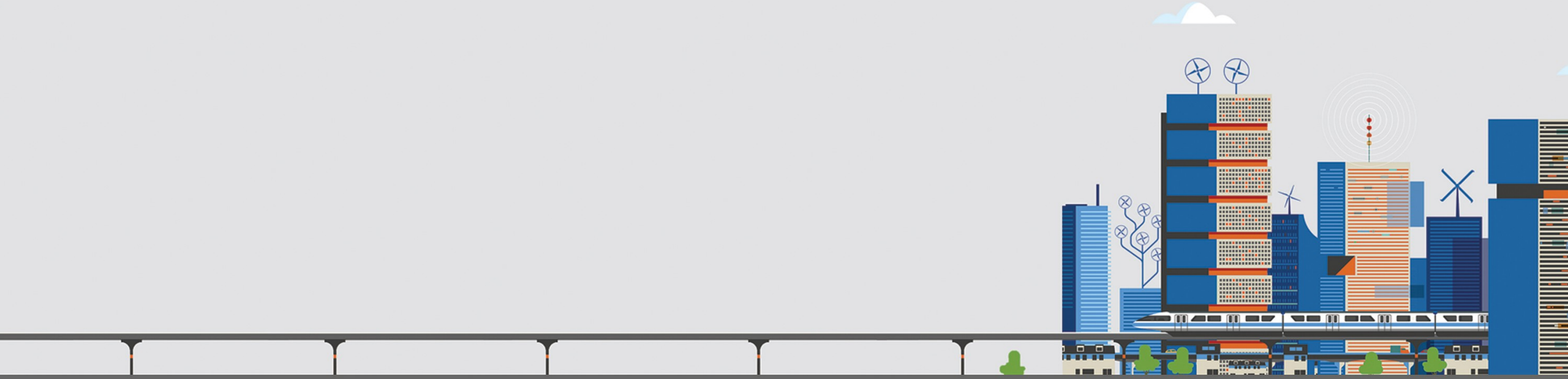
Threat Modeling Workshop



J.P.Morgan

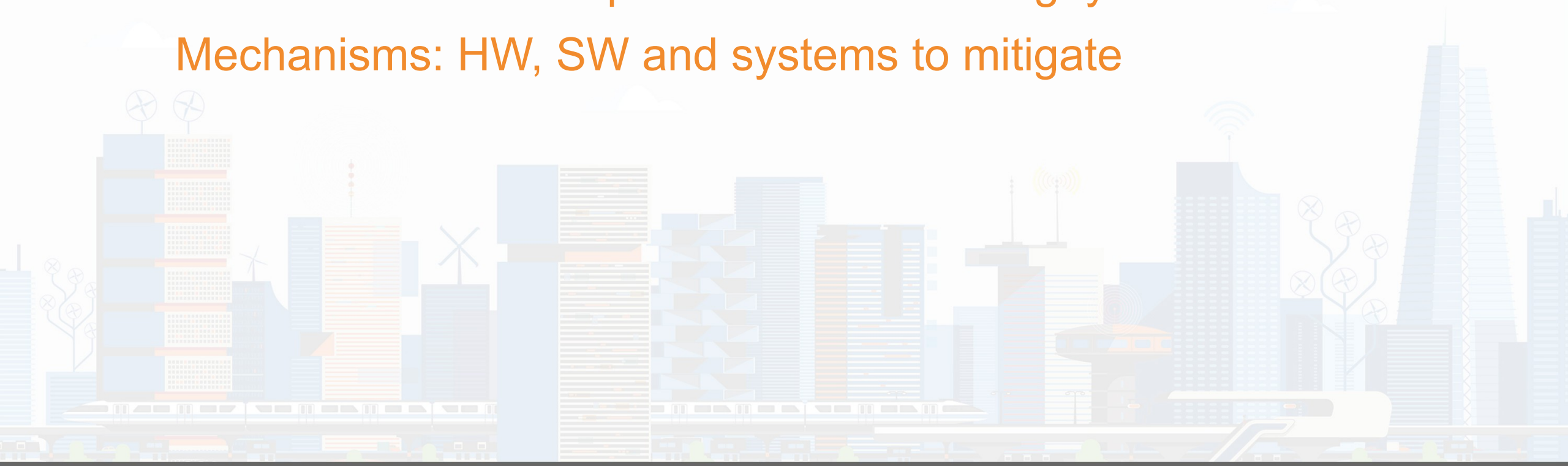
Threat Modelling

Security is goals vs adversaries

Policy: What do you want the system to do?

