Team Members

TIARA

- MIT CSAIL & Univ. Penn SEAS
- Lead Investigator: Howard Shrobe
- Current Team Members:
  - Andre DeHon – Univ Penn
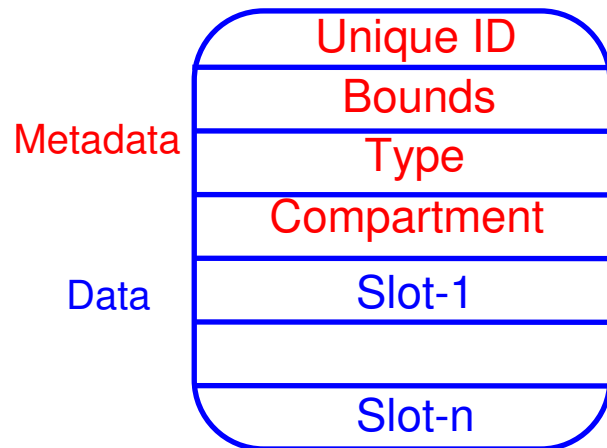 - Thomas Knight – MIT CSAIL
  - John Mallery – MIT CSAIL

Areas of Research

TIARA

Hardware-supported, fine-grained, dynamic:

- Confinement, Compartmentalization, Sand-boxing

- Information Flow Tracking

- Execution monitoring, type checking, Access control

Every object carries meta-data as tags on every word

| Unique ID |
| Bounds |
| Type |
| Compartment |
| Slot-1 |
| Slot-n |

Metadata

Data

Access rules limit principals to access objects in specific compartments in specific ways.
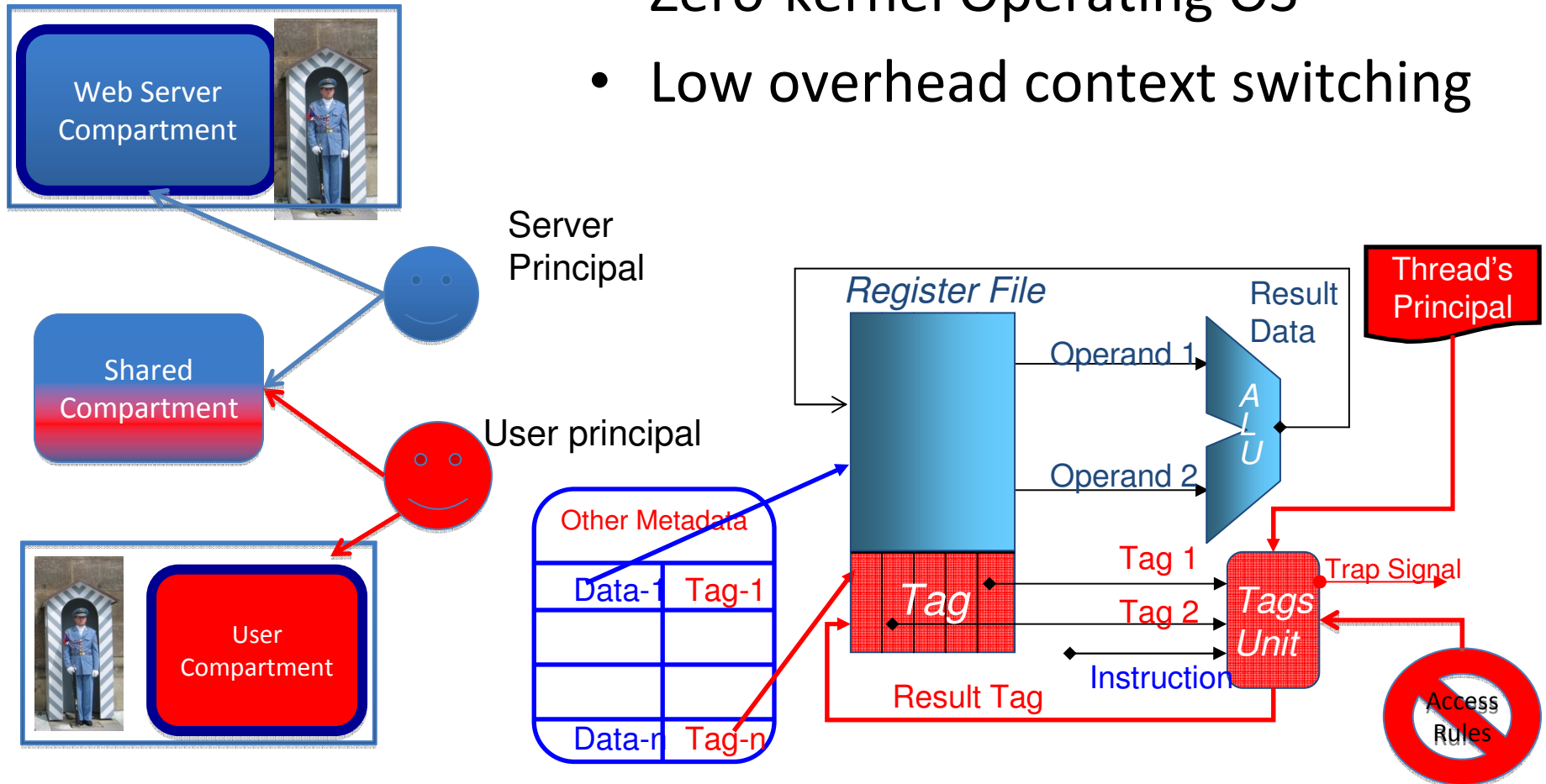
Every thread has a Principal, representing a specific role of some entity
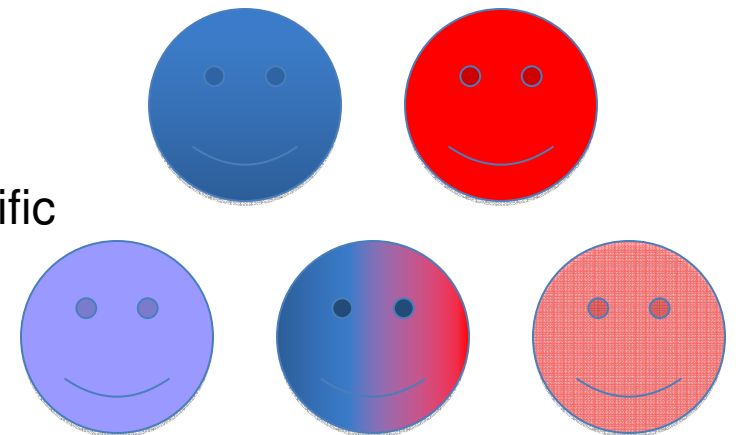
Unique Qualifications & Capabilities

- Dynamic hardware enforcement
- Execution monitoring
- Zero-kernel Operating OS
- Low overhead context switching

Capabilities Sought or To Join

- Verification techniques that can benefit from dynamic hardware enforcement
- Emulation capabilities
- Combined static-dynamic enforcement
- Application area expertise

Contact Information

- Name: Howard Shrobe
- Title: Principal Research Scientist
- Organization: MIT CSAIL
- Email address: hes@csail.mit.edu
- Phone number(s): 617-253-7877
- url: http://people.csail.mit.edu/hes/