Stork Dashboard for Kea

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What is Stork?

- A graphical management **dashboard**
- Makes open source Kea easier to use
- Open source (MPL) + leverages open source
- Central server + agents
- Monthly feature releases - rapid development
- Ubuntu 19.10, CentOS 8, FreeBSD 12
- Docker optional

Target Uses

- Simple, yet comprehensive Kea monitoring and fault management
- Replacement for Anterius (a popular GSOC project, but not maintained)
- Eventually - troubleshooting tool for BIND + Kea

Requirements from Users

1. display pool utilization, alarm on thresholds
2. monitor disk space, cpu utilization
3. monitor, test HA pair status
4. monitor on-going lease activity (LPS), total active leases
5. monitor time to assign a lease, detect unusual slowdowns

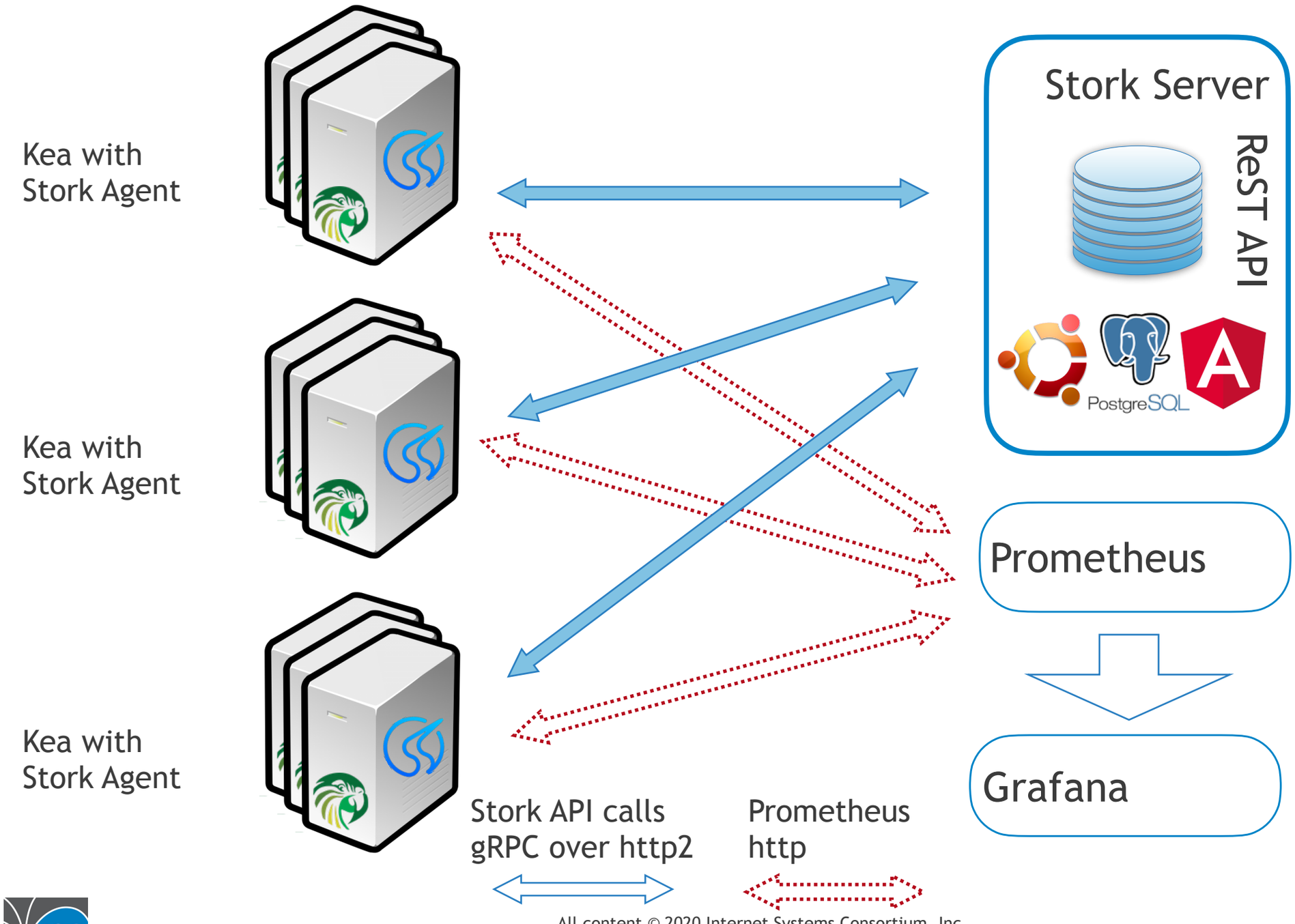
Current Features

- Monitor multiple Kea and BIND services
- Configuration inspection
  - subnets, pool, shared networks (per server, aggregated list)
  - filtering/search mechanism
- Host Reservations
- Focus Stork on features Grafana can’t easily do
  - Display pool utilization (total, pool, reserved, in use)
  - Single mode/HA/LB status
- Health status:
  - CPU/mem utilization
  - Uptime, time since reconfig, version
  - # of queries
  - Response time?
- DHCP traffic exchange details in Grafana

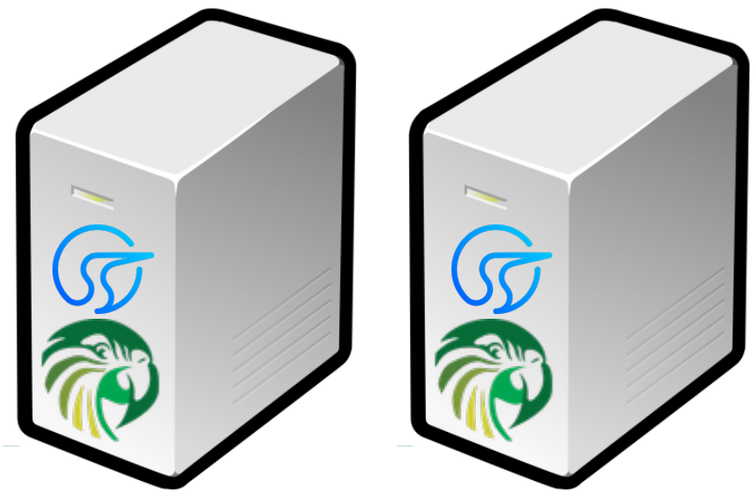
Features TBD

- Log viewer
- Alarms (leverage Grafana for this)
- Current lease status information
- Complex admin roles and privileges
- Event Timings (latency)
- ‘Real user testing’ - automated service probing
- Modify configuration, configuration controls much later

Stork Architecture



Stork Deployment



- Stork server
  - May be dedicated node
  - May be colocated with Kea
  - Install from packages
  - Run natively on Ubuntu 18.04 or later
    - Stork server will not run on every OS that Kea runs on
- Prometheus and Grafana
  - on the stork server or remote
- Agent
  - Install on every Kea server you want to manage
  - Ubuntu, CentOS8, Fedora, Debian

