

# Juice Sucking Servers

and how to put them on a diet

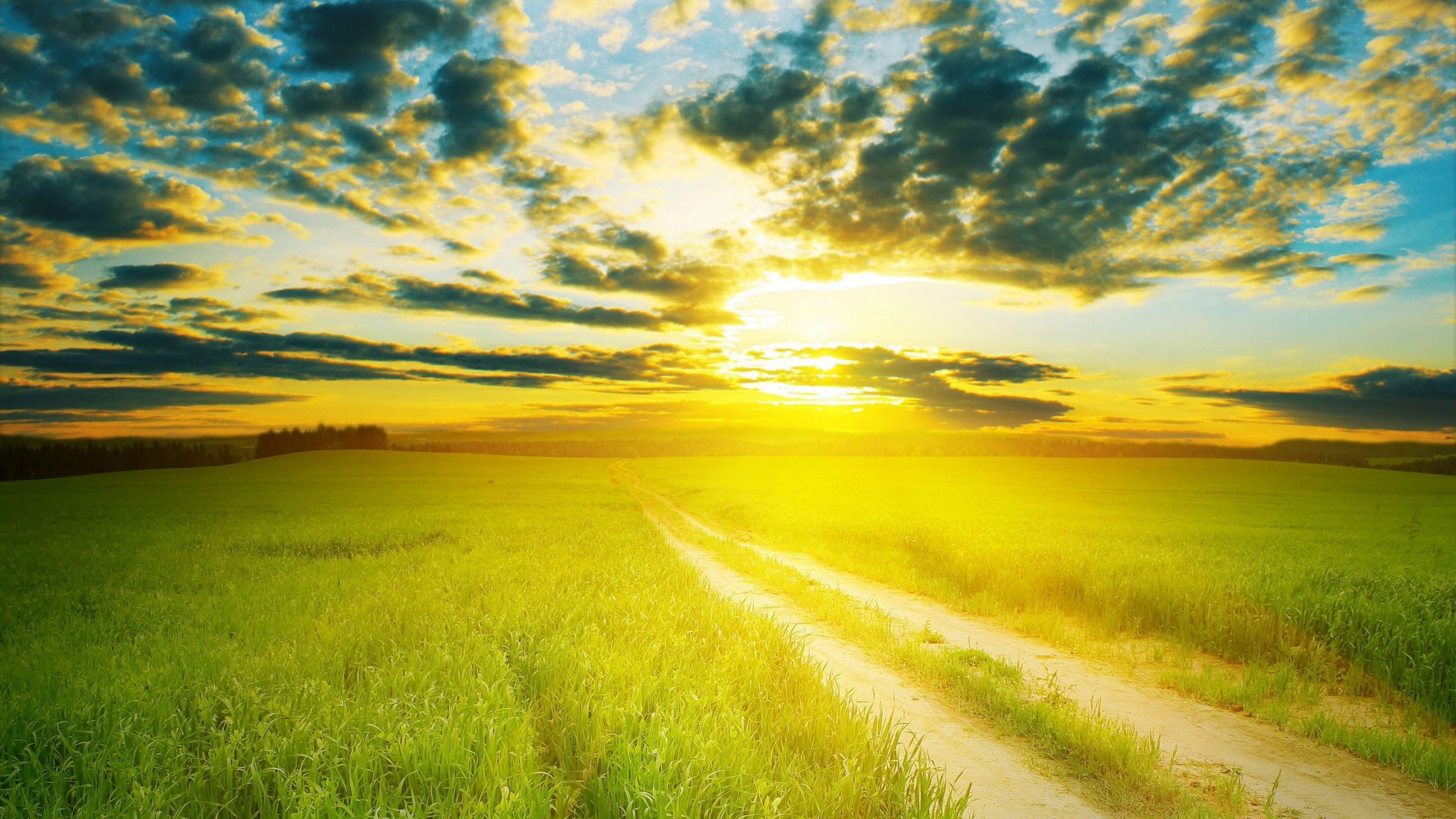
# Today

- Energy
  - idle
  - demand
- Performance
  - per language / framework

# Who Am I

- Axel Roest
- software developer
- iOS & Mac
- iot enthusiast
- unix nerd

The Cloud?





