

# User-side approach for censorship detection: home-router and client-based platforms



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## Two managed approaches complement server-side detection

### BISMark: Home-router based

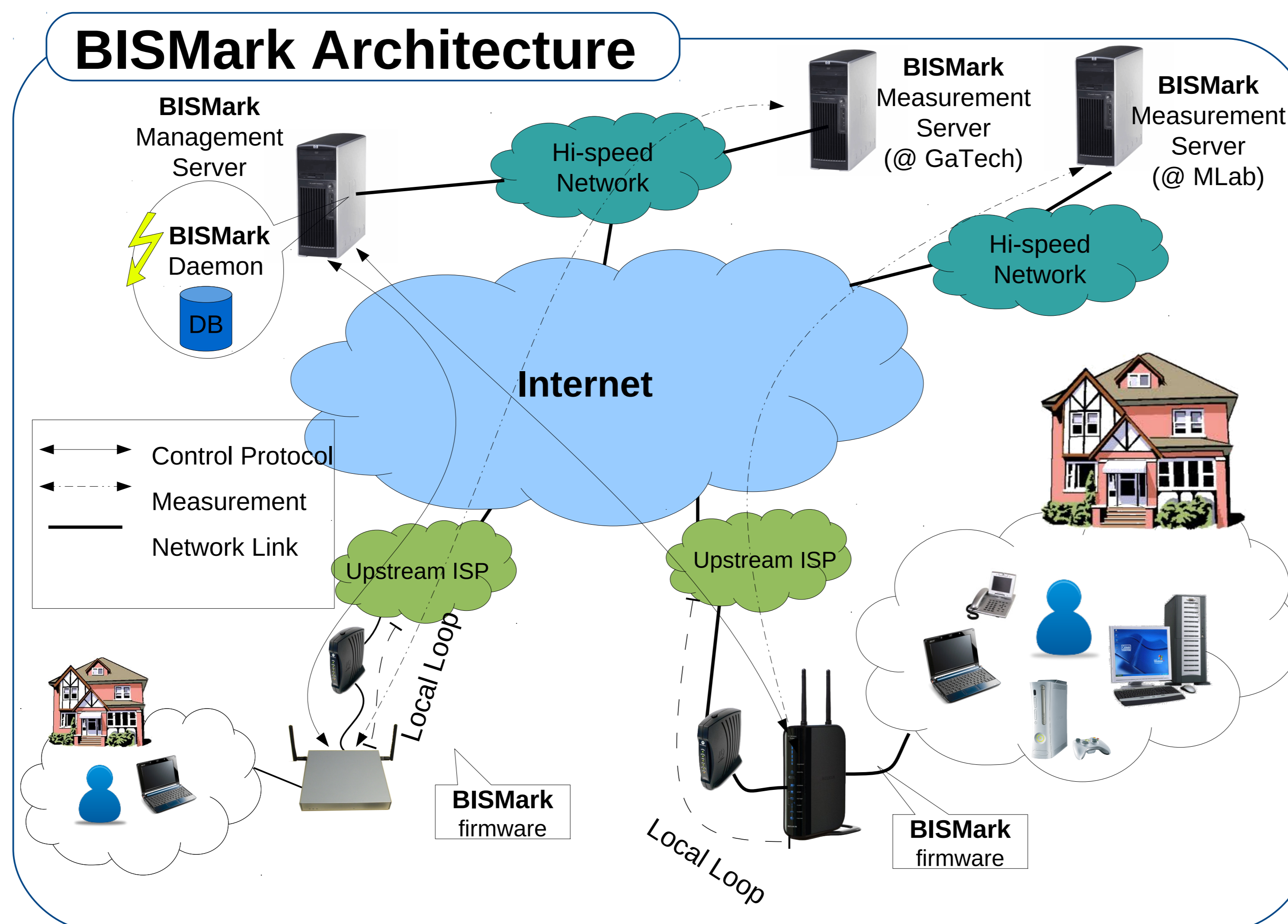
- Instrumented routers in homes
- Vantage point behind modem
- View into ISP and home network