About the Demo

- Traffic generation w/perfdhcp
  - open source, distributed with Kea

Summary

- https://gitlab.isc.org/isc-projects/stork - bookmark it!
  - We need feedback on requirements, priorities, User Interface, bugs, operational use cases
- Debian, RPM packages at https://cloudsmith.io/~isc/repos/stork/packages/
- stork-users mailing list at lists.isc.org - subscribe
- a recording of this webinar will be posted at https://www.isc.org/presentations/

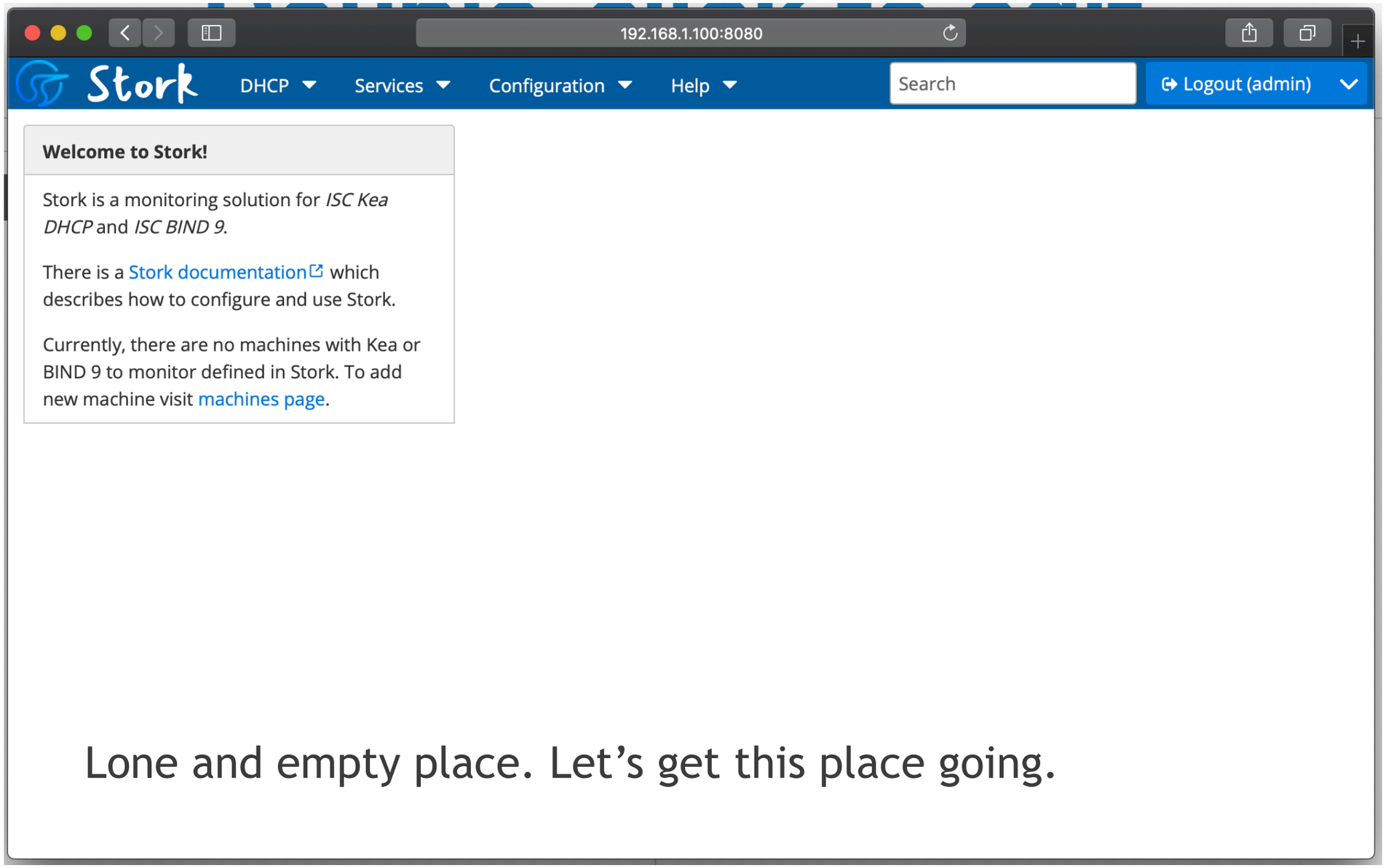
Photo courtesy of Tomek Mrugalski

Demo

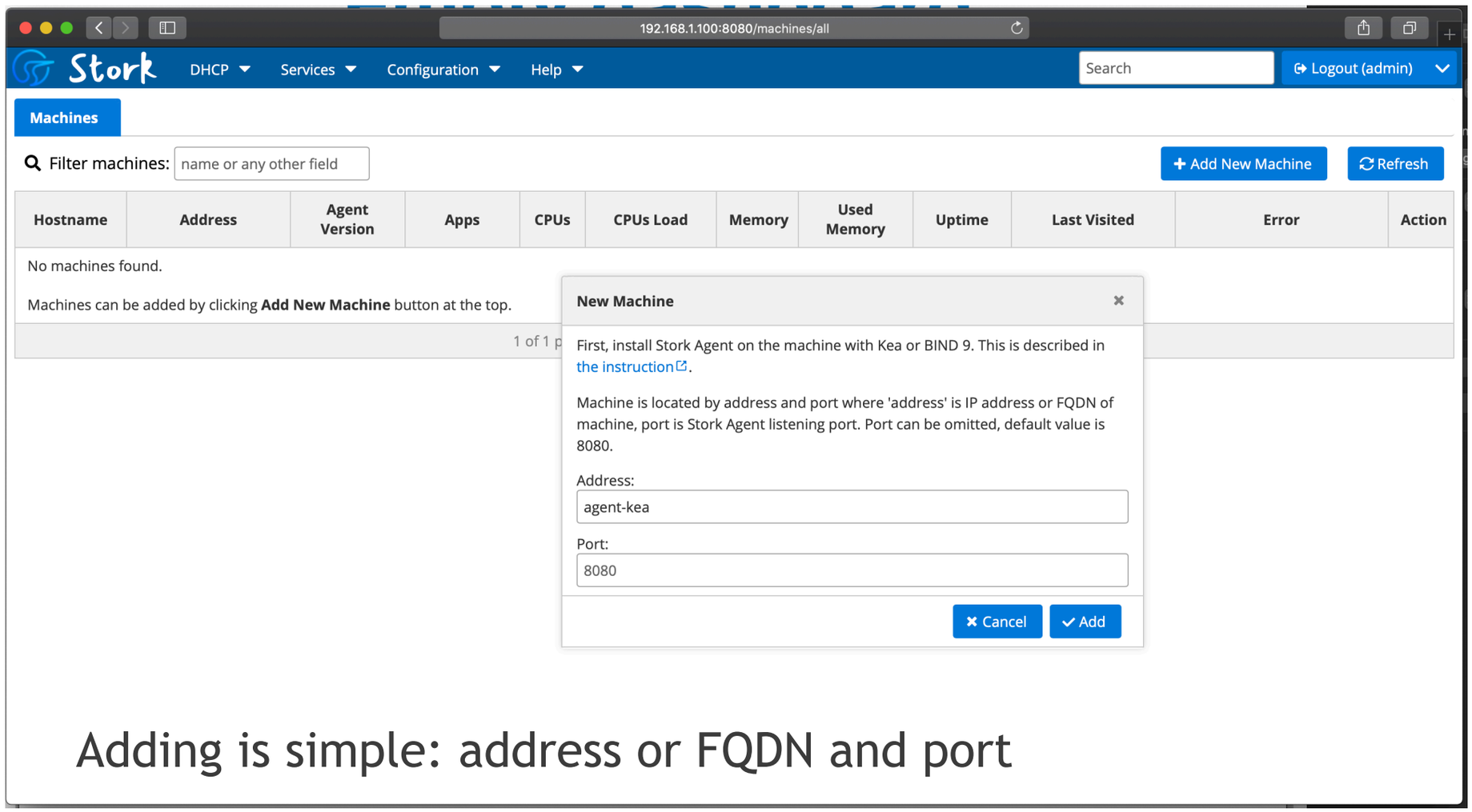
slides in case of network/demo malfunction