# Power Measurements

€€€

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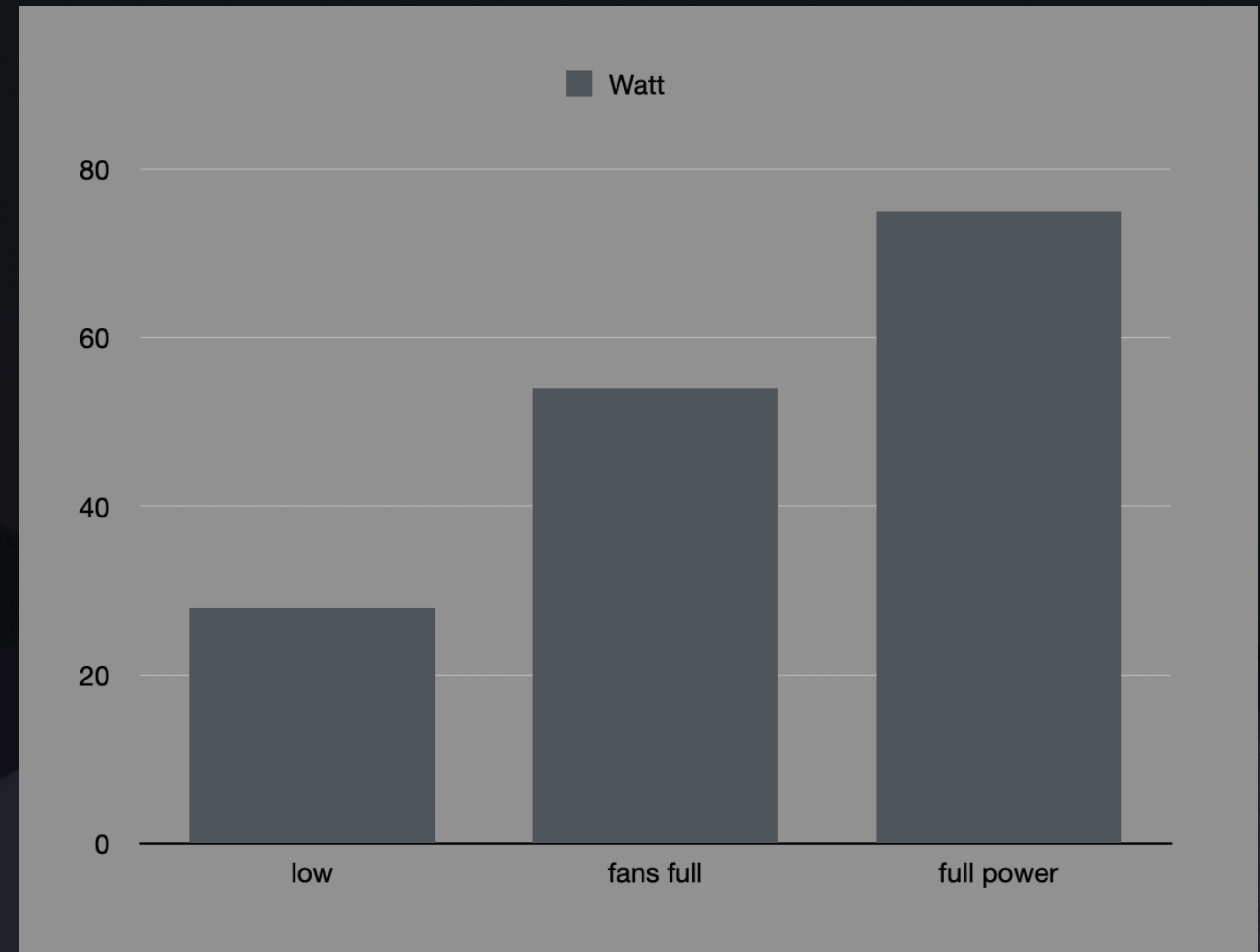
- power
- sensors
- fancontrol