### PRO

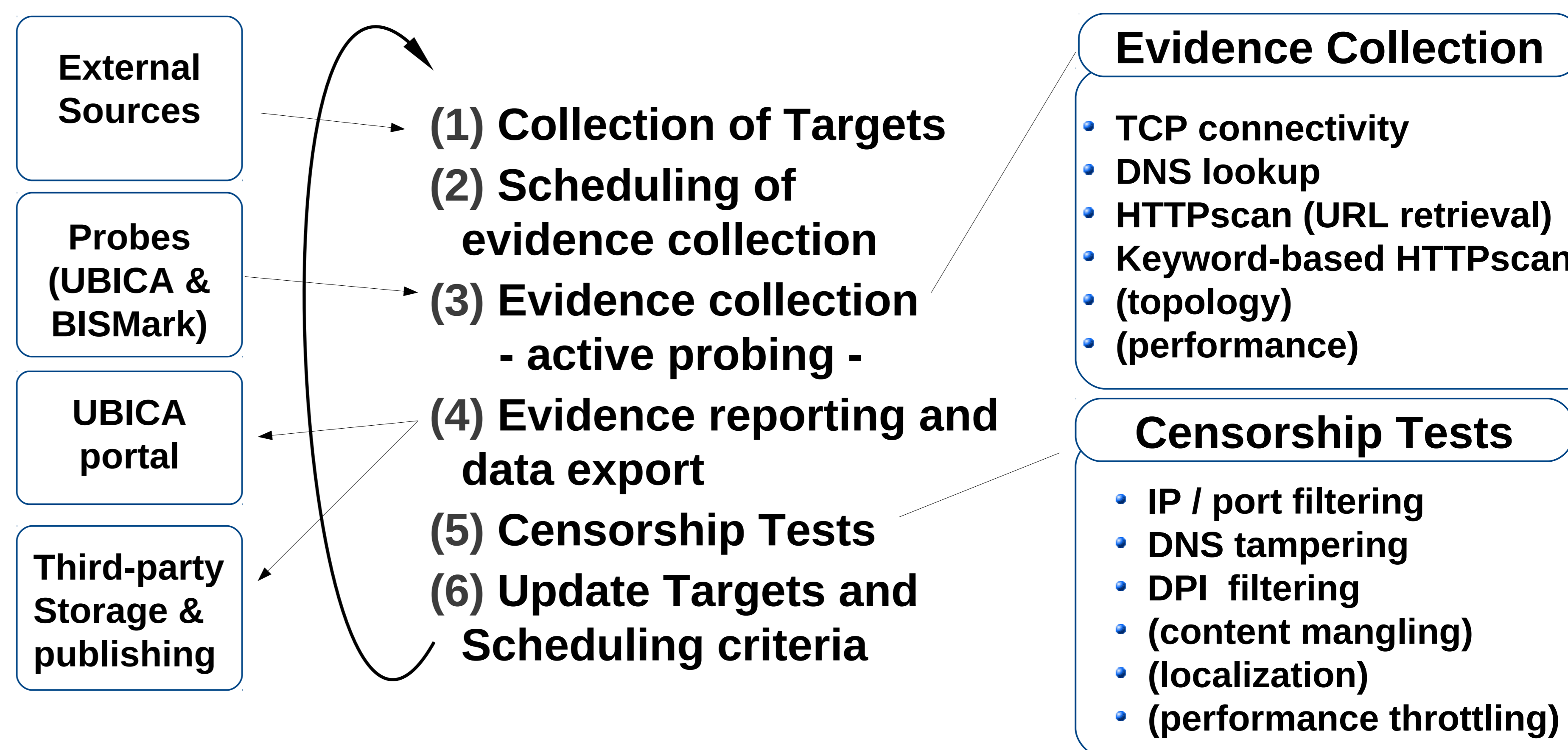
- Continuous monitoring
- No user intervention
- Plug-and-play setup
- No *personal-firewall* issues