Login screen

Empty dashboard

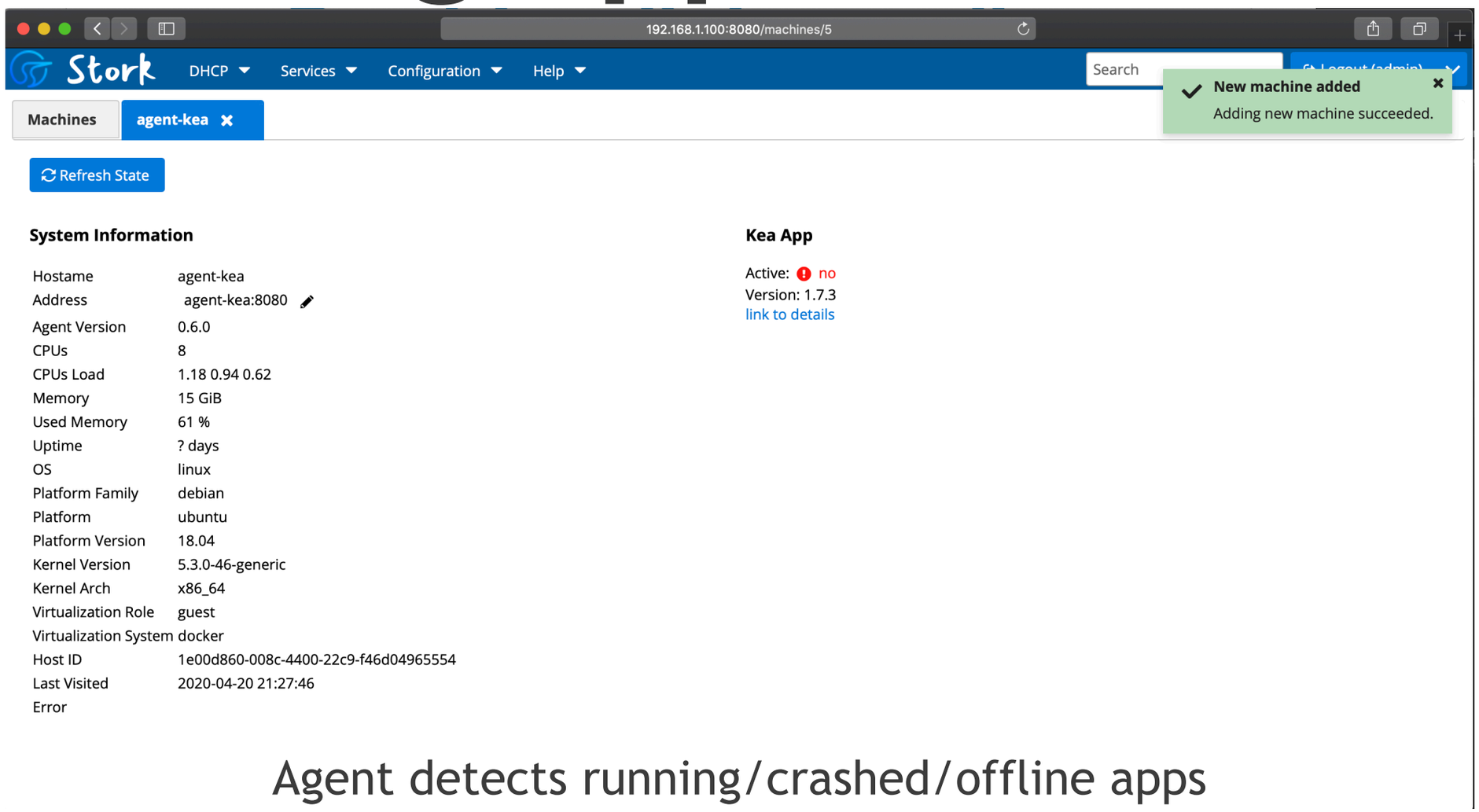


Adding new agent



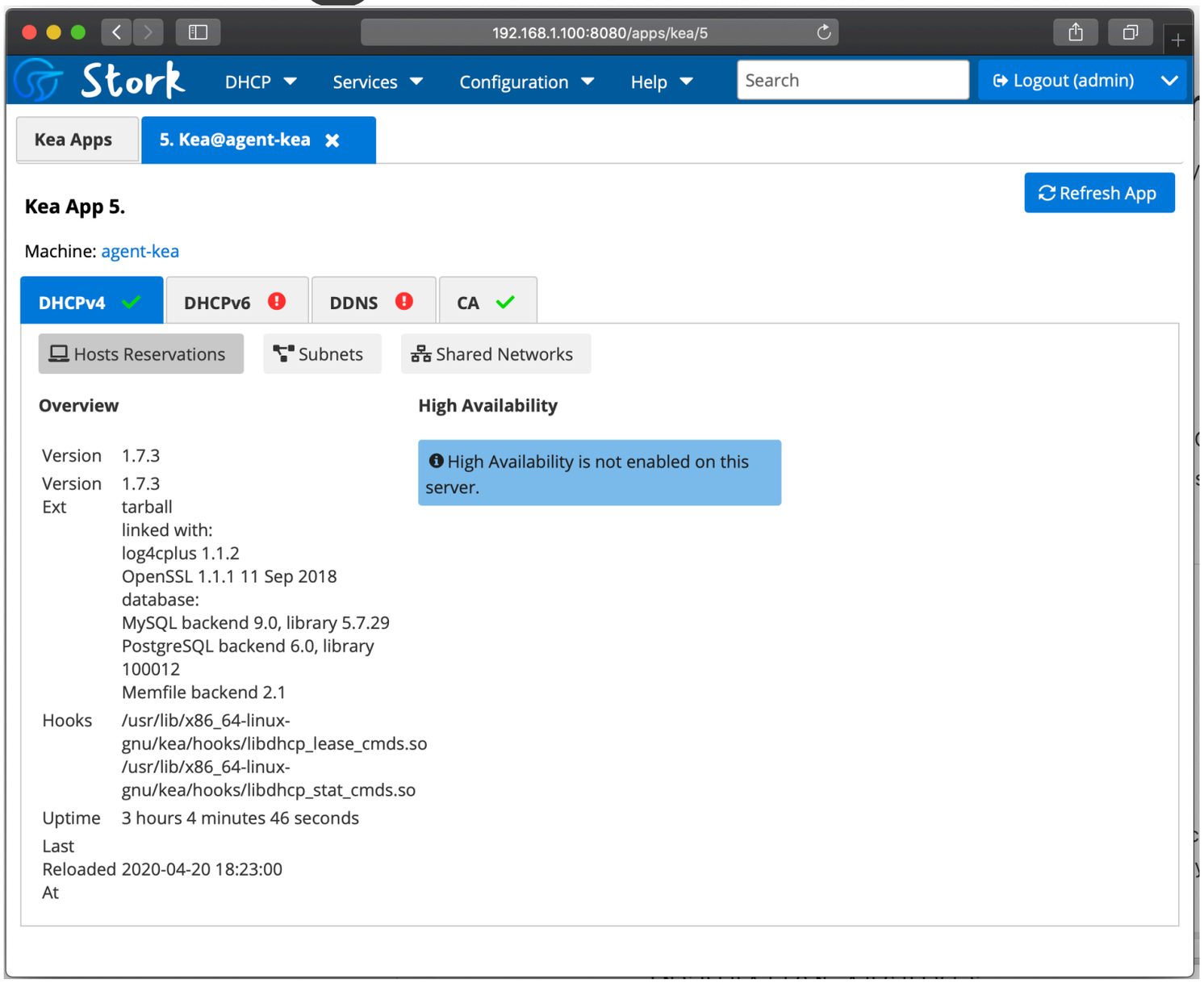
