Detecting Application-layer Denial-of-Service Attacks In-Flight with FineLame

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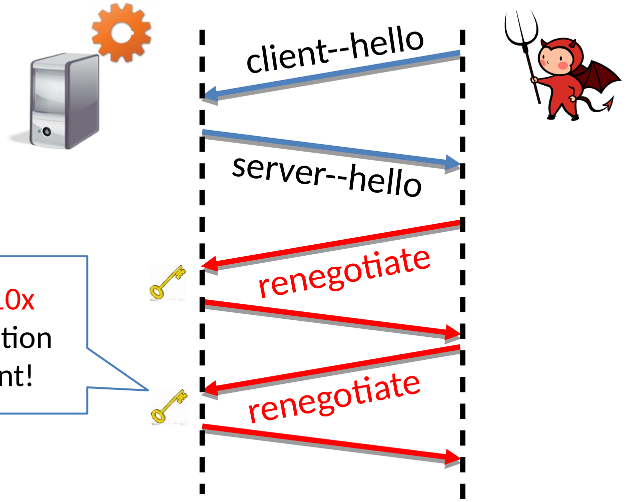
An asymmetry problem

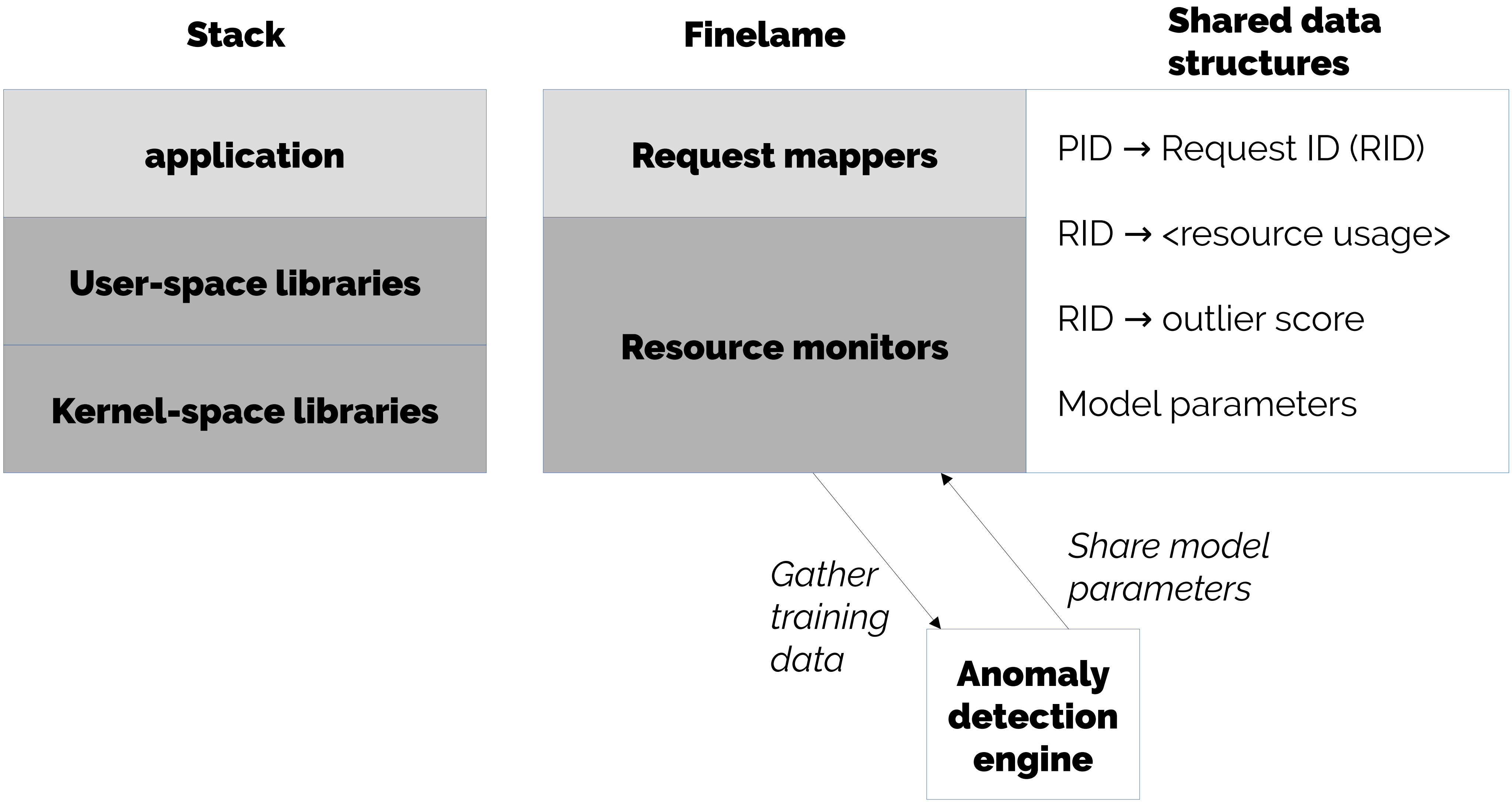
TLS renegotiation



Server does 10x more computation than the client!

We need to monitor per-request, in-flight and automated.

Finelame



Stack

application

User-space libraries

Kernel-space libraries

Finelame

Request mappers

Resource monitors

Shared data structures

PID → Request ID (RID)

RID → <resource usage>

RID → outlier score

Model parameters

Gather training data

Share model parameters

Anomaly detection engine

See you at ATC!