

# Little things that PyPy makes possible

Maciej Fijałkowski

Pycon Argentina 2011

Sep 23 2011



# Python

- Python is great
- Python is a glue language
- Python is slow

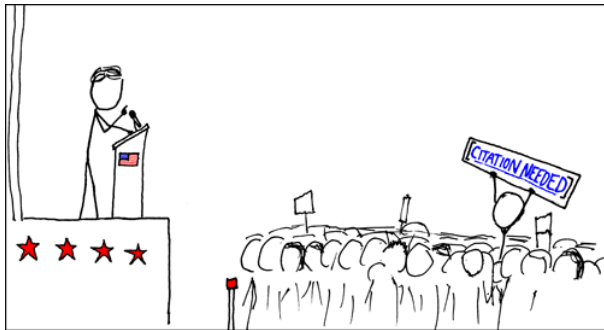
# Python

- Python is great
- Python is a glue language
- Python is slow

# Python

- Python is great
- Python is a glue language
- Python is slow

# Is python slow?



- <http://blog.bossylobster.com/2011/08/lesson-v8-can-teach-python-and-other.html>
- PyPy **29 wins**, Node.js (V8) **20 wins**, one tie

# What is PyPy?

- PyPy is many things
- **just another python implementation**

`pypy x.py`

# What is PyPy (2)?

- Comes with a JIT compiler
- Stackless
- **fast**

# What is PyPy (2)?

- Comes with a JIT compiler
- Stackless
- **fast**



# How fast is PyPy?

# PyPy 1.6 - status

- Released on 16th of August
- Python 2.7.1
- The most compatible alternative to CPython
- Most programs just work
- (C extensions might not)

# PyPy 1.6 - status (2)

- numpy (in progress)
- ctypes (fast)
- stable and compatible

# PyPy 1.6 - what you can do

- try using on your own programs
- a lot of libraries just work
- your programs either no or minimal changes

# Real world use case (1)

- LWN's gitdm

- ▶ <http://lwn.net/Articles/442268/>
- ▶ data mining tool
- ▶ reads the output of `git log`
- ▶ generate kernel development statistics

- Performance

- ▶ CPython: 63 seconds
- ▶ PyPy: **21 seconds**

`lwn.net`

*[...] PyPy is ready for prime time; it implements the (Python 2.x) language faithfully, and it is fast.*

# Real world use case (1)

- LWN's gitdm

- ▶ <http://lwn.net/Articles/442268/>
- ▶ data mining tool
- ▶ reads the output of `git log`
- ▶ generate kernel development statistics

- Performance

- ▶ CPython: 63 seconds
- ▶ PyPy: **21 seconds**

lwn.net

*[...] PyPy is ready for prime time; it implements the (Python 2.x) language faithfully, and it is fast.*

# Real world use case (1)

- LWN's gitdm

- ▶ <http://lwn.net/Articles/442268/>
- ▶ data mining tool
- ▶ reads the output of `git log`
- ▶ generate kernel development statistics

- Performance

- ▶ CPython: 63 seconds
- ▶ PyPy: **21 seconds**

[lwn.net](http://lwn.net)

*[...] PyPy is ready for prime time; it implements the (Python 2.x) language faithfully, and it is fast.*

# Real world use case (2)

- **MyHDL:** VHDL-like language written in Python
  - ▶ <http://www.myhdl.org/doku.php/performance>
  - ▶ (now) competitive with “real world” VHDL and Verilog simulators

`myhdl.org`

*[...] the results are spectacular. By simply using a different interpreter, our simulations run 6 to 12 times faster.*



# Real world use case (2)

- **MyHDL:** VHDL-like language written in Python
  - ▶ <http://www.myhdl.org/doku.php/performance>
  - ▶ (now) competitive with “real world” VHDL and Verilog simulators

`myhdl.org`

*[...] the results are spectacular. By simply using a different interpreter, our simulations run 6 to 12 times faster.*

# How you can help?

- Try it on your application
  - ▶ if it's slow, we want to know!
  - ▶ if it does not work, too :-)
  - ▶ if it works and it's fast, that as well
- Tell people about PyPy
- Contribute to PyPy! (it's not **that** hard :-))

# Things you can do with Python using PyPy

- real time video processing
- software-rendered games
- this is just the beginning!

# Things you can do with Python using PyPy

- real time video processing
- software-rendered games
- this is just the beginning!

# Things you can do with Python using PyPy

- real time video processing
- software-rendered games
- this is just the beginning!

# Things you can do with Python using PyPy

- real time video processing
- software-rendered games
- this is just the beginning!

# Contacts, Q/A

- <http://pypy.org>
- blog: <http://morepypy.blogspot.com>
- mailing list: [pypy-dev@python.org](mailto:pypy-dev@python.org)
- IRC: #pypy on freenode



# Shameless ad

- Want to make run your software fast?
- We can make it happen
- [fijall@gmail.com](mailto:fijall@gmail.com)