Adding is simple: address or FQDN and port

Detecting apps

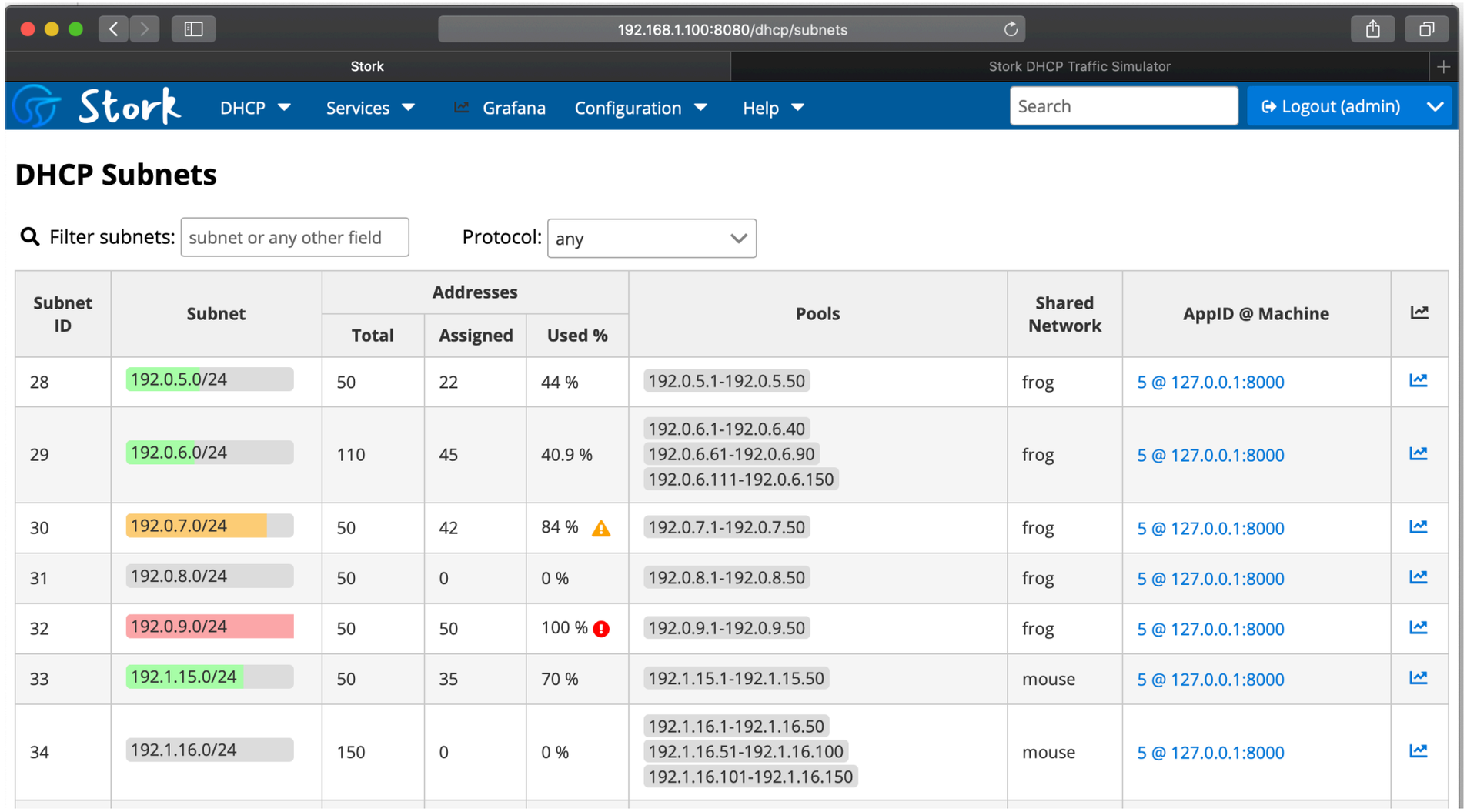


Agent detects running/crashed/offline apps automatically.