Threat Model: Assumptions about the bad guys

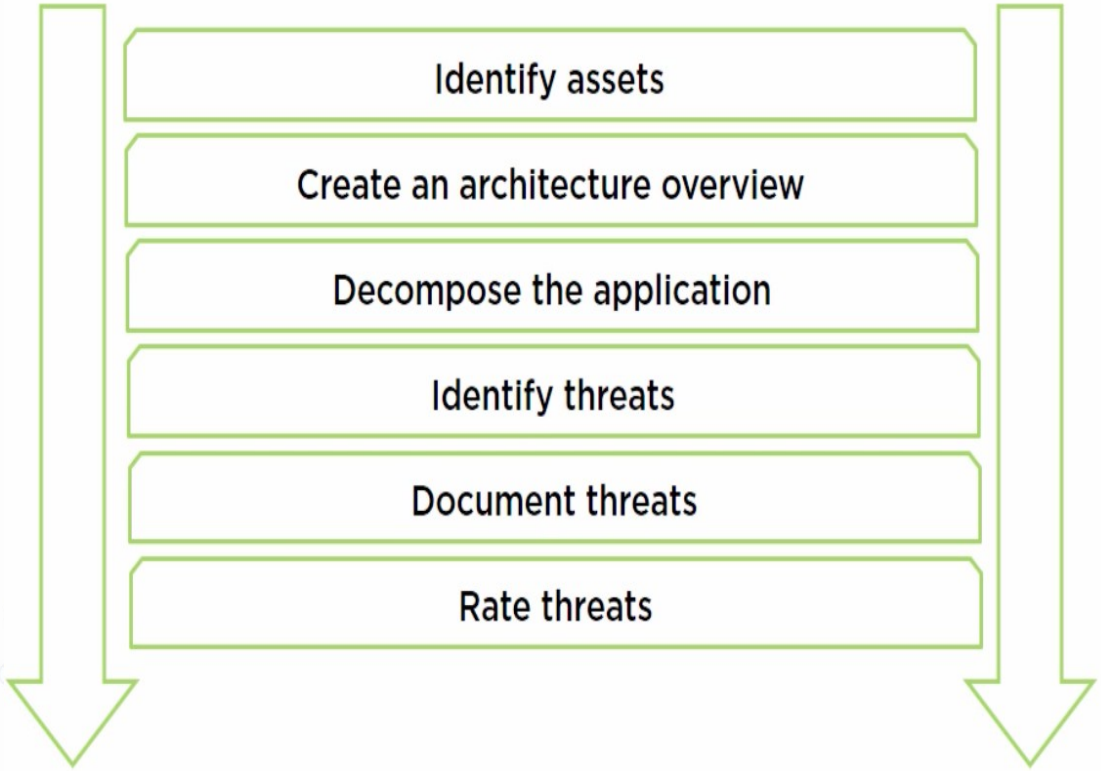
Mechanisms: HW, SW and systems to mitigate



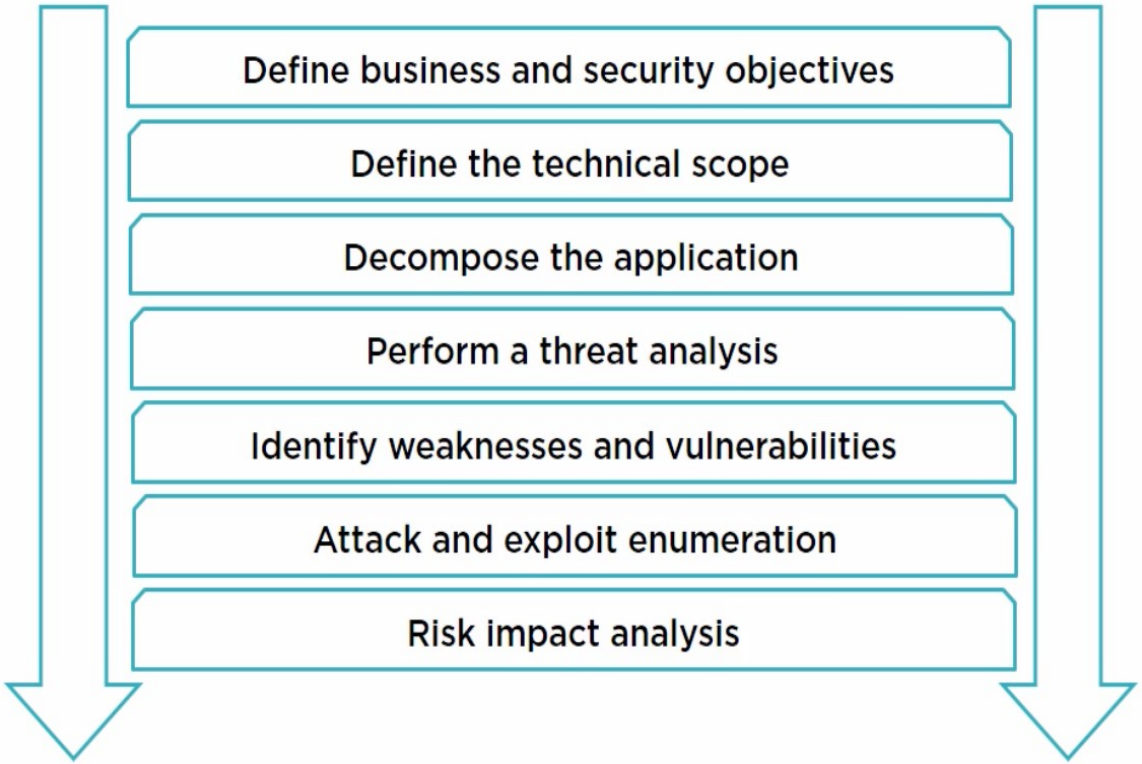
Lecture Recap..

