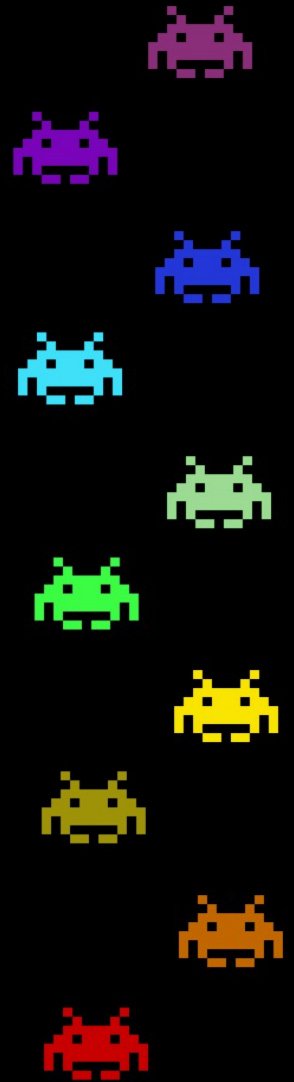


# Migrating to Puppet 4

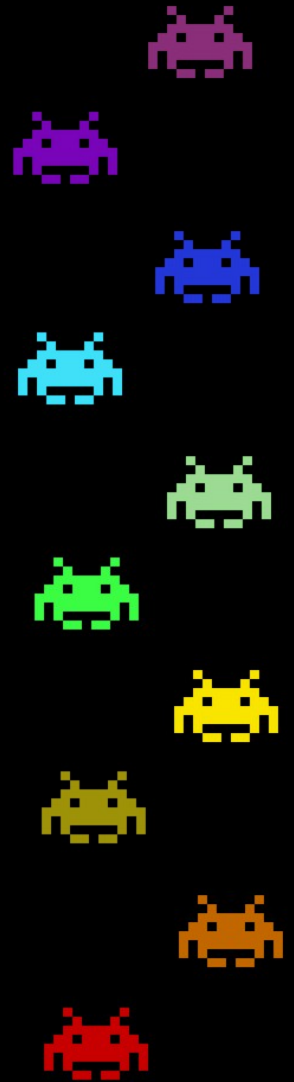
## The Future (Parser) is now!

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# About Me

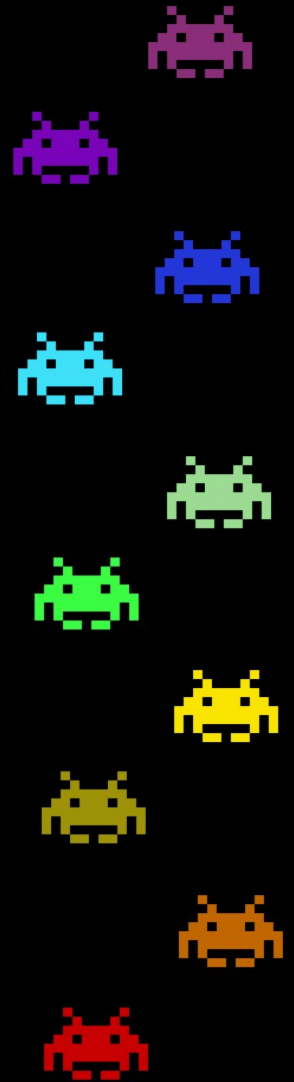
- Freelance Sysadmin
- Red Hat Architect & Instructor
- Puppet Forge Contributor
- (and more!)



# Puppet's Future Parser

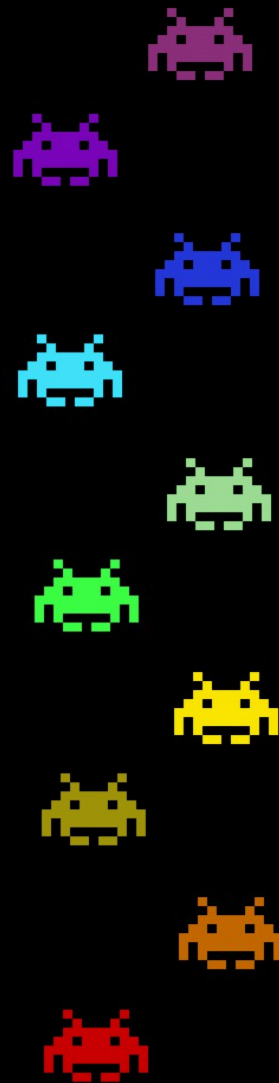
- Introduced in Puppet 3.x
- Identical to 4.0 in 3.7.5+

