JRuby and the JVM

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Ruby is my ~~most~~ ~~second~~ third favorite programming language of all time.

1. My own super-awesome programming language, Teepee
   (but it's not that awesome just yet)
2. Common Lisp
3. Ruby
4. C
5. Clojure

   …

999. Java

JRuby is Ruby, on the JVM.

Ruby on the JVM?
Why would we want Ruby on the JVM?

Because there's tons of great libraries for everything.

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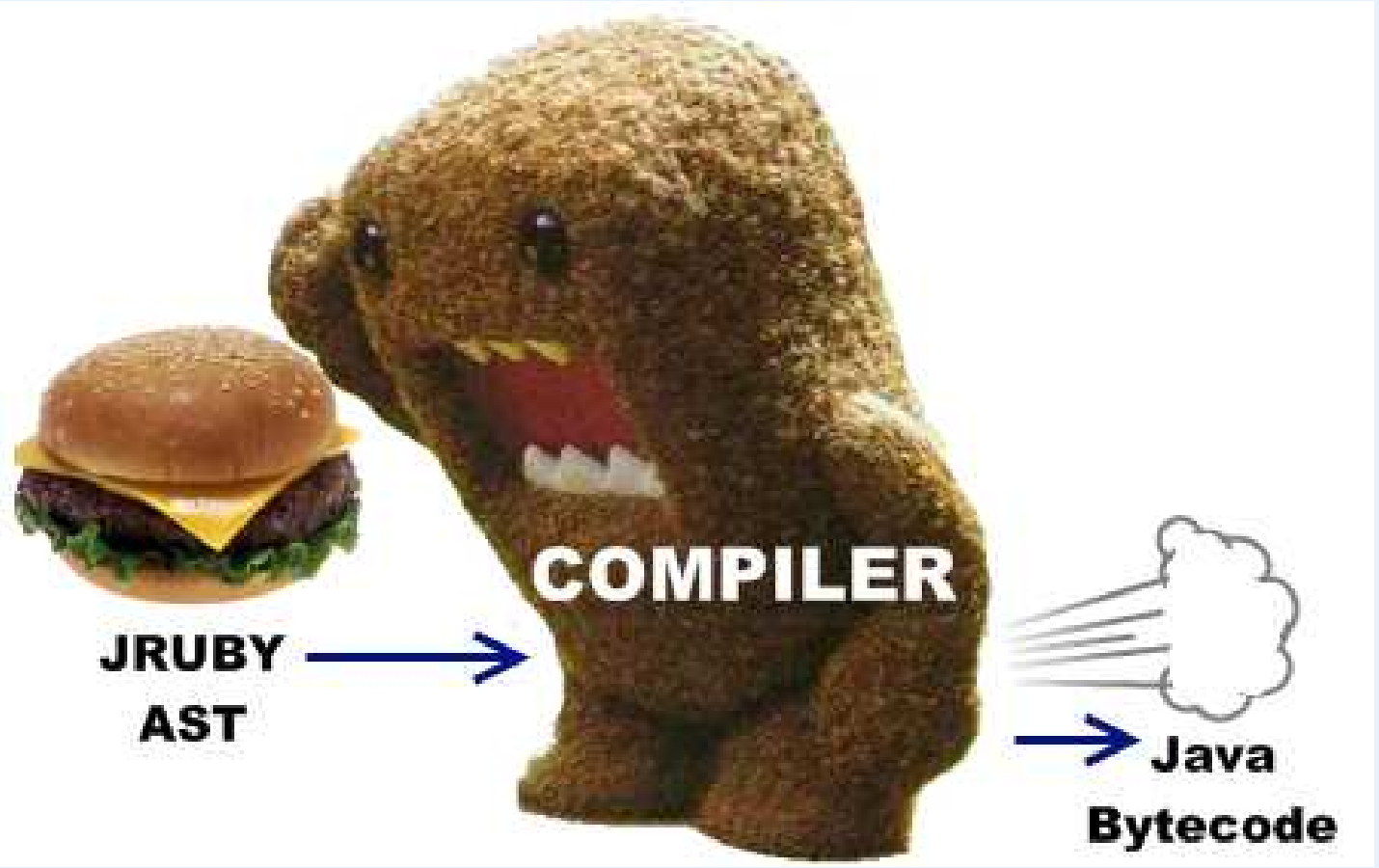
I found this image on the internet that describes very accurately how JRuby works.



Getting Started

1. Download it from `http://jruby.org/download`
   ...or `brew install jruby` on OS X
   ...or `rvm install jruby` if you use RVM
2. Run `jruby` from your shell
3. Make code!