STRIDE, PASTA and DREAD

STRIDE



PASTA



Damage Reproducibility Exploitability Affected Users Discoverability

DREAD

None = 0 Low = 1 Medium =2 High =3

(D+R+E+A+D)/5 = RISK

Is RISK > 1:
    Fix NAO
Is RISK <1:
    FIX TOMORROW

(DreaD-D)

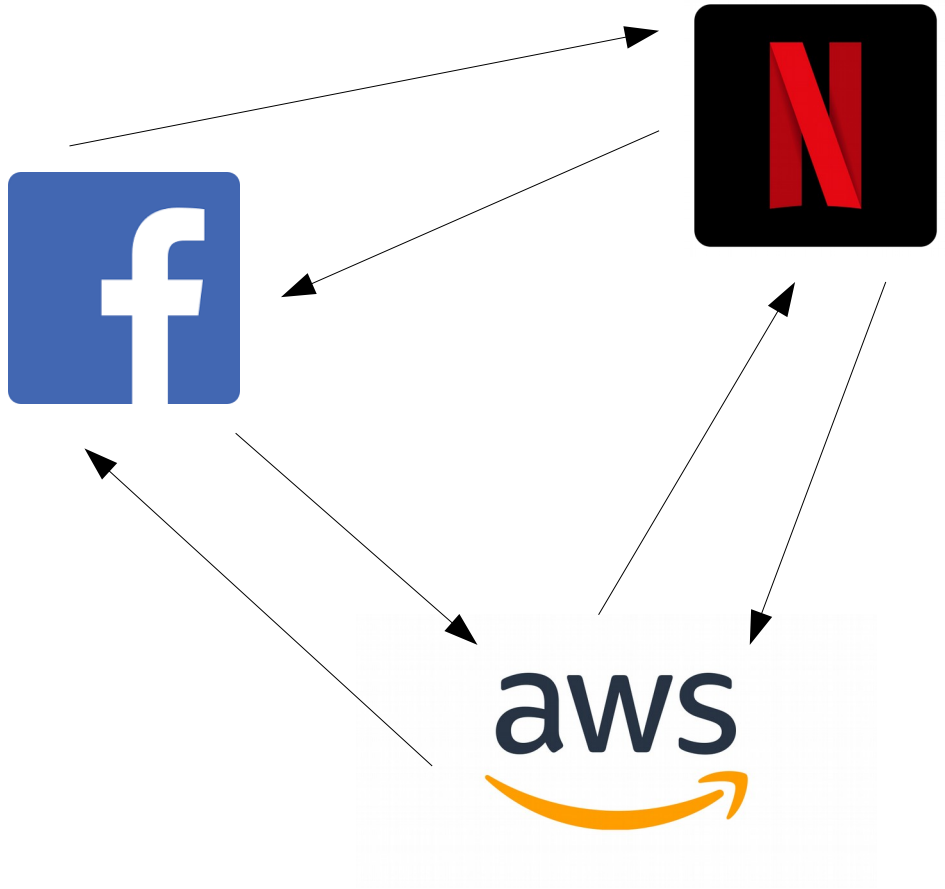
"All models are wrong, but some are useful"

George Box, 1976

Netflix is offering user contributions!

Today's challenge

- Netflix
  - User submissions
  - Video Streaming
- Facebook API
  - OAuth
  - User Identification
- Amazon Web Services
  - Cloud storage
  - Microservices



Systems Thinking/ Trust Boundaries

Mat Honan, wired.com, 2012 - https://www.wired.com/2012/08/apple-amazon-mat-honan-hacking/

- Gmail
  - Reset Password, sends to secondary email address
- me.com (Apple)
  - Reset Password, requires address and last four digits of credit card
- Amazon
  - Can add credit cards without being logged in, requires account name, email address and billing address (via phone)
  - Reset Password, requires credit card