Inspecting Kea



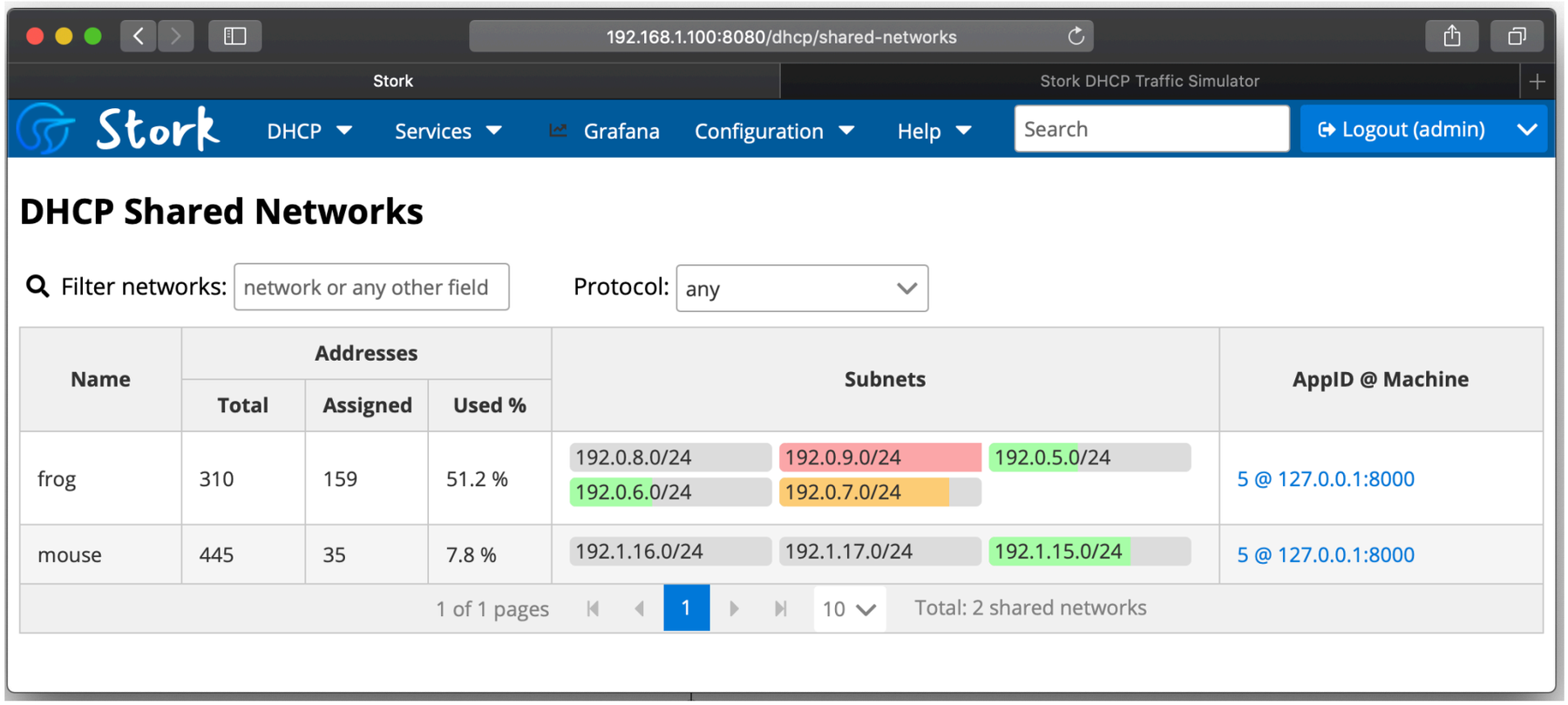
Pool utilization



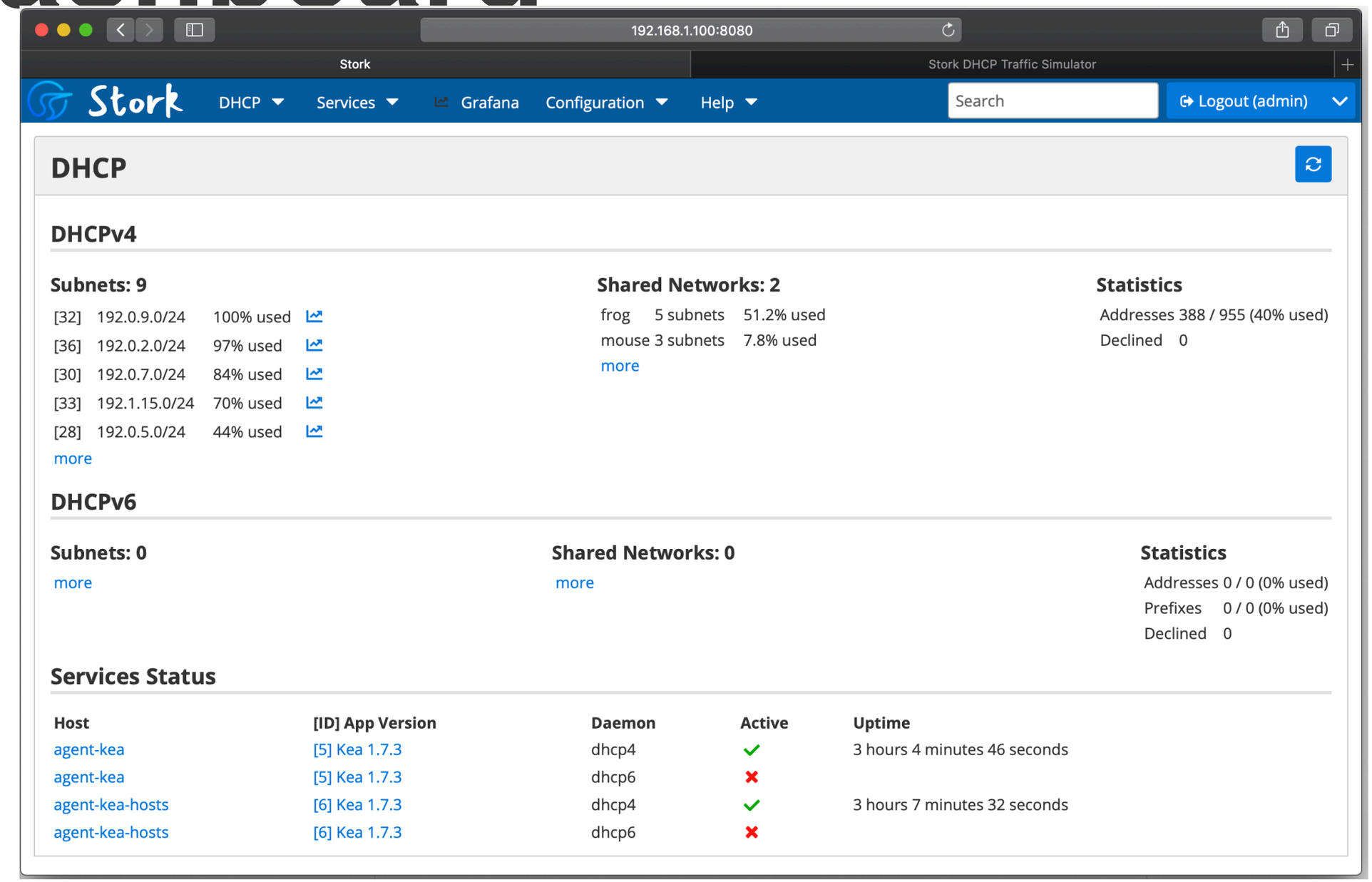
Subnet ID	Subnet	Addresses			Pools	Shared Network	AppID @ Machine	
		Total	Assigned	Used %				
28	192.0.5.0/24	50	22	44 %	192.0.5.1-192.0.5.50	frog	5 @ 127.0.0.1:8000	
29	192.0.6.0/24	110	45	40.9 %	192.0.6.1-192.0.6.40 192.0.6.61-192.0.6.90 192.0.6.111-192.0.6.150	frog	5 @ 127.0.0.1:8000	
30	192.0.7.0/24	50	42	84 %	192.0.7.1-192.0.7.50	frog	5 @ 127.0.0.1:8000	
31	192.0.8.0/24	50	0	0 %	192.0.8.1-192.0.8.50	frog	5 @ 127.0.0.1:8000	
32	192.0.9.0/24	50	50	100 %	192.0.9.1-192.0.9.50	frog	5 @ 127.0.0.1:8000	
33	192.1.15.0/24	50	35	70 %	192.1.15.1-192.1.15.50	mouse	5 @ 127.0.0.1:8000	
34	192.1.16.0/24	150	0	0 %	192.1.16.1-192.1.16.50 192.1.16.51-192.1.16.100 192.1.16.101-192.1.16.150	mouse	5 @ 127.0.0.1:8000	

