Why Class. `forName` sucks!

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Static Class Loading

• class loading constraints \(^{[1]}^{[2]}\)
  - Foo \(f = \) FooFactory.\(\text{createFoo()}\)

• Foo.\(\text{class}\)
  - Class.\(\text{forName("Foo")}\)
  - class constant pool entry

Dynamic Class Loading

- `Class.forName`
- `ClassLoader.loadClass`
Initiating class loader

loadClass

Defining class loader

defineClass
Class.forName bleeds static constraints onto dynamic loading

Same internal VM method used to handle static class loads and dynamic class loads via Class.forName
Class.forName Issues

- Initiating class loader also caches defined class along with loader constraints

- If class is cached by initiating class loader
  - `initiatingClassLoader.loadClass` is never called
Class.forName(String)

- not so bad since it will likely use bundle's class loader as initiating class loader
- Class.forName(String, true, callersClassLoader)

Class.forName(String, boolean, ClassLoader)

- When ClassLoader is the thread context Class Loader is the issue!
Equinox's ContextFinder

• Thread Context Class Loader
• Never defines classes
• Delegates to bundle's class loaders based upon the call context
• Wrong results returned when multiple versions of classes present
Recommendation

• Use `ClassLoader.loadClass` in your code

• Or `Bundle.loadClass` if you know the bundle containing the class
Hack?
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