### CONS

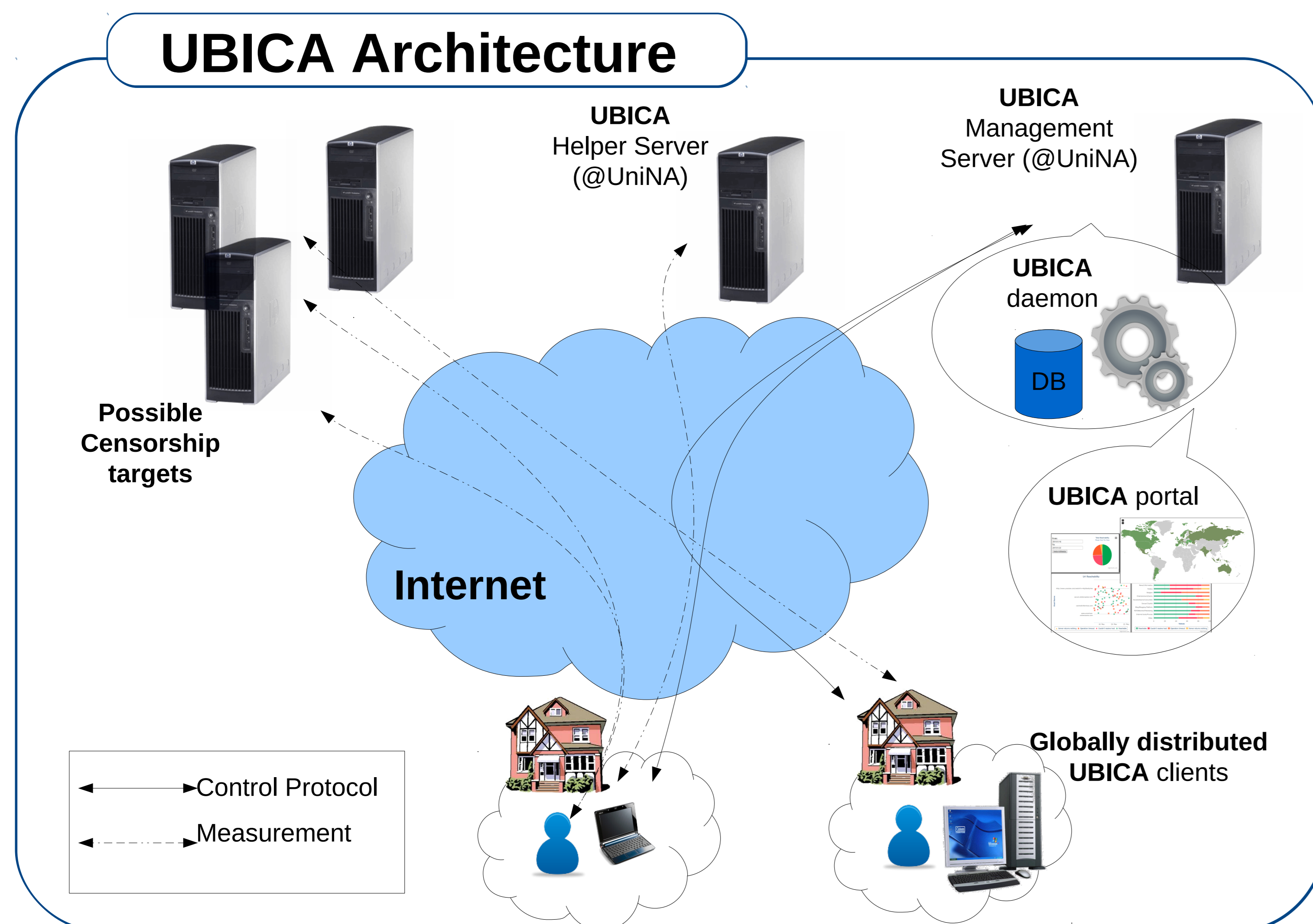
- Physical devices:
- shipping issues and costs
- Resource-constrained



## Monitoring Cycle



## UBICA Architecture



### UBICA: Client based

- Multi-platform client application
- Managed by a centralized Server

### PRO

- No strict resource constrains
- No physical deployment issues
- Easier distribution and deployment

### CONS

- Limited by client uptime  
host-based restrictions  
User QoE

## Preliminary Runs

“DNS lookup” evidences

Www.thepiratebay.org is *quietly* blocked

“Non-compliant” online betting services are hijacked to warning page

HTTP GET evidences

Injected RST detected from China

### Future Work

- Wide scale deployment
- More evidence types
- More detection tests
- Complete integration BISMark-UBICA
- Incentives for user adoption
- Data sharing with related projects
- Integration with related projects

\* Giuseppe Aceto has been granted traveling support by Citizen Lab's Connaught Summer Institute  
\*\* Antonio Pescapè has been granted a Google Faculty Award 2013 for the UBICA research project