Pool utilization, warning(80%), critical (90%) thresholds, Grafana links

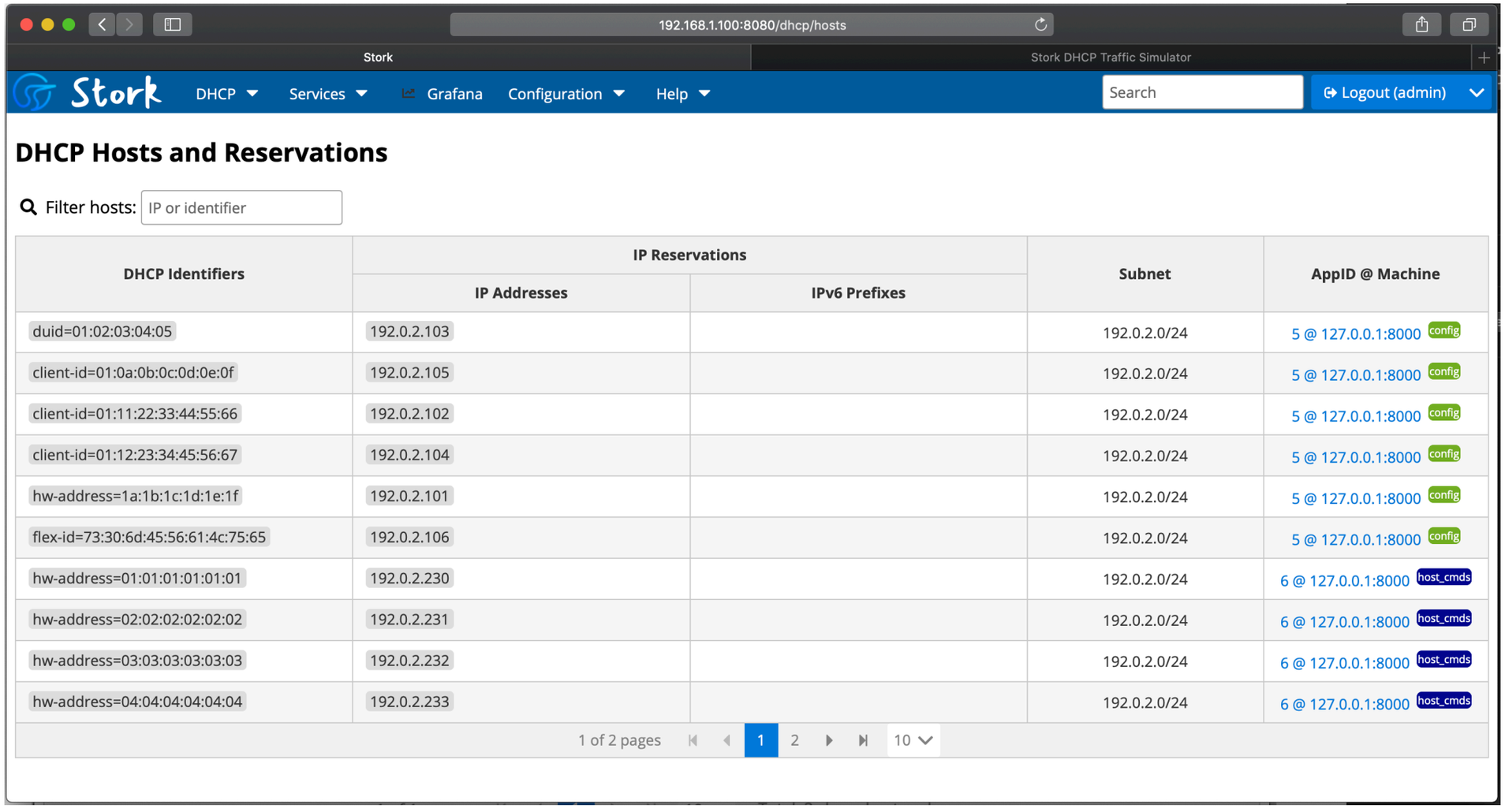
Shared networks view



