GSoC: Expanding NextCloudPi

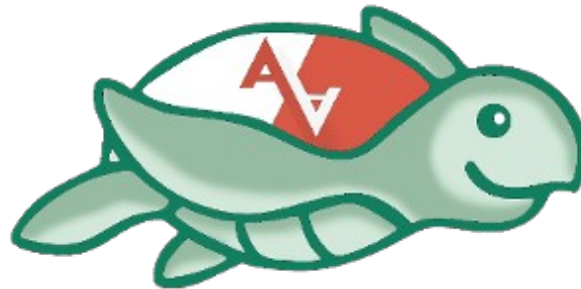

NextCloudPi

Google Summer of Code

$ whoami

- Fani Dimou @ Athens
- Junior software engineer
- Graduated from ECE NTUA
- Creator of SecureWilly
- Successfully completed GSoC 2019

Google Summer of Code

- NextCloudPi: The missing features

- Mentors:
    - Pantelis Sarantos & Stathis Iosifidis
    - & off the books, Ignacio Nunez Hernanz

Why Nextcloud?

- Personal usage, because it's cool

- Used it as a benchmark for SecureWilly.

- SecureWilly is an open source software I created that automatically produces AppArmor profiles for Docker containers.

  → Input: docker-compose.yml of Nextcloud
  → Output: AppArmor profile for nextcloud server and mariadb

 Fani Dimou

GSoC: Expanding NextCloudPi

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Travis CI (for docker images)

- Building images for each architecture
  (x86, armhf, arm64)
- Testing (activation, system, nextcloud tests)
- Pushing to DockerHub

→ Automates the whole process and
  saves time.

→ Provides transparency of the building
  phase to users.

Fani Dimou

GSoC: Expanding NextCloudPi

NextCloudPi VM on VirtualBox using Vagrant

- Automation tool, asks minimum input - gives a ready to use VM on Vbox

- Easy cloning of an existing NCP VM

→ No technical skills required to

setup a VM

→ Makes a beginner's life easier

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Docker Swarm System

- Automation tool that creates a distributed system of NCP docker containers
- Data storage is replicated to all nodes, through GlusterFS volume

  → High availability
  → Data persistence

Fani Dimou
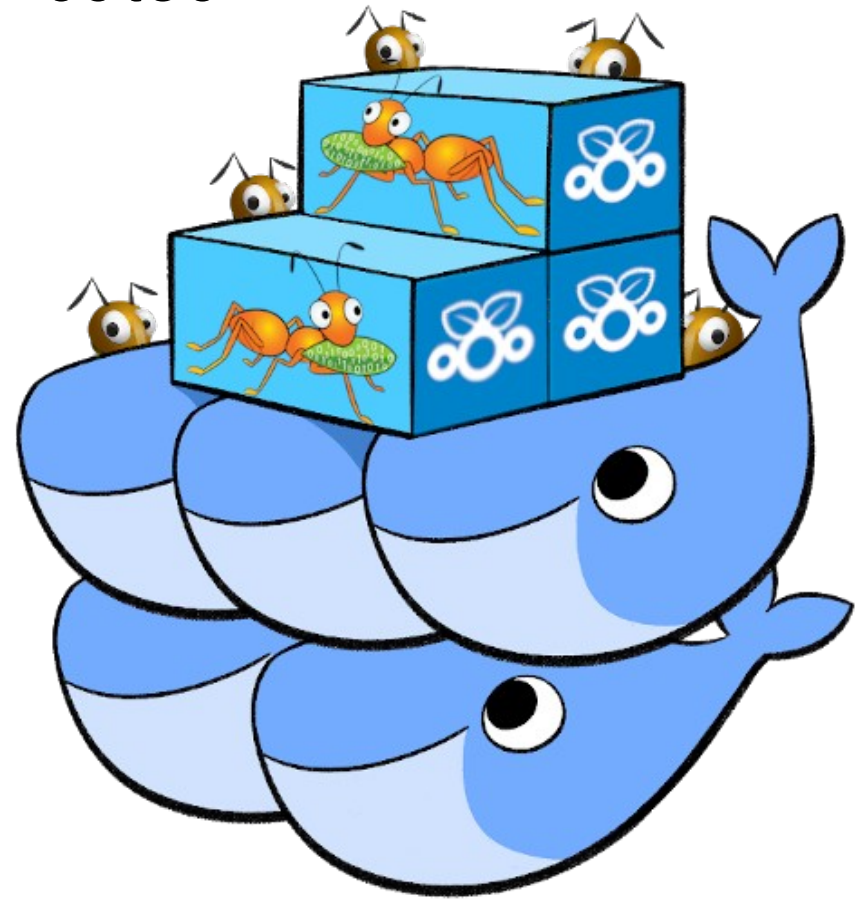
GSoC: Expanding NextCloudPi

Ansiblize NextCloudPi server

- Converting of every bash script of NCP server into Ansible playbooks (in progress…)

- CONFIG, SYSTEM are ready

  → Many IT people are using

     Ansible

  → Easier to learn than bash for

     non programmers

GSoC: Expanding NextCloudPi

Also,

- Mechanism for backwards updates (binary search between available past updates)

- Wrote some blog posts about each feature on my blog, some of them posted at www.ownyourbits.com

Future Work

- Improvements and integration of the existing features
  - Ansible
  - Travis CI for board images

- Implementation of new ideas
  - Nextcloud App
  - Mail server
  - ...

Thank you! :)

Contact me

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