# Power Measurements

€€€

- fans off → 28W
- on → 54W → double!
- in demand → 78W



Software

# Impact of Web Technology

# Efficiency

- requests → responses
  - speed
  - load
  - timeouts

# Efficiency?

- Most prolific web languages
  - nodejs
  - php
  - java
  - swift

# How

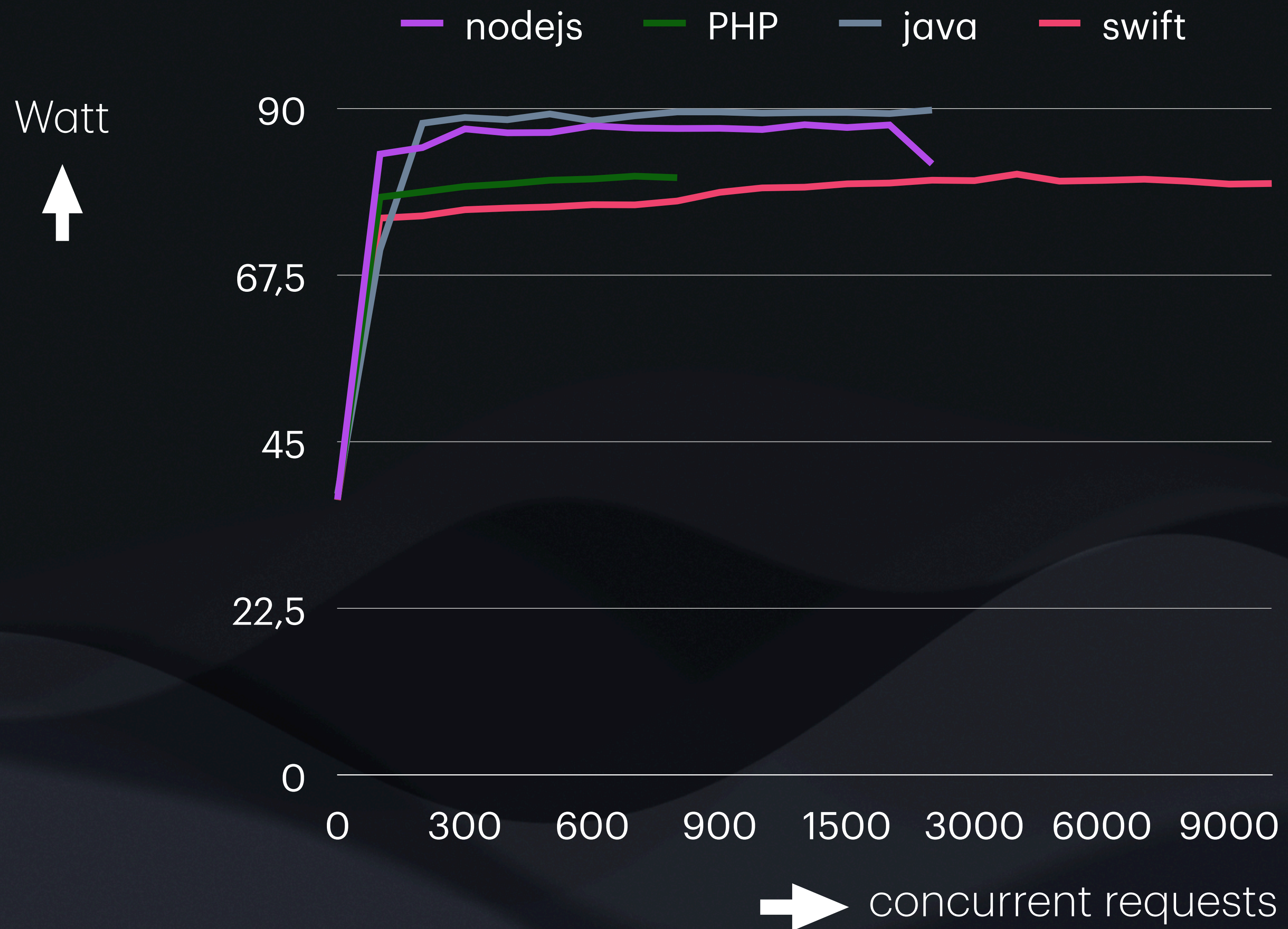
## Test Benchmarks

- algorithm with low bandwidth requirements
- no database
- 'pure function'
- → fibonacci sequence