CON: The JVM takes forever to start up

```
chris@nephesh ~ $ time jruby -e "puts 'hi'"
hi

real 0m1.761s
user 0m4.800s
sys 0m0.235s
chris@nephesh ~ $ time ruby -e "puts 'hi'"
hi

real 0m0.595s
user 0m0.054s
sys 0m0.050s
```

CON: Until the JIT kicks in it's actually considerably slower than MRI.

CON: Even after the JIT kicks in, it's not really that much faster.

CON: THE JVM WANTS ALL OF YOUR RAM AND IT WANTS IT NOW.

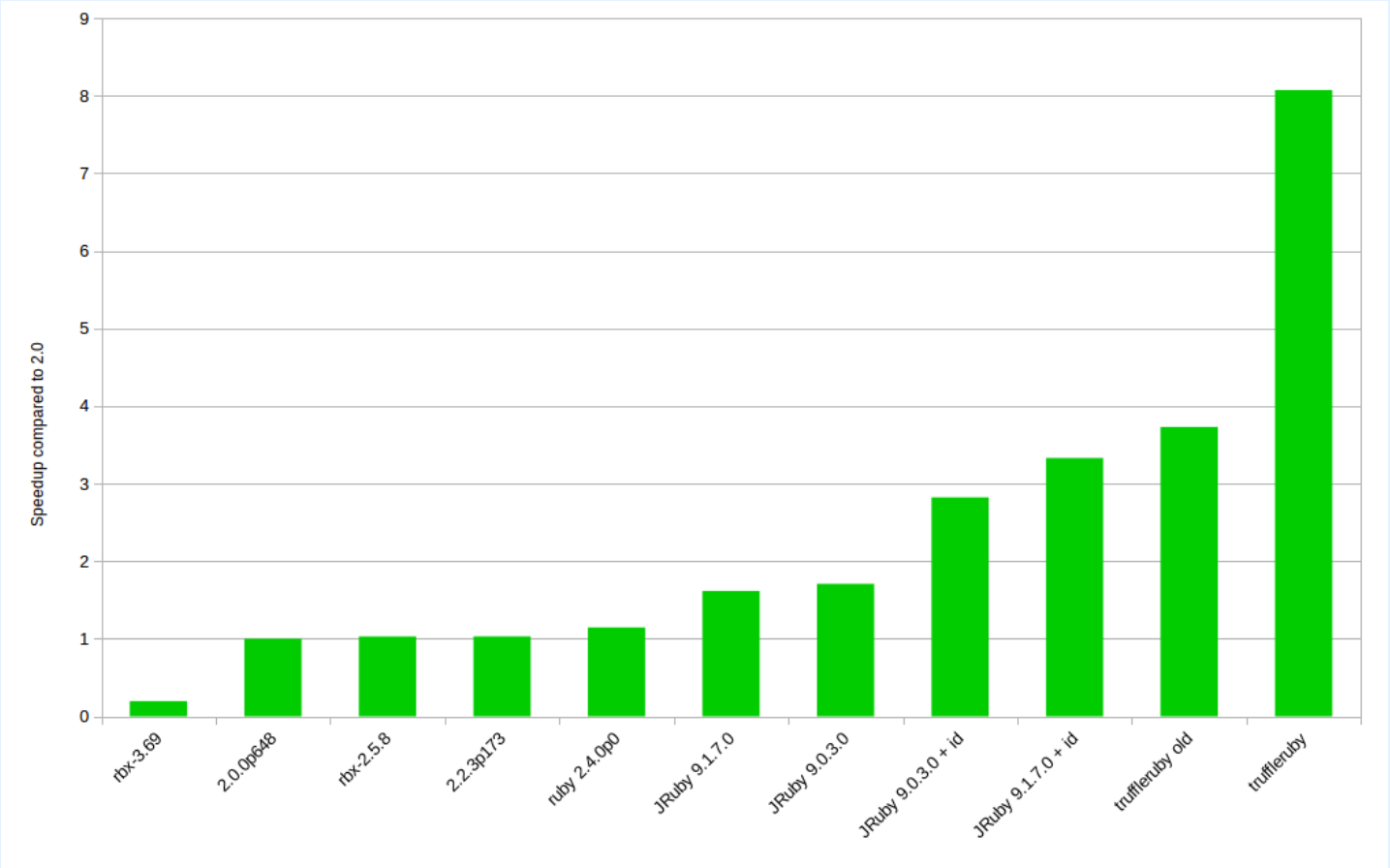
```
%CPU %MEM      VSZ    RSS  COMMAND
 0.0  0.1  2475044   9300  ruby -e sleep 60
%CPU %MEM      VSZ    RSS  COMMAND
 0.0  1.0  8325372 164520  ... org.jruby.Main -e sleep 60
```

VSZ: virtual memory size, all memory that the process can access, including memory that is swapped out and memory that is from shared libraries.