*Over the course of the 3.x series, Puppet has included work-in-progress releases of a rewritten Puppet language, which can be enabled with a setting. This revised language includes **significant breaking changes**, major additions, and a new underlying implementation.*



# What's Cool About the Future Parser

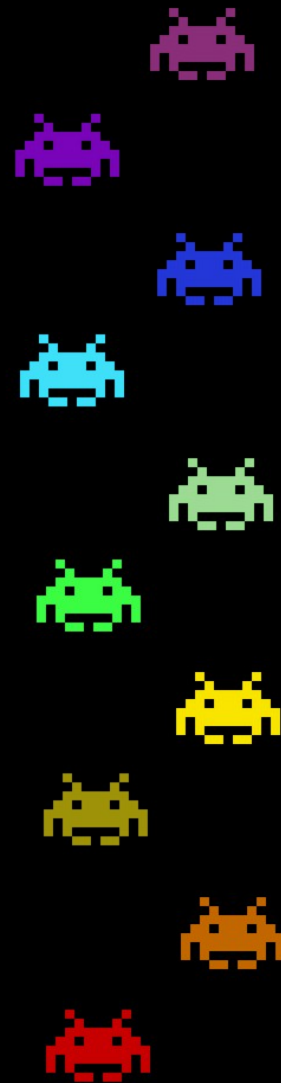
- Generally faster
- Cleaner and More Consistent Behavior
- Better Data Type Enforcement
- Lambdas and Iteration (woohoo!)
- Can be enabled in `environment.conf`



# What's Tricky About Switching

- Nothing if your code is perfect
- Not much if your code is clean
- A lot if your code is a mess

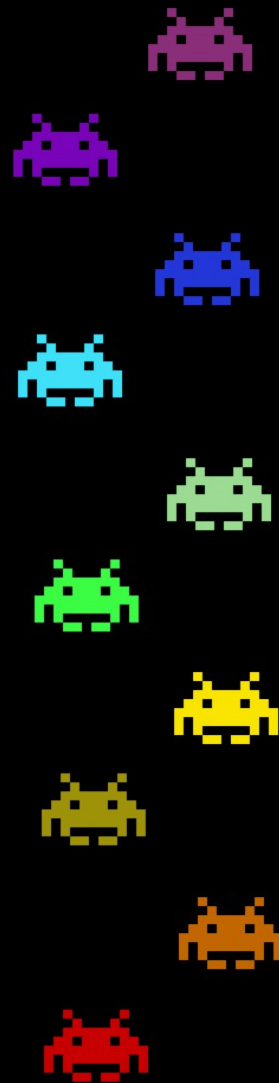
*The Devil is in the details*



# Real World Issue n°1

- Future Parser activated
- Catalog compiles
- No errors and no changes applying
- Puppet runs are MUCH faster

...something is wrong!



# Real World Issue nº1

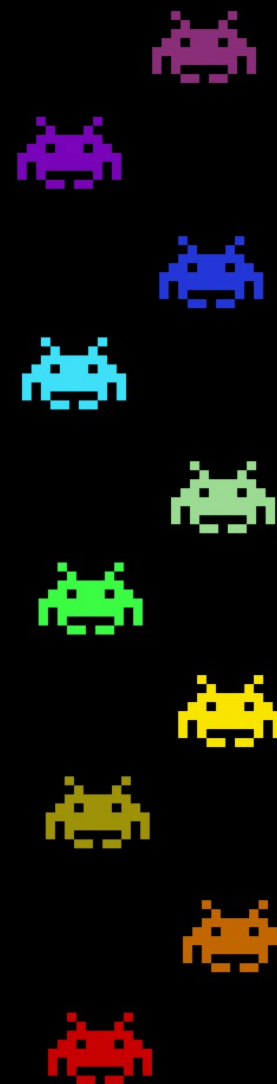
```
hiera_include('classes') ... broke!
```

```
include(hiera_array(classes, []))
```

```
... works around it
```

