


MONROE

mami 

measurement and architecture for a middleboxed internet



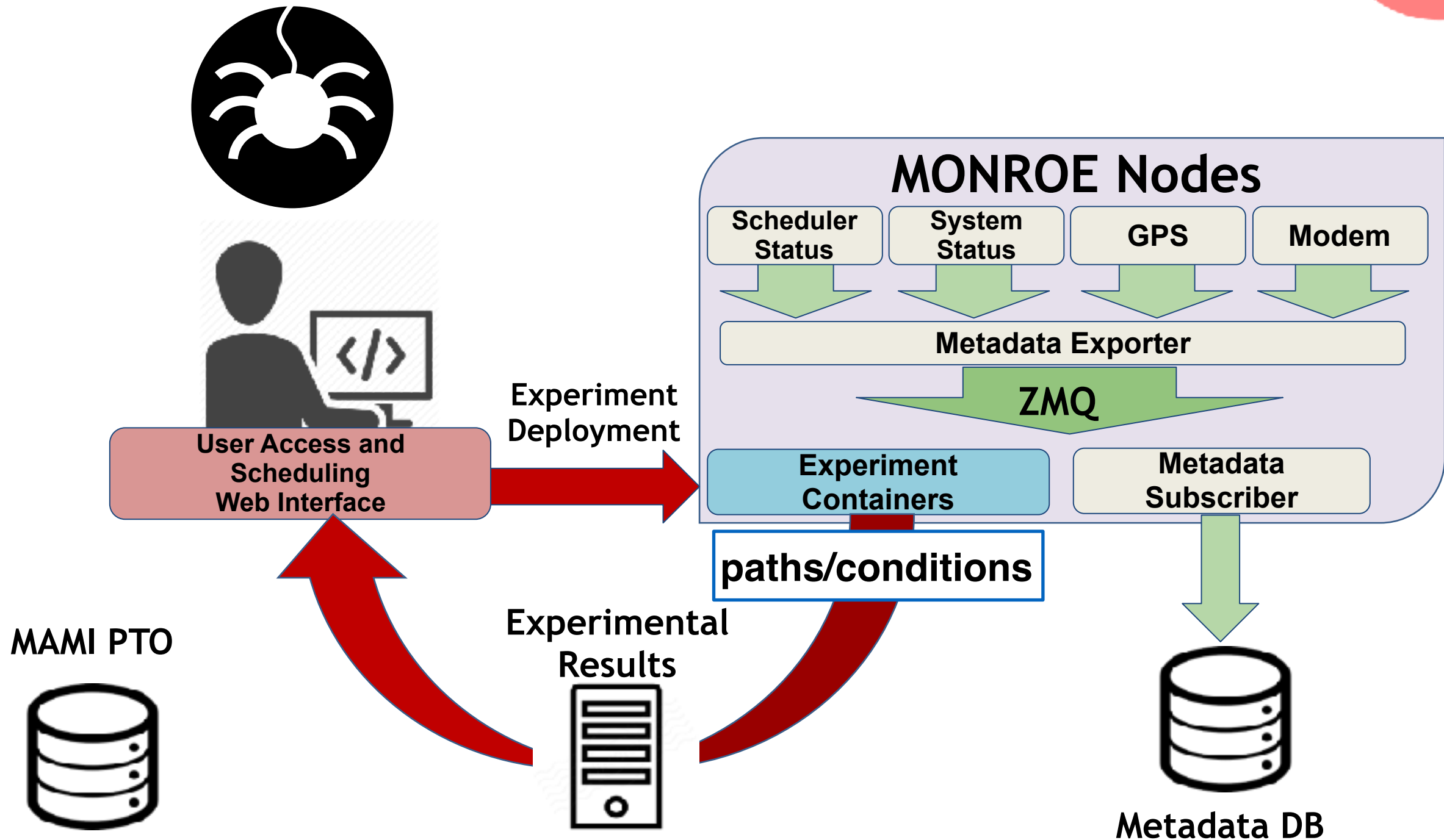
PATHspider on MONROE

- 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

github.com/mami-project/pathspider-monroe





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 Experimenters Portal x Brian

Secure | <https://www.monroe-system.eu/NewExperiment.html>

MONROE Status **New** Resources Visualization My Account Help

New Experiment

Description

* Name: pathspider test number 4

* Script: britram/pathspider-test

Parameter: "spider_args":["-verbose","dscp"] **JSON-style user options to be passed to the container**

Requirements

Number of nodes: . Duration: 300 seconds



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>

```
irl@z: ~  
Experiment ID: 11602 Name: delicate-sound-  
mary: {'requested': 1, 'started': 4}  
INSERT irl ~ monroe experiments  
Experiment ID: 7060 Name: inf5072_test4 Sc  
ished': 1}  
Experiment ID: 11545 Name: cool-scene-1767  
y: {'requested': 1}  
Experiment ID: 11546 Name: odd-sea-2633 Sc  
{ 'finished': 1}  
Experiment ID: 11547 Name: bitter-forest-8  
mary: {'finished': 1}  
Experiment ID: 11548 Name: twilight-sun-32  
ary: {'finished': 3}  
Experiment ID: 11549 Name: aged-tree-9921  
: {'requested': 1, 'stopped': 5}  
Experiment ID: 11550 Name: rough-unit-6048  
y: {'finished': 4, 'requested': 1}  
Experiment ID: 11551 Name: black-thunder-4  
mary: {'finished': 4, 'requested': 1}  
Experiment ID: 11552 Name: delicate-sound-  
mary: {'requested': 1, 'stopped': 4}  
Experiment ID: 11602 Name: delicate-sound-  
mary: {'requested': 1, 'started': 4}
```



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).