VPS vs Heroku for small team

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Deployment history

- csv / subversion
- tgz files with timestamp
- zip / scp / unzip
- diff / scp / patch

Technology history

- 2005 Git + Rails 1.0
- 2007 Rails 2.0 / Ruby 1.9 / Capistrano / Heroku
- 2008 GitHub / Bitbucket
- 2010 Rails 3.0
- 2013 Rails 4.0 / Ruby 2.0 / Slack
- 2016 Rails 5.0

My perception

- 1997-2013 Linux on my desktop computer
- 2000-∞ Linux on servers at work
- 2000 First apps deployment (zip / diff)
- 2005 First Rails app deployment (zip / diff)
- 2007 First Capistrano deployment (real production apps)
- 2012 Konfeo is live on VPS server
- 2012 First Heroku deployment (pet projects)
- 2015 Heroku deployment (real production apps)
- 2019 Wetea is live on Heroku

VPS deployment

- Create server
- Update & upgrade packages
- Set locales, timezone, other env settings
- Install additional tools
- Create and setup deployment account
- Setup and secure SSH
- Setup firewall
- Setup logrotate
- Setup and secure PostgreSQL server
- Setup and secure Nginx
- Setup and secure Passenger
- Install packages required by Ruby
- Setup and secure SMTP
- Create database and database user
- Install Ruby in selected version
- Setup Capistrano
- Setup SSL in Nginx
- Setup server backup and monitoring

VPS tech concerns

- Regular packages and kernel updates
- Regular logs and database analysis
- Regular Ruby, RVM and GEM updates
- Regular SSL health monitoring
- Regular monitoring (live / security / restarts)

VPS business concerns

- Site reliability engineering (SRE) (procedures)
- Business continuity management (plans)
- Fast recovery solution: backup + Ansible playbooks (~ 1000 LOC)
- Log and database analysis solutions (custom)
- DevOps tasks
- A lot of time to setup, secure and maintain infrastructure
- Possible problems with code rollbacks

Heroku deployment

- install Heroku CLI
- $ heroku login
- $ heroku create
- $ git push heroku master (or connect with GitHub and enable automatic deploys)
- $ heroku run rake db:migrate
- setup domain, config vars and add-ons in Heroku dashboard (clicks)

