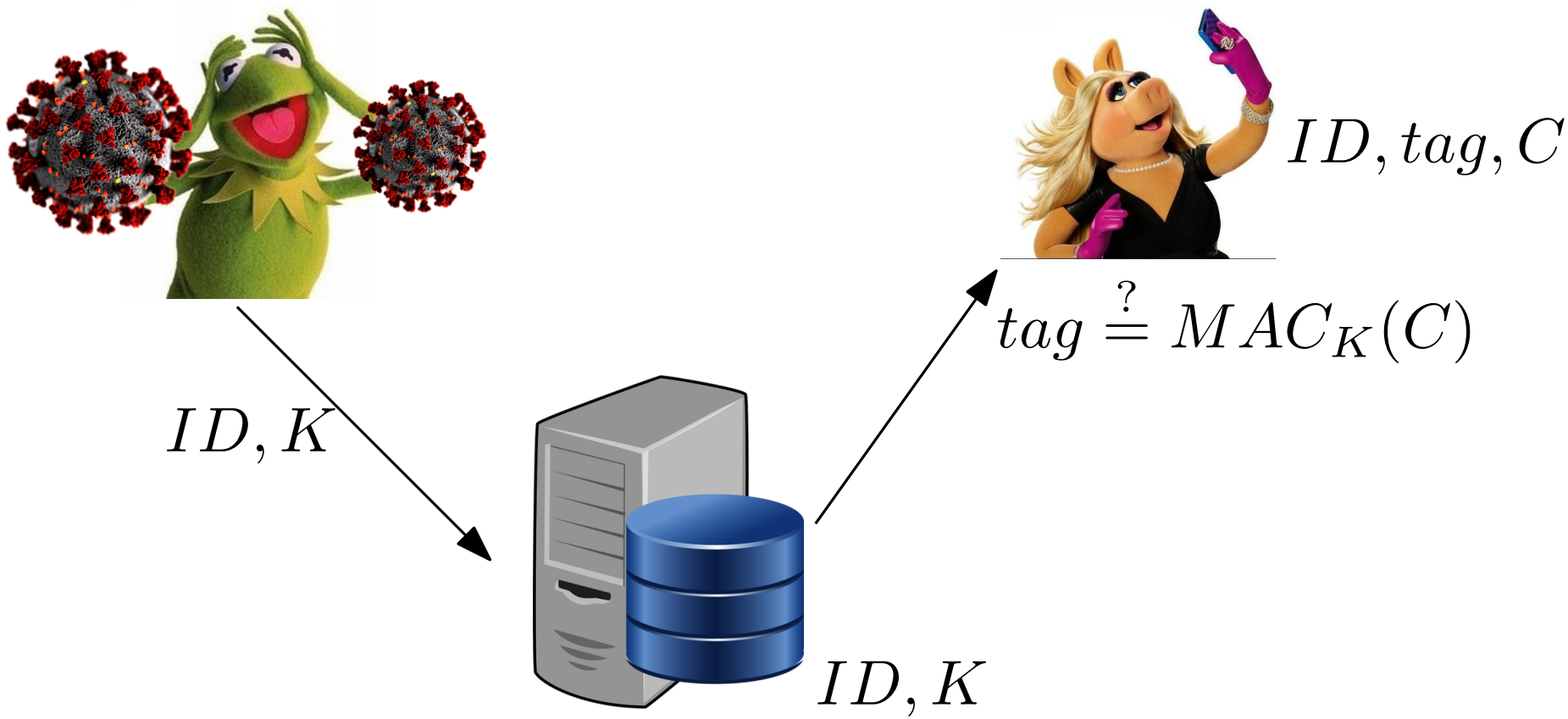




Preventing Relay and Replay Attacks without Privacy





