

ANAN: ANalyse And Navigate Debugging Compute Clusters


Alexander Adler¹, Udo Keschull¹
¹Goethe University, Frankfurt, Germany

ALICE

ALICE — A Large Ion Collider Experiment

find reasons for unexpected behaviour (“bugs”)

- optimise **performance**
- debug clusters like software:
 - **breakpoints**
 - watch variables
 - **invariants**


debugger 

{enabled={awk}, ...}

compression

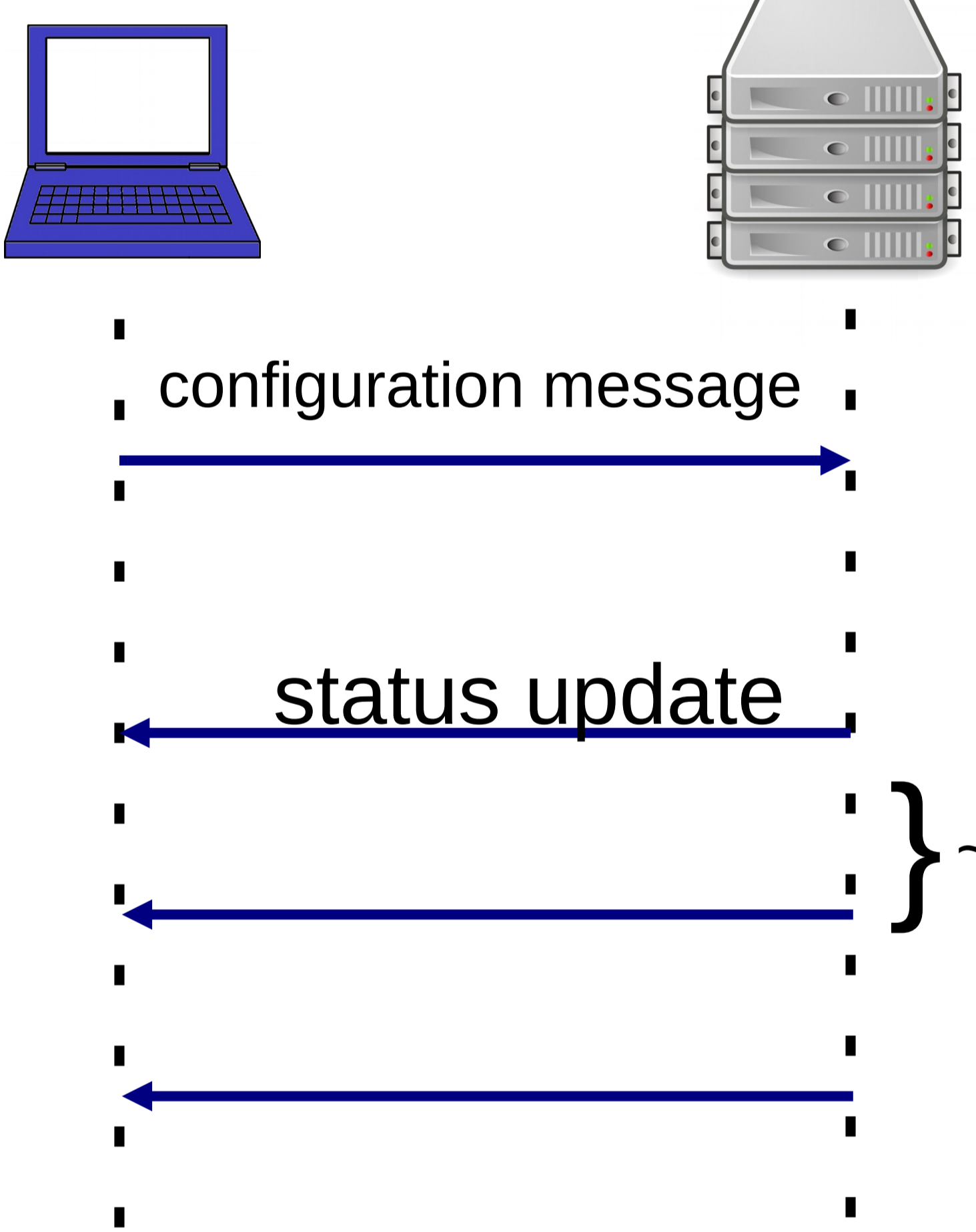
encryption; authentication

UDP socket

demon  sensor₁
sensor₂
sensor₃

simplicity leads to

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



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]")
```

Contact

Alexander Adler
 aadler@iri.uni-frankfurt.de
 http://iri.uni-frankfurt.de/
 +49 1639773962

