Handling Native Methods
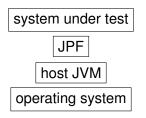## EECS 4315

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Native Peers

Native peers are the JPF analogue of native code.

```
system under test
     JPF
  host JVM
operating system
```

Native peers are executed by the host JVM (recall that model classes are executed by JPF).

MJI is the JPF analogue of JNI. It provides the infrastructure for interaction between JPF and the host JVM when executing a native peer.

Naming

MJI uses a specific name pattern to establish the correspondence between the original class (containing the native method) and its native peer, similar to JNI.

```
package java.lang;

public class StrictMath
```

corresponds to

```
package gov.nasa.jpf.vm;

public class JPF_java_lang_StrictMath
  extends NativePeer
```

MJI uses a specific name pattern to establish the correspondence between the original class (containing the native method) and its native peer, similar to JNI.

```
public static native double sin(double a);
```

corresponds to

```
@MJI
public double sin__D__D(MJIEnv env,
   int clsObjRef, double a)
```

Naming

boolean	Z
byte	B
char	C
short	S
int	I
long	L
float	F
double	D

To ensure that JPF uses the native peer, rather than the original class, we need to add the native peer to the host JVM's classpath. Note that we do not have to change the application properties file.