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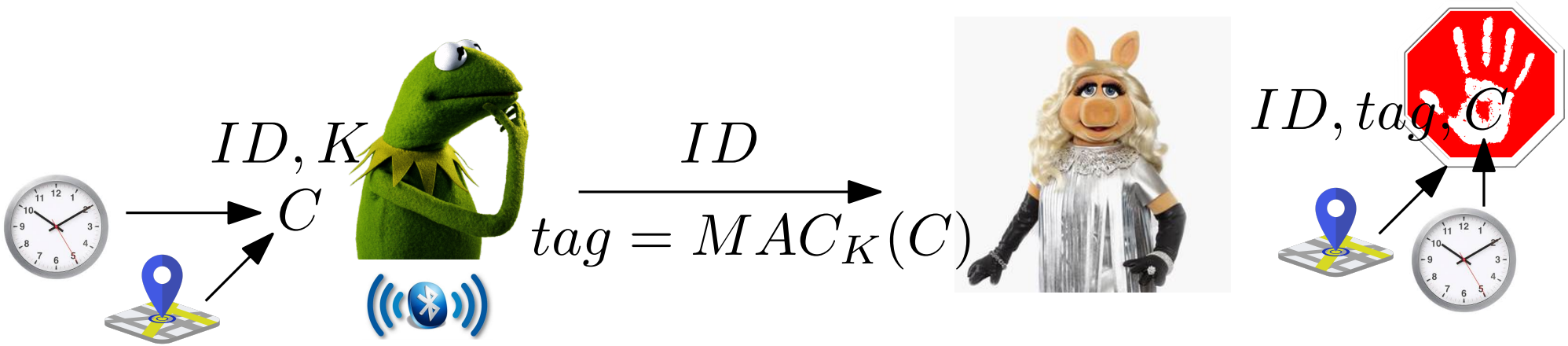
