Obscuring

draft-ietf-geopriv-policy

Model

Target

Rule Maker

Recovered Location

Location Recipient

Rules

Location Server (Obfuscation)

Known Location
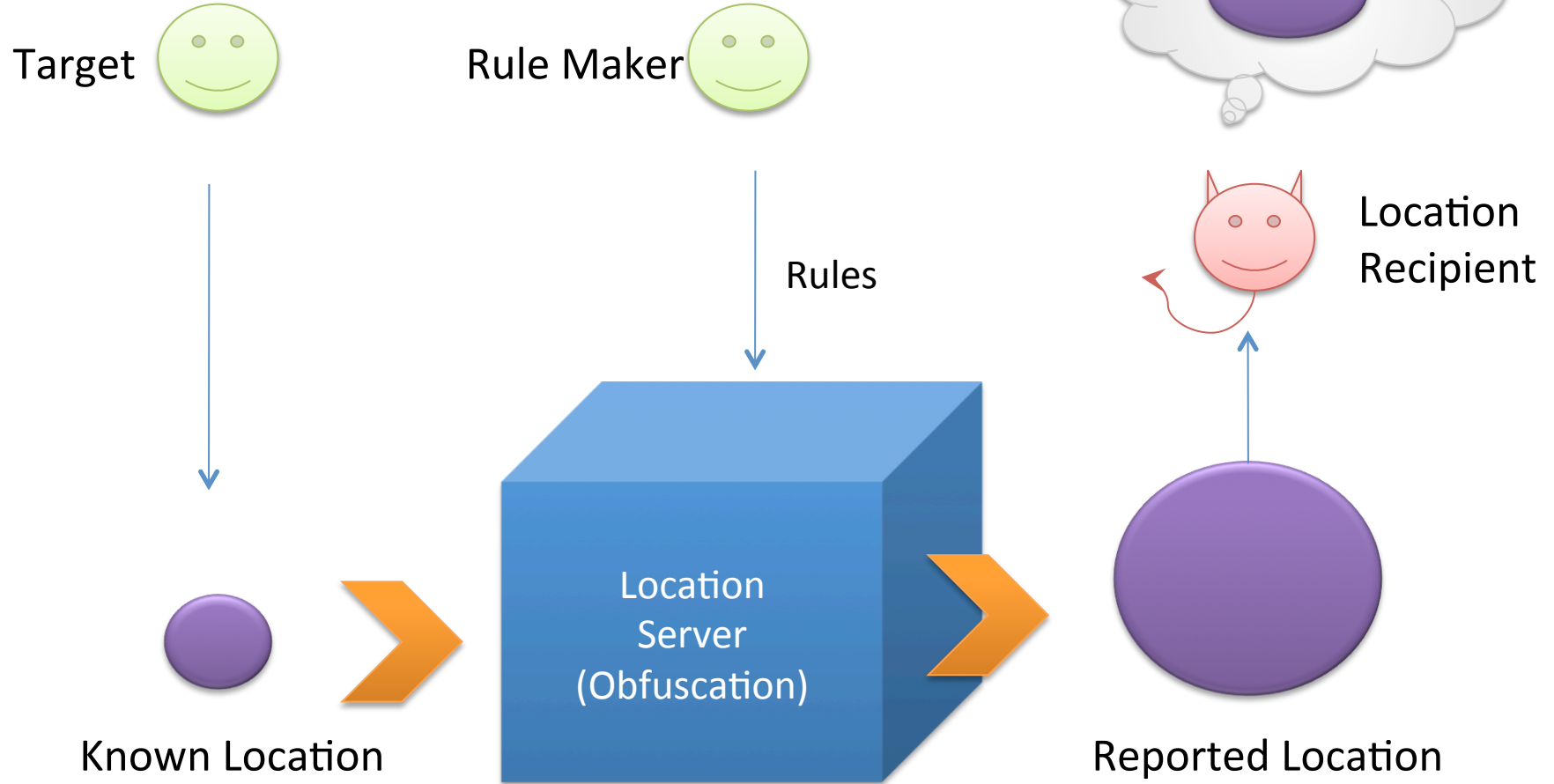
Reported Location

Assumptions

- Given a reported location **A**,
- ...and assuming **X**,
- ...then the recovered location is **B**

- If uncertainty(**B**) < uncertainty(**A**),
- ...then the assumption was productive.

- Apply multiple assumptions for big gains.

Example Assumptions

- The target is on Earth
- The target is on the ground
- The target has constrained speed/acceleration
- The target is walking
- The target is on a boat
- The target cannot fly
- The target cannot breathe under water
- The target likes ice cream
- The target plays Theremin
- The target wears red-and-white striped shirt, bobble hat, and glasses

Assume Nothing

- An obscuring algorithm might reveal something when the location recipient makes no assumptions

- A good algorithm doesn't reveal much unless the location recipient makes an assumption

Algorithm Assessment

- The effectiveness of an algorithm is assessed against a set of assumptions.

- The information that is recovered when the assumption is correct determines how effective the algorithm is.

- Recovery depends on the reliability of the assumption

- ...but the assessment must assume that the assumption is correct.