MONROE

mami
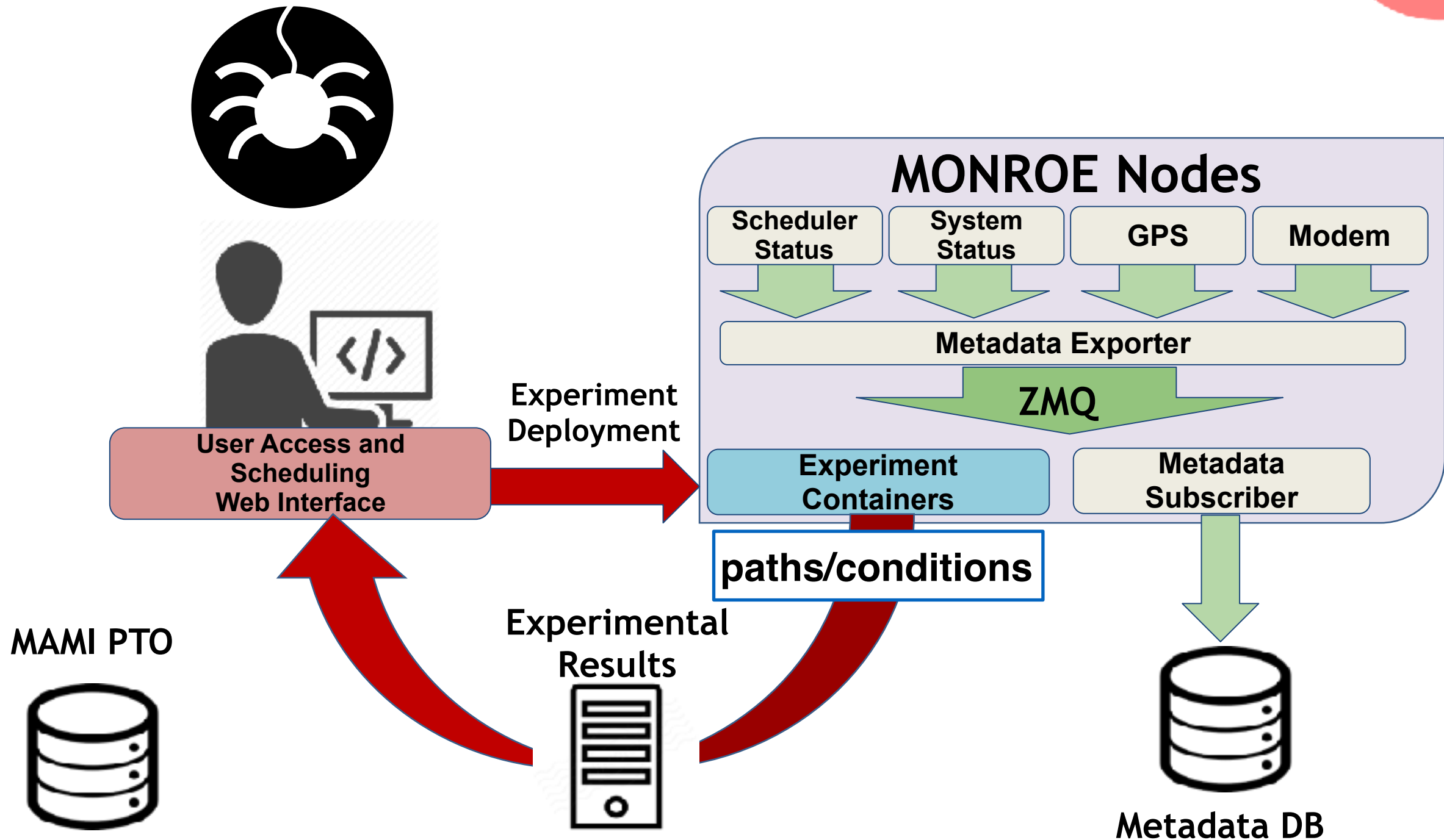measurement and architecture for a middleboxed internet

PATHspider on MONROE

- Large-scale measurements on cloud providers / terrestrial testbeds have told us most of what we need to know:

  - impairments in the core are rare (PATHspider)

  - some impairments on border networks (tracebox)

  - UDP is a workable basis for an MCP (copycat)

- This all used measurements from unimpaired access nets.

- Need measurements from diverse, relevant access nets...

MONROE

MONROE

github.com/mami-project/pathspider-monroe

MONROE Nodes

| Scheduler Status | System Status | GPS | Modem |

Metadata Exporter

ZMQ

Experiment Containers

Metadata Subscriber

paths/conditions

User Access and Scheduling Web Interface

Experiment Deployment

Experimental Results

MAMI PTO

Metadata DB

today: PATHspider 1.0

- Proof of concept for MONROE deployment
  - Unsigned, deployable to testing nodes only

- Wrapper script handles MONROE metadata and argument passthrough.
- Target selection as part of Docker container.

- Yay! It works.
  - → Input to stability/deployability improvements in PATHspider 2.0

Deploying to MONROE

monroe CLI

- We like the web front-end, but it's not really for us:
  - PATHspider workflow has more dynamic parameters run at a lower frequency, usually with a human researcher in the loop.

- therefore: monroe command-line API client to wrap MONROE workflow.
  - generalized for all MONROE users
  - https://github.com/ana-cc/monroe-cli.git

Moving Forward

- PATHspider 2.0 release before M27

  - MONROE interface improvements

  - Awaiting upstream contributions to curl

- Signed Docker container → wider deployability.

- Analysis of large-scale MONROE experiments around M30 timeframe (presuming extension).