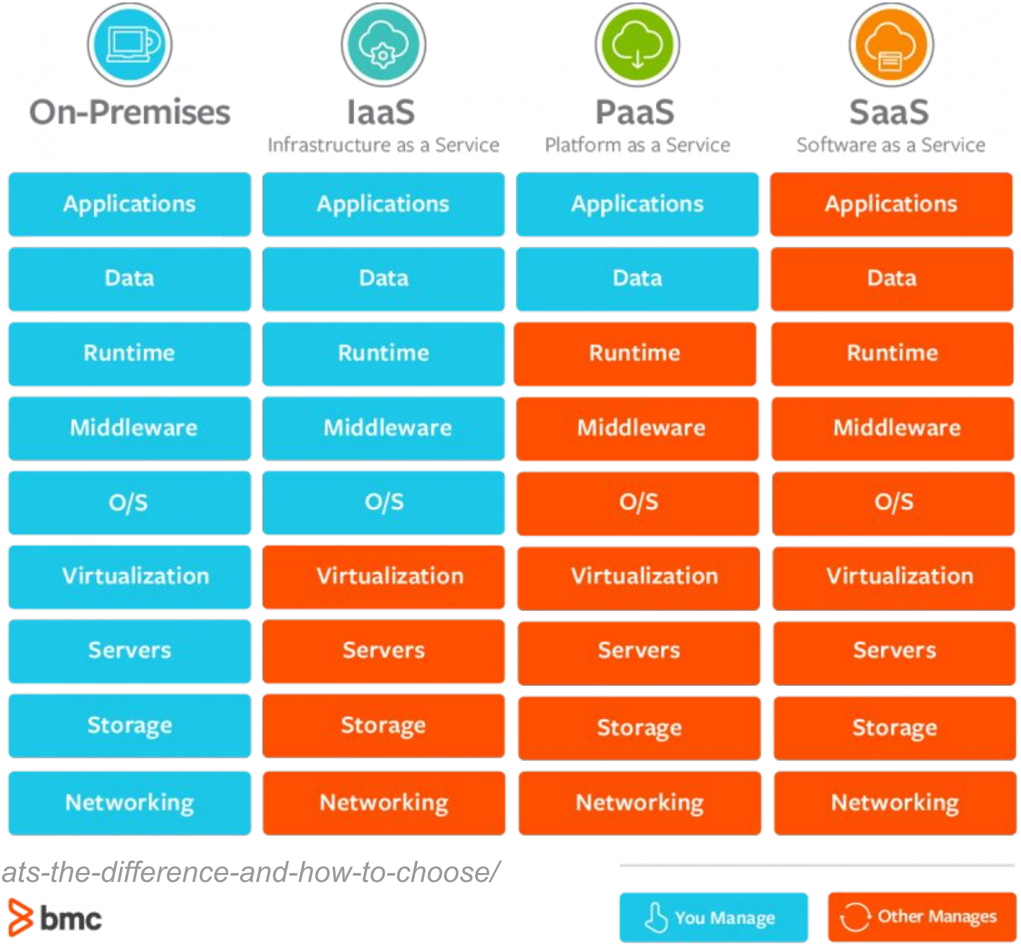
Heroku tech concerns

- Security
- Privacy
- Support
- Stability
- Documentation
- Twelve-factor app

Heroku business concerns

- SRE and DevOps tasks are Heroku’s business
- Recovery, security and maintainability are Heroku’s business
- Easy code and database rollbacks (simple click)
- Easy deployment process (git push + click)
- Easy database analysis (dataclips)
- A lot of ready add-ons to use

IaaS vs PaaS

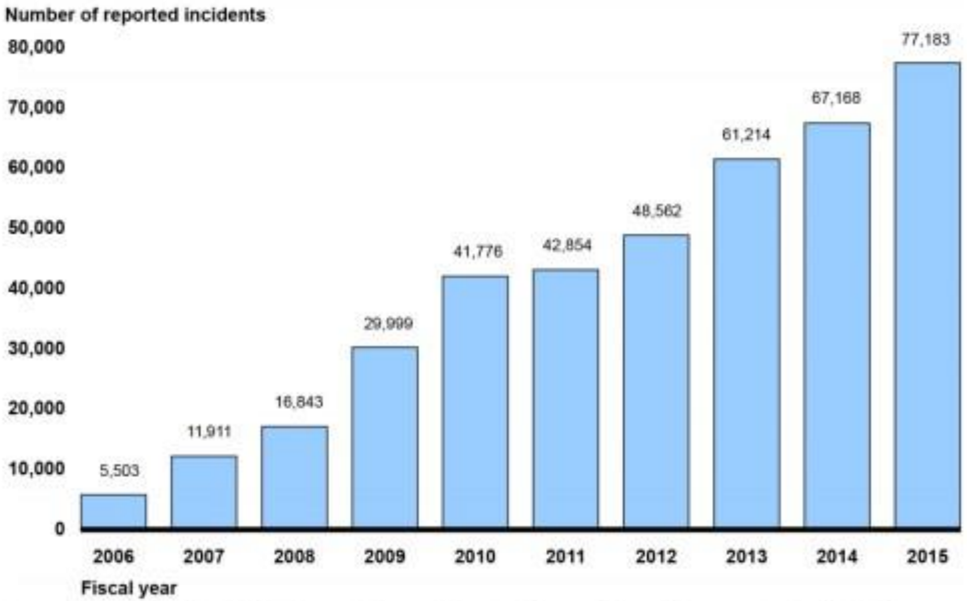


On-Premises	IaaS Infrastructure as a Service	PaaS Platform as a Service	SaaS Software as a Service
Applications	Applications	Applications	Applications
Data	Data	Data	Data
Runtime	Runtime	Runtime	Runtime
Middleware	Middleware	Middleware	Middleware
O/S	O/S	O/S	O/S
Virtualization	Virtualization	Virtualization	Virtualization
Servers	Servers	Servers	Servers
Storage	Storage	Storage	Storage
Networking	Networking	Networking	Networking

https://www.bmc.com/blogs/saas-vs-paas-vs-iaas-whats-the-difference-and-how-to-choose/

Cyber attacks trends

Figure 1: Incidents Reported by Federal Agencies, Fiscal Years 2006 through 2015



Source: GAO analysis of United States Computer Emergency Readiness Team and Office of Management and Budget data for fiscal years 2006-2015. | GAO-16-501

http://www.thefiscaltimes.com/2016/06/22/Cyberattacks-Against-US-Government-1300-2006

Decision factors (scale 1-5)

	Have control	Time needed	Money spent	Risk taken	Value for client
VPS	5	5	1	4	0
Heroku	3	1	3	1	0

Showtime?

- Konfeo deployment
- Wetea deployment

Lessons learned (as a small team)

- Maintenance tasks take a lot of time
- Use the best tools that money can buy
- Don’t lose time for tech toys
- Use boring and predictable tools and tech stack
- Keep code and infrastructure maintenance cost as low as possible

Build value for your clients and they will pay you back

Thank you :)

Questions?