RSS: resident set size, how much memory is allocated to that process and is in RAM.

No (practical) C extension support, just FFI and Java stuff.

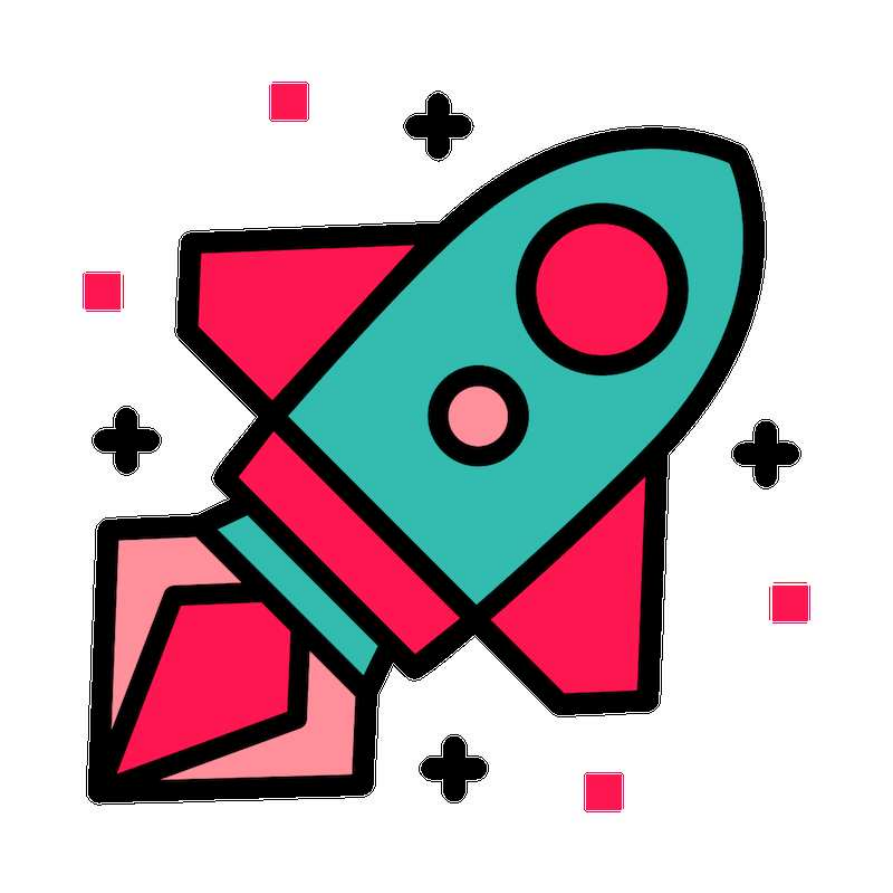
PRO: It's often faster than MRI.



https://pragtob.wordpress.com

/2017/01/24/benchmarking-a-go-ai-in-ruby-cruby-vs-rubinius-vs-jruby-vs-truffle-a-year-later/

. . . Although, nowhere near as fast as TruffleRuby apparently, also on the JVM.



http://chrisseaton.com/rubytruffle/

So let's just use TruffleRuby, right?

- No OpenSSL support
- No Nokogiri
- No ActiveRecord device drivers
- Only some of the Rails test suite passes

Maybe in a few years?

So let's stay with JRuby for now.
You can run (nearly) any normal Ruby code.

```
chris@nephesh ~ $ jruby -e '5.times {|i| puts "hi #{i}"}'
hi 0
hi 1
hi 2
hi 3
hi 4
```

It's easy to use use in scripts.

```
1 #! /usr/bin/env jruby
2 # -*- mode: ruby -*-
3
4 puts "Hello, JVM!"
```

Most Ruby gems are available and work.

```
chris@nephesh ~ $ jgem install nokogiri
```

```
#! /usr/bin/env jruby
# -*- mode: ruby -*-
require 'nokogiri'
doc  = Nokogiri::XML \
          "<root>
␣␣␣␣␣␣␣␣␣␣␣␣<aliens>
␣␣␣␣␣␣␣␣␣␣␣␣␣␣␣␣<alien>
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␣␣␣␣␣␣␣␣␣␣␣␣␣␣␣␣</alien>
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␣␣␣␣␣␣␣␣␣␣</root>"
puts doc.xpath("//name").first.content # Alf
```

Questions?