PUP-4046

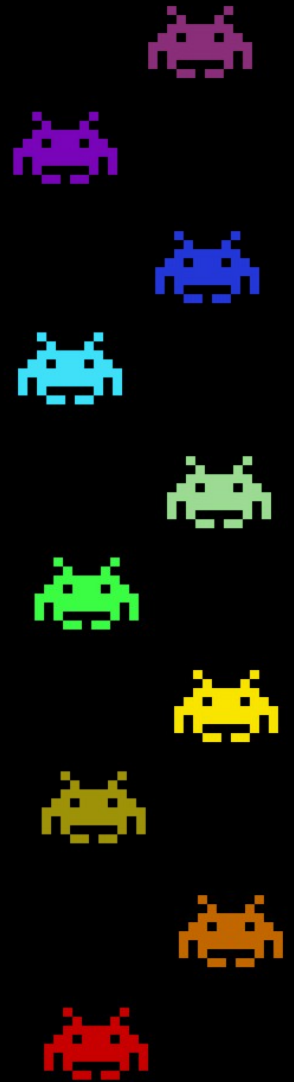
Affects all 3.7, fixed in 3.8 and 4.0.



# Real World Issue n°2

- Future Parser activated
- Catalog compiles
- No errors and no changes applying
- Some resources seem to be unmanaged

...something is wrong!

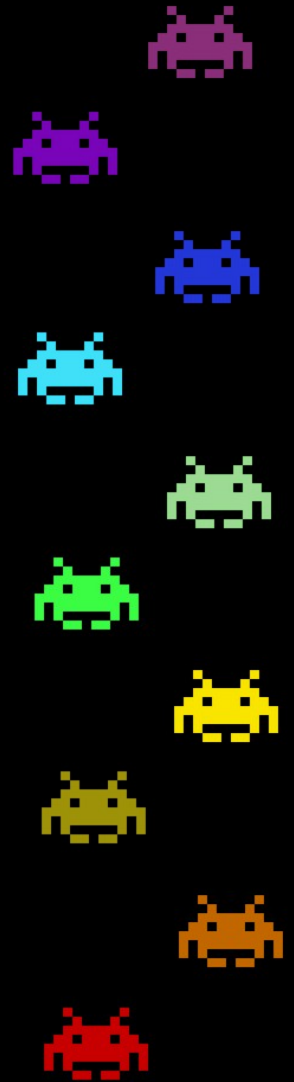




# Real World Issue n°2

- Facts have types
- Empty string is now true

```
if $::factname == 'true' { ... } # Broke  
# Still works if absent instead of  
'false'  
if $::factname { ... }
```

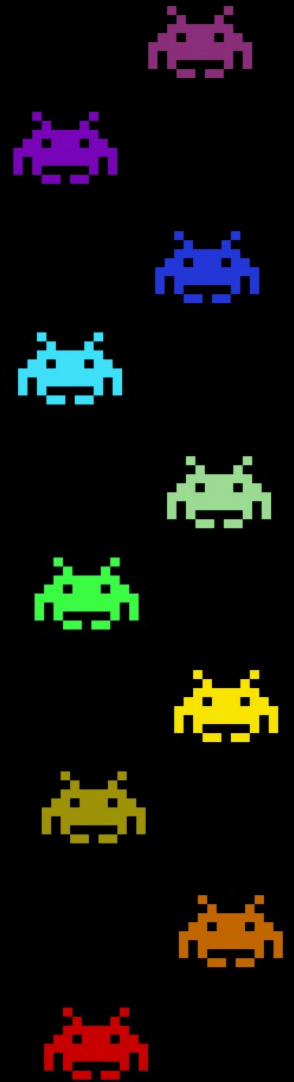


# Real World Issue n°3

- The catalog doesn't compile.

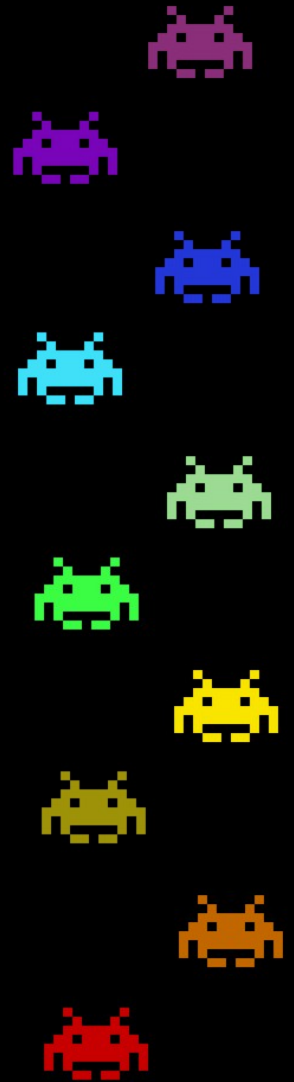
*"The Puppet Update broke the code!"*

... No : The code is the problem.