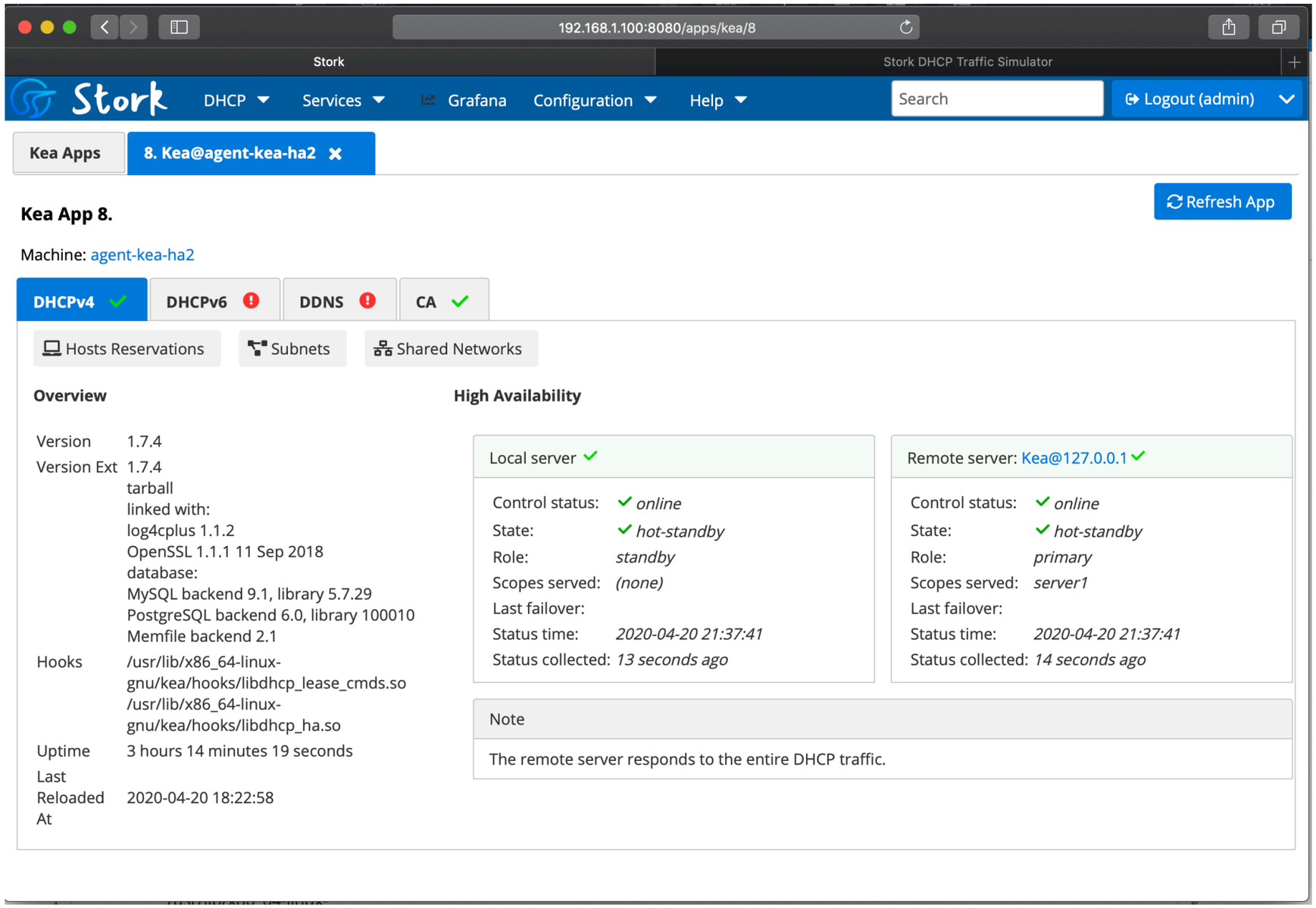
Dashboard



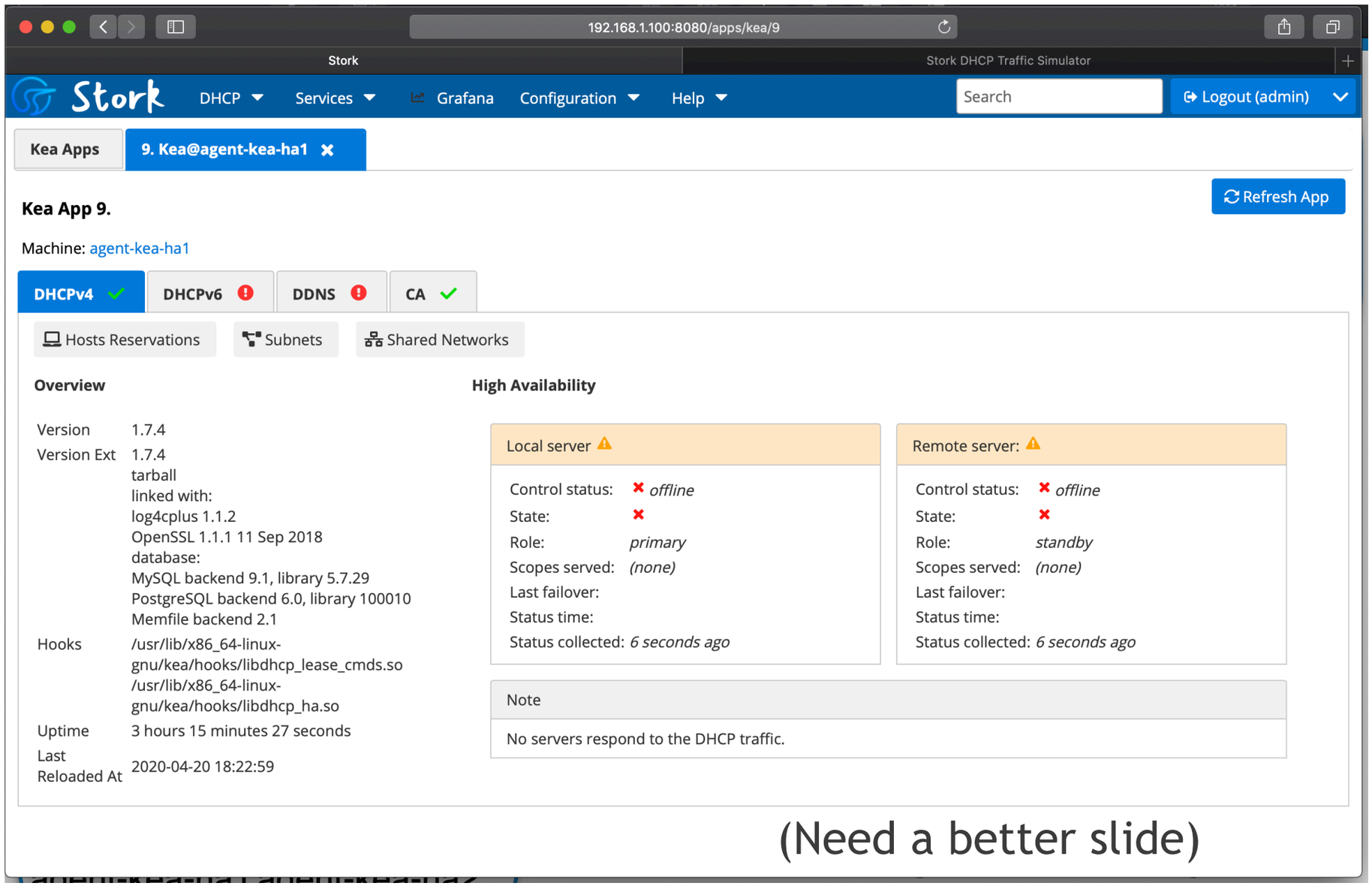
Host Reservations



HA status (all good)

