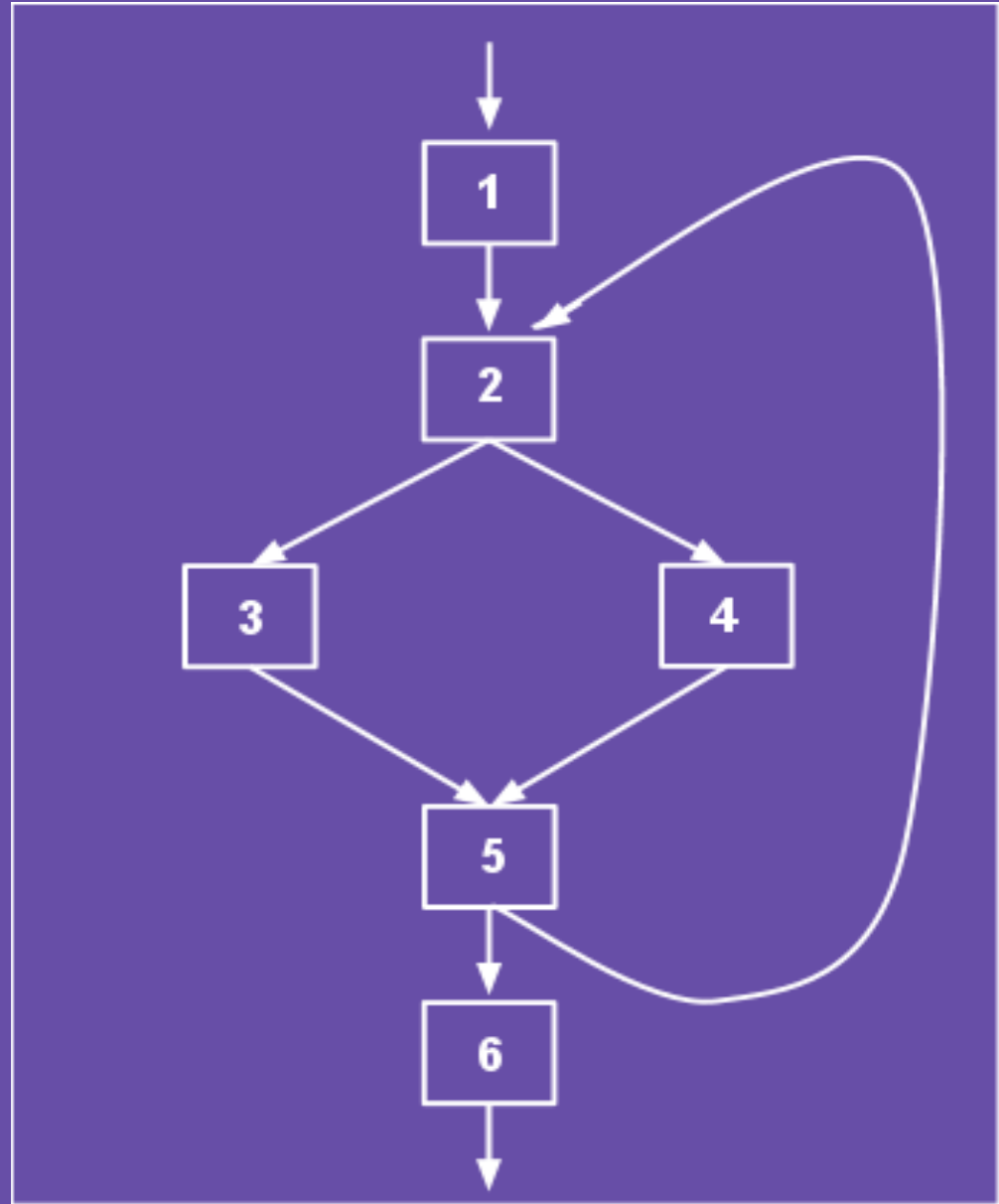


jvmttracejit

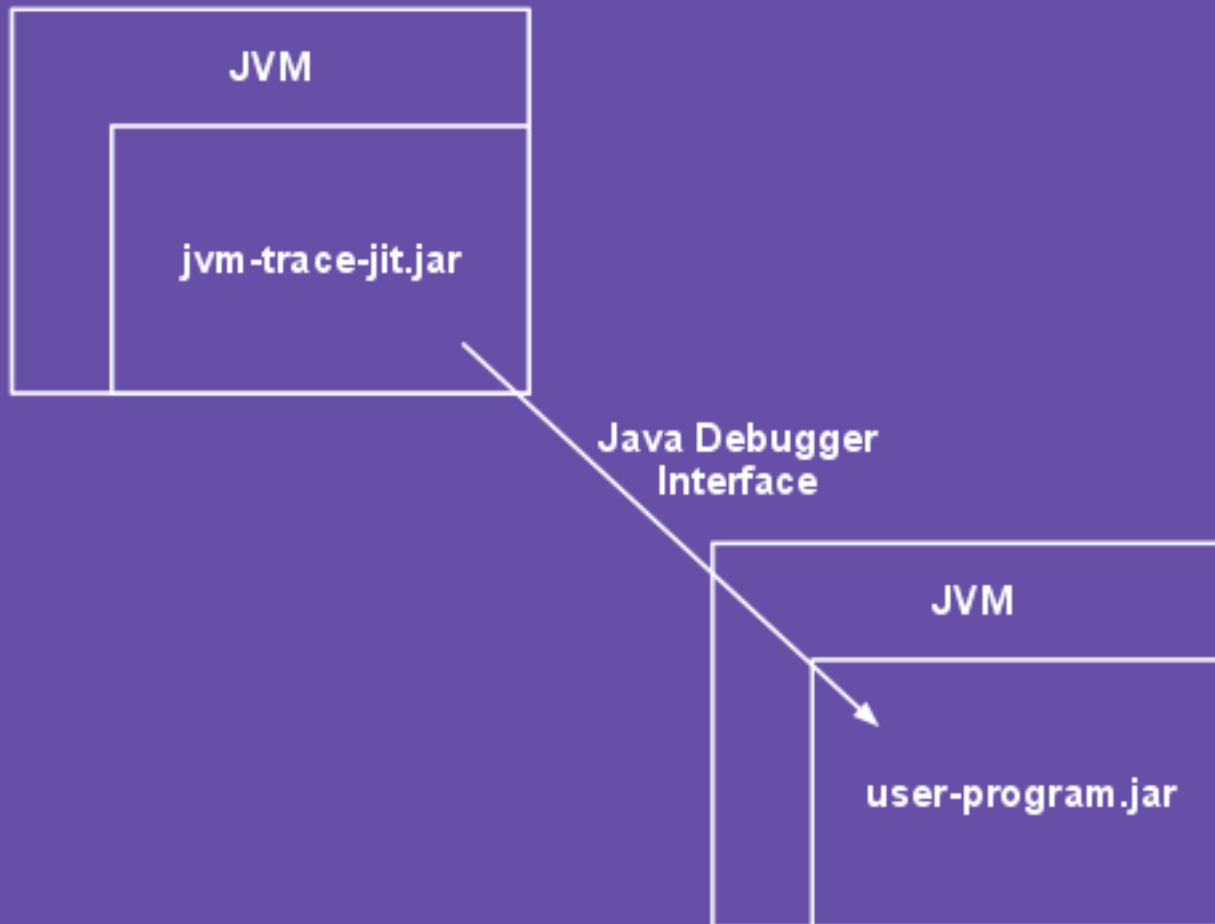
a trace-jit compiler for the JVM that
runs at the application level

What is a trace-jit compiler?

```
...  
do  
{  
  if (condition1)  
  {  
    ...  
  }  
  else  
  {  
    ...  
  }  
} while (condition2);  
...
```



Architecture



Case 1: Branches

- Direct branch: goto*, *return
- Indirect Branch: jsr*, ret
- Conditional Branch: if*, tableswitch

Case 2: Methods

- `invokeMethod`
- `invokeStatic`
- `invokeSpecial`
- `invokeInterface`

Case 3: Bytecode verification

How to access private members?

- Use `-Xbootclasspath/p`
- Inject a Java agent

Case 4: Bytecode expressiveness

How to jump back to lukewarm code?

- Inline the lukewarm code
- Use exceptions
- Use thunks

Case 5: Exceptions

How to deal with thrown exceptions?

Future Work

- Complete the project
- Implement tree-folding
- Handle multiple threads

Questions?

Contact

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