ANAN: Analyse And Navigate

Debugging Compute Clusters

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- find reasons for unexpected behaviour ("bugs")
- optimise performance
- debug clusters like software:
  - breakpoints
  - watch variables
  - invariants

server

client

{enabled={awk},…}

- compression
- encryption; authentication
- UDP socket

simplicity leads to

- scalability (easily 1000 machines)
- reliability
- extensibility (via lua code)

configuration message

status update

~1s

Some Example Code

```
-- connect to hosts
-- alice-hlt-1, ..., alice-hlt-55
add_hostname(template("alice-hlt-#", iota(1, 55)))

-- find idle time for each host
idle = once{files={"/proc/uptime"},
    rules={"", "yield(F[2])"}}

idle:finalize() -- gather data; may fail
-- yields something like {{h1, {result1}}, {h2, {result2}}}
x = fromhash(idle.result)
y = sort(x, compareBy "[2][1]"
```

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ALICE — A Large Ion Collider Experiment