# Real World Issue nº3

- Strict(er) types (string comparison)
- Hyphens in module/class/define names
- First letter uppercase or underscore in variable names
- Unquoted strings or file modes



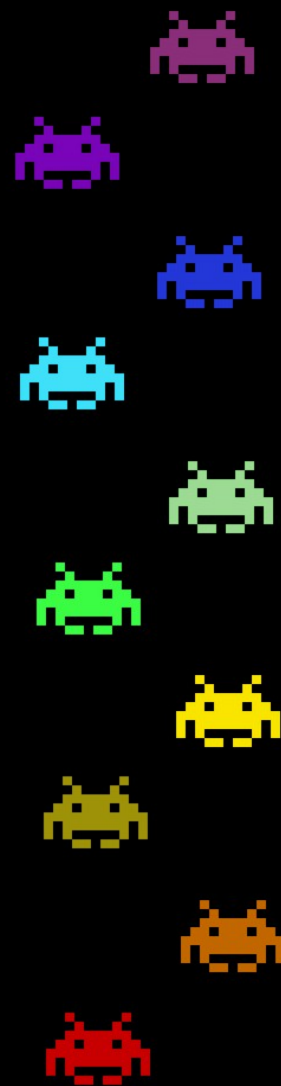
# Demonstrations

1.Naming Deprecations

2.Fact Types

3.Comparison (different Types!)

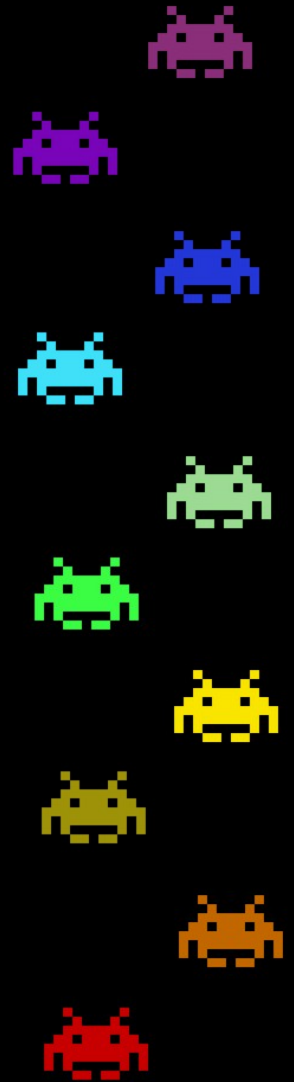
4.Iteration



# General Advice

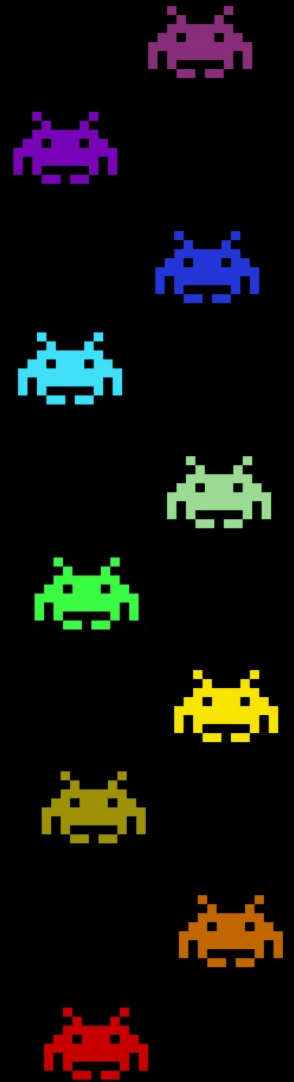
- Write Tests (future presentation? :-))
- Use puppet-lint
- Re-install nodes from scratch

Undetected problems are the worst,  
do all you can to prevent them.



# References

- [https://docs.puppetlabs.com/puppet/latest/reference/experiments\\_future.html](https://docs.puppetlabs.com/puppet/latest/reference/experiments_future.html)
- <http://puppet-lint.com/>



Thank You!  
And good luck for the future

(I'm hiring, ask me about it if you're interested)

Matthias Saou <matthias@saou.eu>