# Power Measurements 2

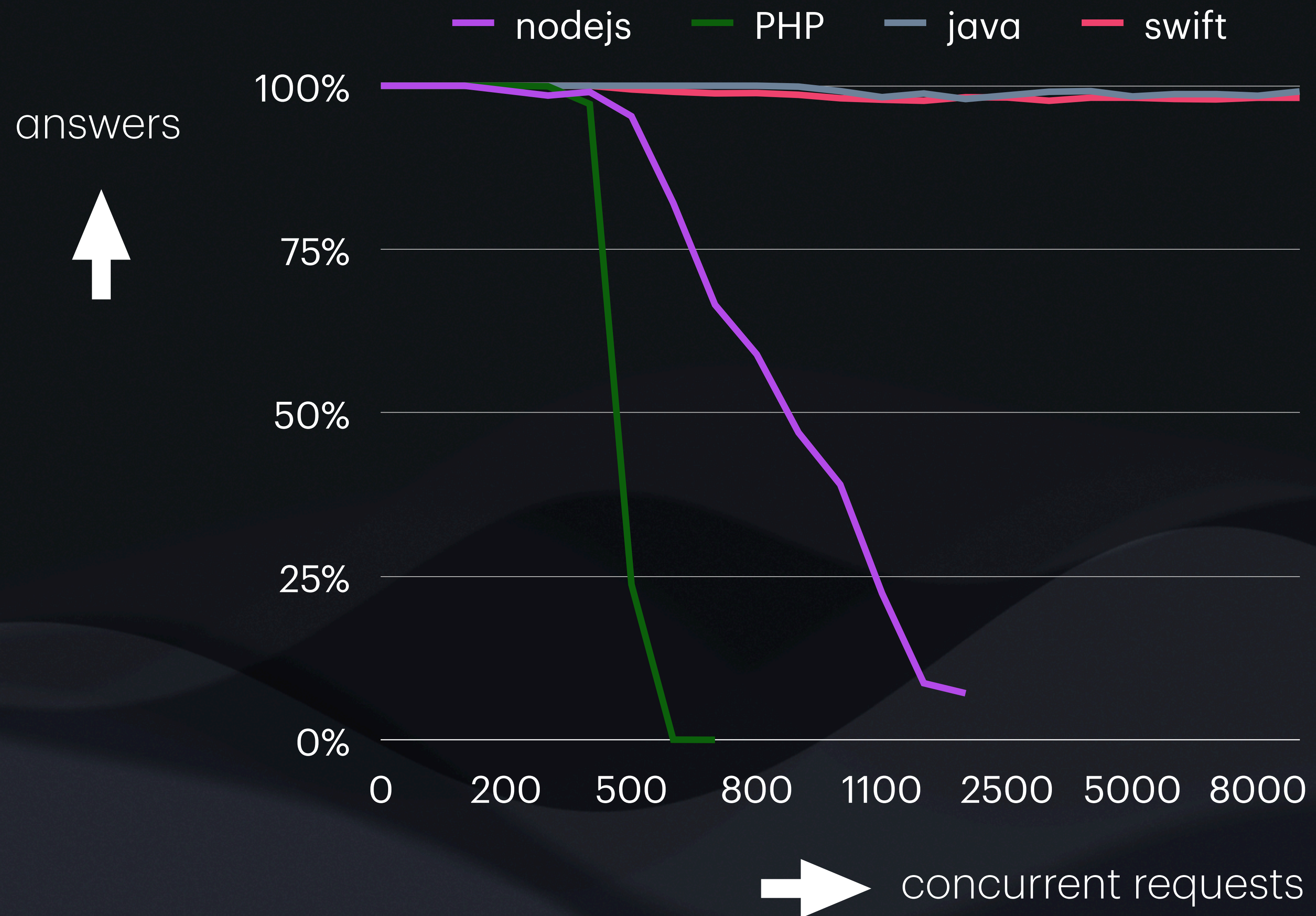
- Power ↑↑,
- amount of work is different per technology

# Power





# Responses



Technologies matter!



# Conclusion

- use appropriate tech
  - different language: 20% less power
  - adding servers?
  - or a different tech stack?
- If your idle server runs fans full blast → slow down

# Acknowledgements

- full Docker container code at : <https://gitlab.com/axello/serverbench>
- java benchmark: Gerard de Leeuw (ColoClue)
- php help: Jelle Luteijn (ColoClue)
- <https://tech.phlux.us/Juice-Sucking-Servers/> (#1, #2, #3)
- <https://wadetregaskis.com/swift-sucks-at-web-serving-or-does-it/>



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