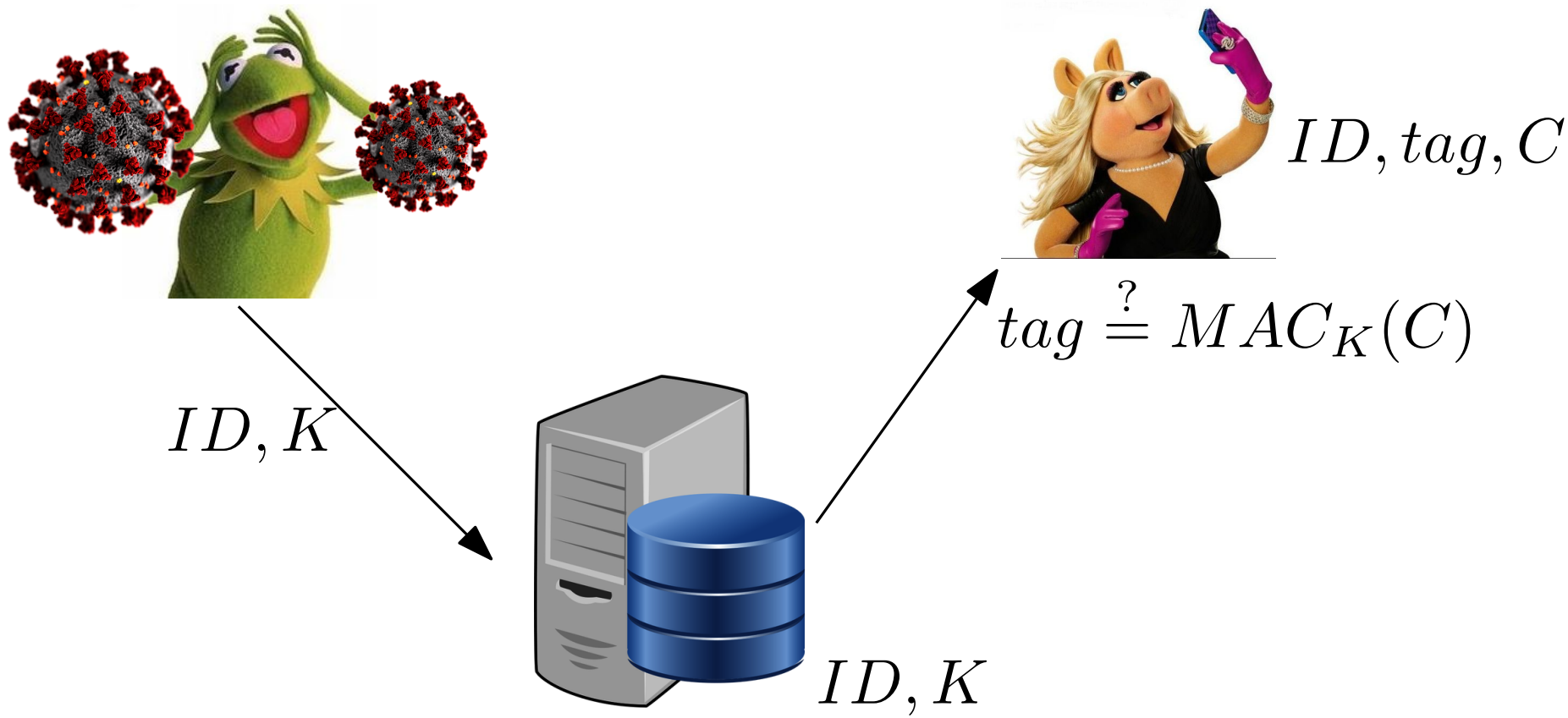
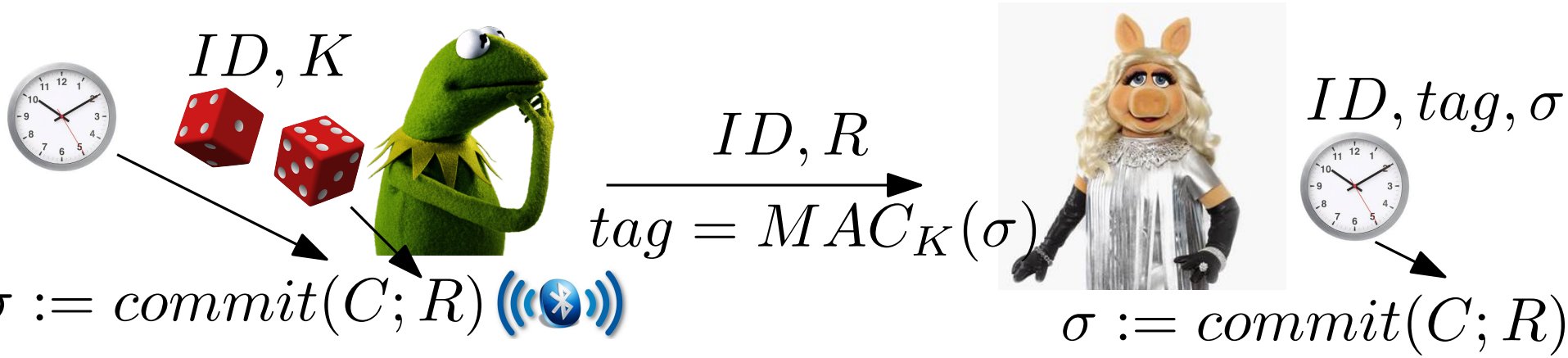
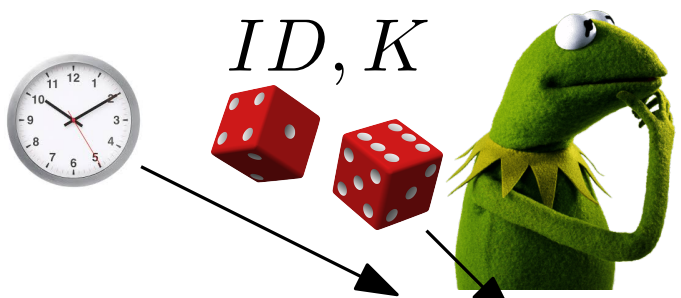




