



User

Salary

MAC*

Alice

0x4711...

Eve

0xabcd...

...

...

...

10,000 €

2,718 €

DATA INTEGRITY & ASSOCIATION

GOODCRYPTOGRAPHY







THE CHECKS DON'T MATCH, PROMOTION IS DECLINED

0X123456...



3,141€



*Checksum with a secret: hmac, AEAD, public key signatures

Problem: Sensitive data can be manipulated.

Solution: Use cryptographic checksums with a secret.



DATA INTEGRITY & ASSOCIATION

0X123456...



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|---|-------|----------|-----------|
|  | Alice | 3,141€ | 0x4711... |
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THE CHECKSUMS DON'T MATCH, PROMOTION IS DECLINED

* Checksum with a secret: hmac, AEAD, public key signatures

DATA INTEGRITY & ASSOCIATION

0X123456... ✓

Problem: Protected data can be “replayed”.

| User | | Salary | MAC* |
|---|-------|---------|-----------|
|  | Alice | 3,141€ | 0x4711... |
|  | Eve | 2,718 € | 0xabcd... |
| ... | | ... | ... |