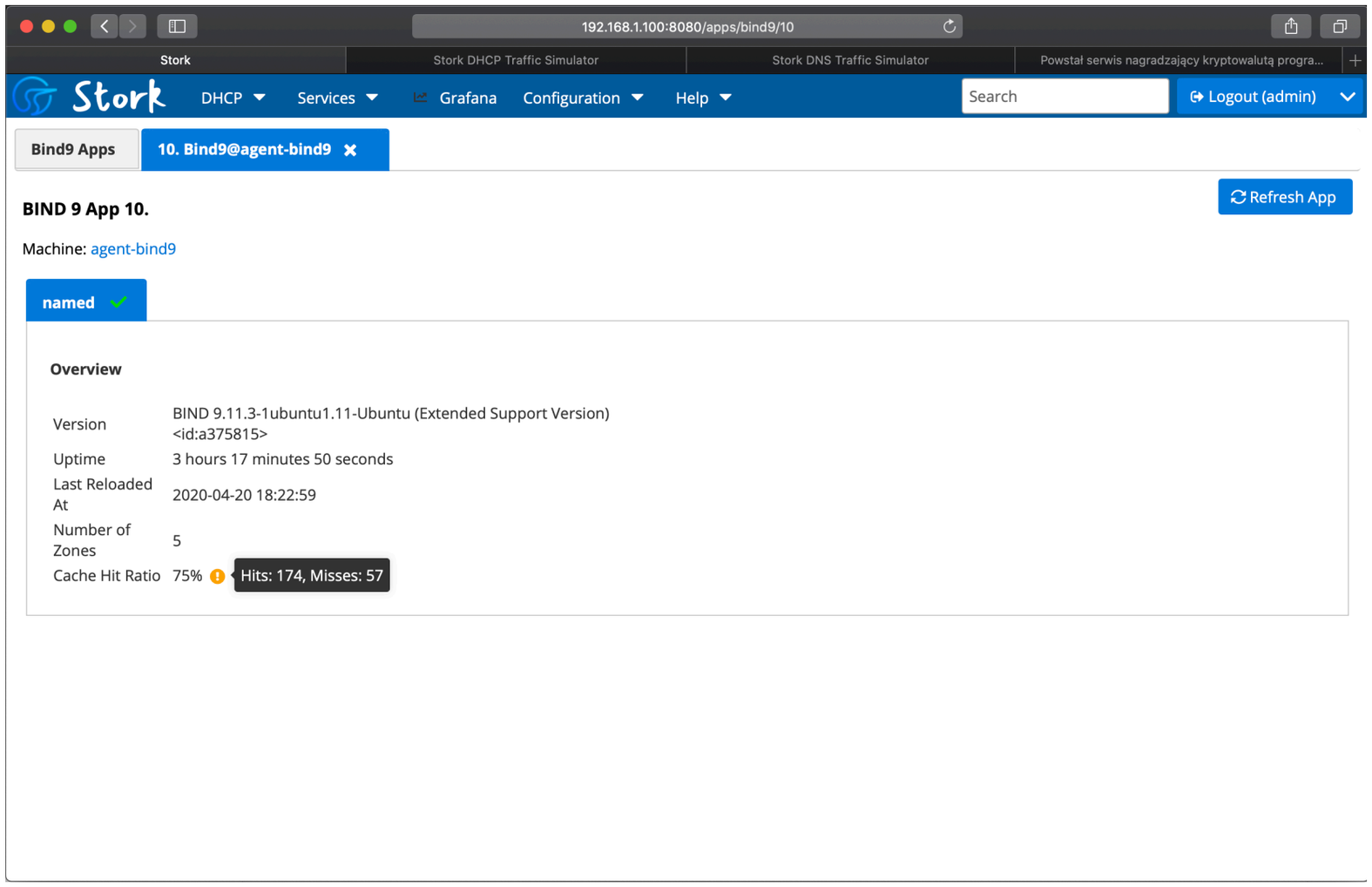


HA status (problems detected)

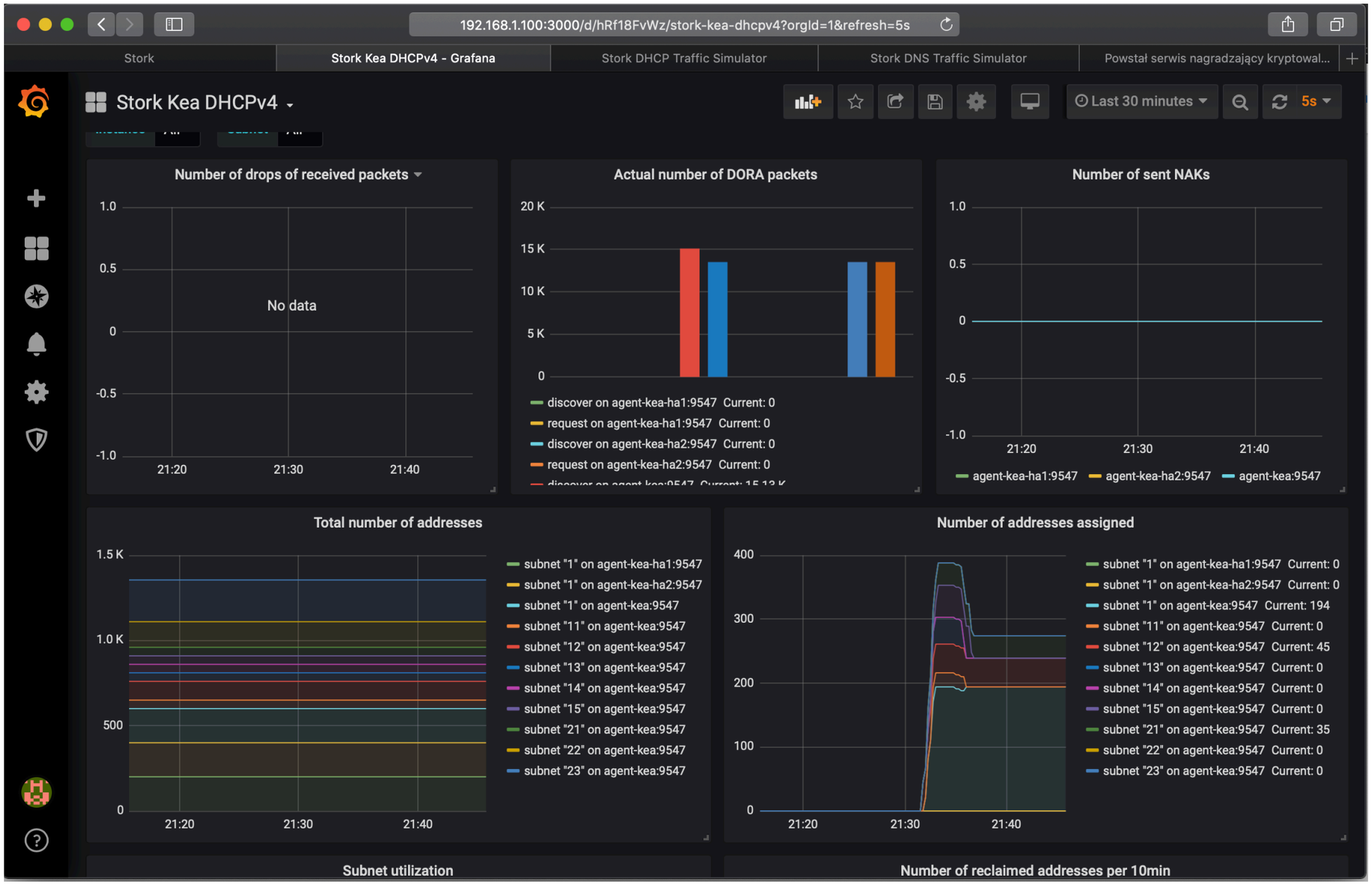


(Need a better slide)

BIND9 status: Cache hit ratio



Grafana: All DHCP subnets



Grafana : Single subnet