Delayed Authentication (eprint 2020/418)



Delayed Authentication (eprint 2020/418)



ID, K

$\sigma := commit(C; R)$

ID, R

$tag = MAC_K(\sigma)$

ID, tag, σ

$\sigma := commit(C; R)$

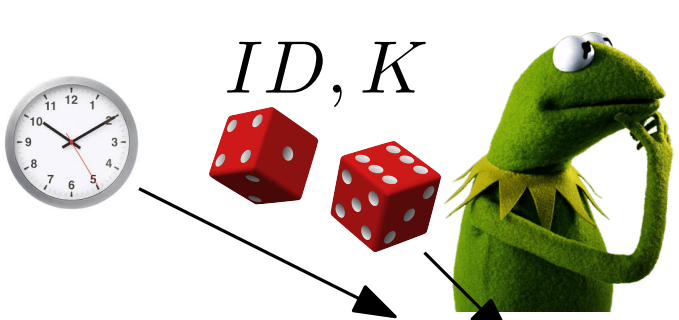
ID, K

ID, K

$tag \stackrel{?}{=} MAC_K(\sigma)$

ID, tag, σ

Delayed Authentication (eprint 2020/418)



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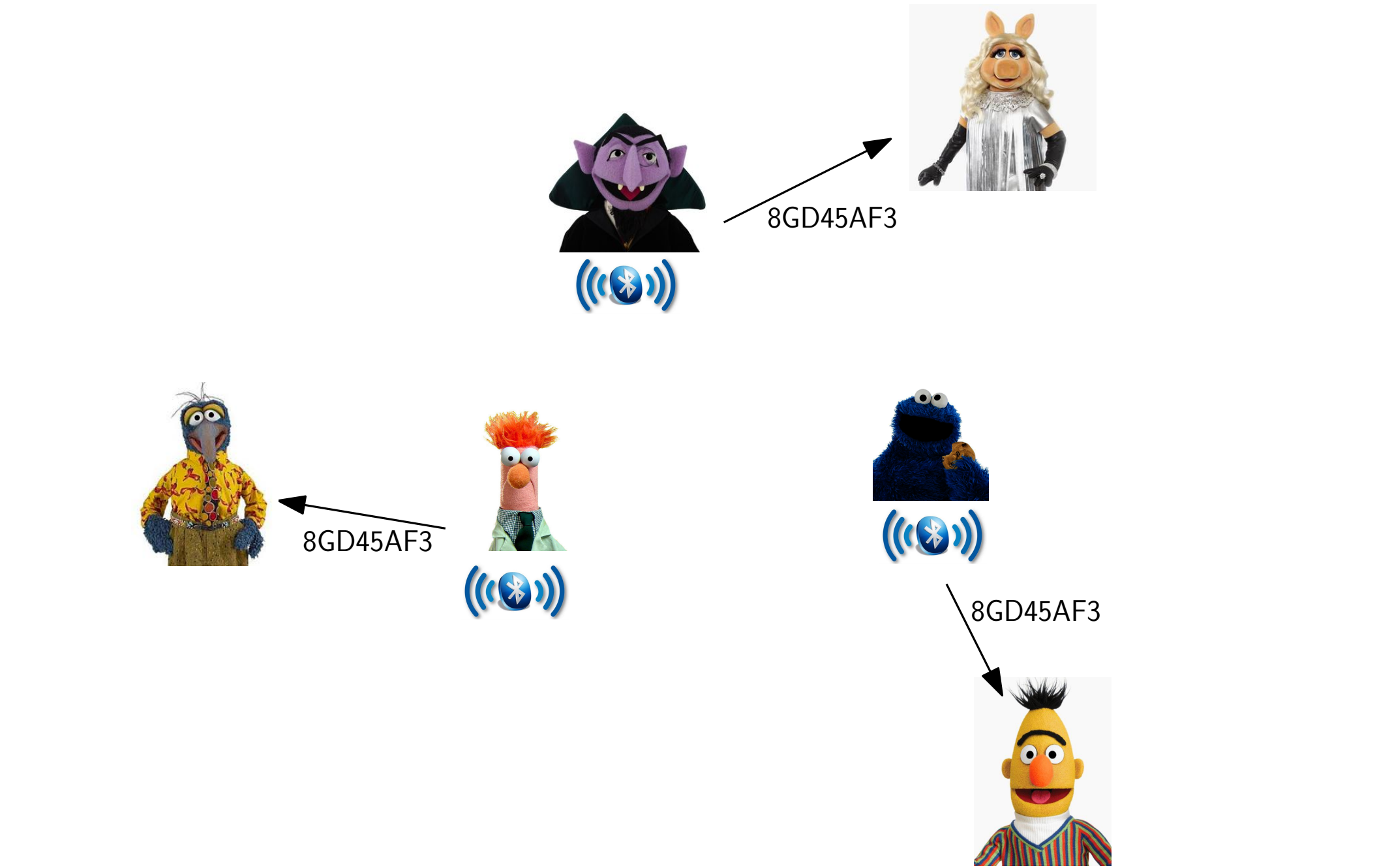
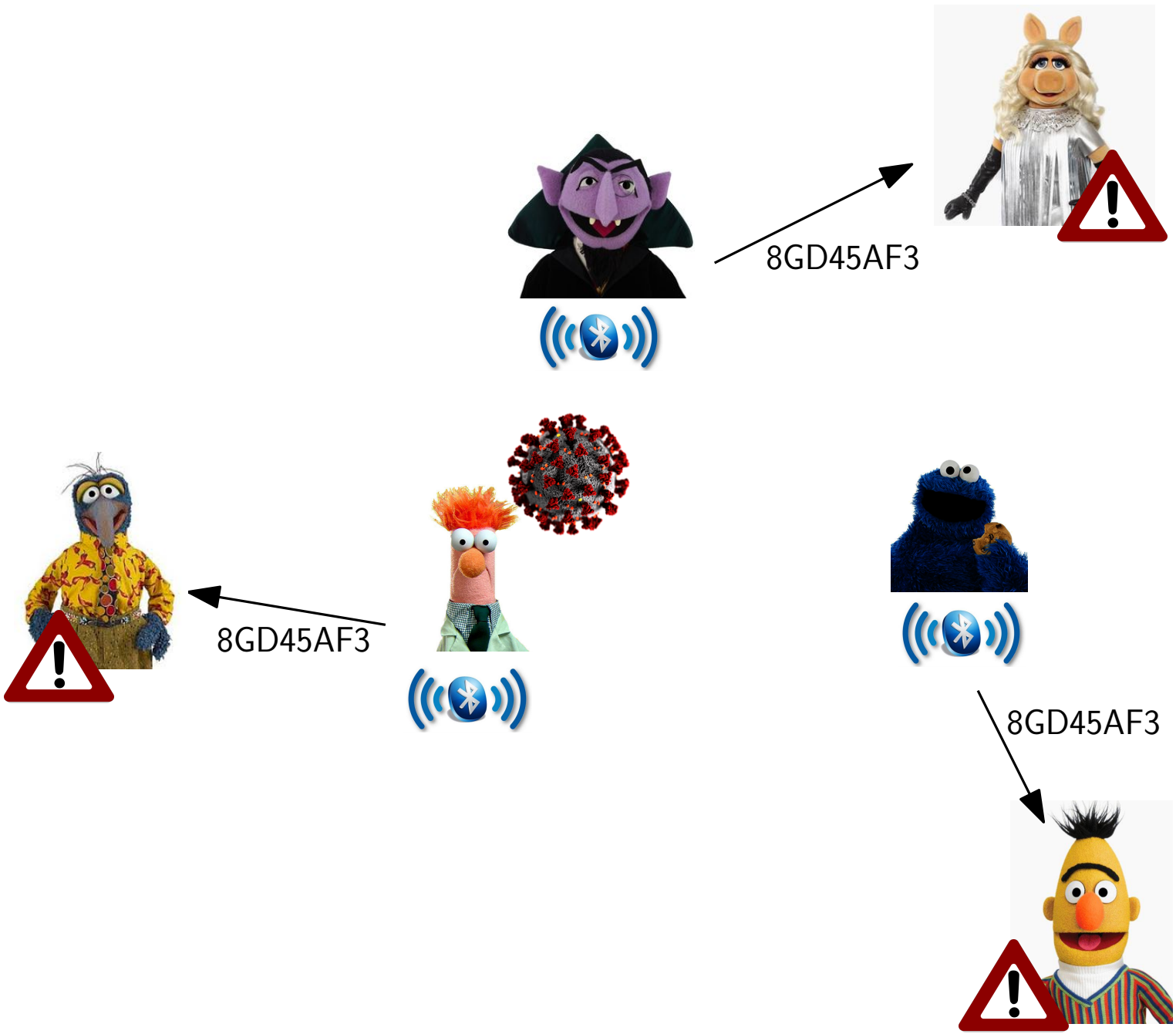
Inverse Sybil Attacks



Inverse Sybil Attacks



Inverse Sybil Attacks

https://github.com/DP-3T/documents/issues/295