

- Is it true that invoking methods in interface are slower than invoking it within the abstract class?

No, it is not significantly slower. In modern JVM, method calls to interface methods are not noticeably slower than calls to abstract class methods especially after Just-In-Time compilation.

In very old version of the JVM, interface method calls required dynamic dispatch that wasn't as optimized at all. Abstract class had more direct method resolution and thus were slightly faster.

Code:

```
interface Animal {  
    void speak();  
}  
  
class Dog implements Animal {  
    public void speak() {  
        System.out.println("Woof");  
    }  
}
```

```

abstract class Creature {
    abstract void speak();
}

class Cat extends Creature {
    public void speak() {
        System.out.println("Meow");
    }
}

```

```

public class test {
    public static void main(String[] args) {
        Animal dog = new Dog();
        Creature cat = new Cat();

        long start1 = System.nanoTime();
        dog.speak();
        long end1 = System.nanoTime();

        long start2 = System.nanoTime();
        cat.speak();
        long end2 = System.nanoTime();
    }
}

```

```

System.out.println("Interface call time: " + end1 - start1);
// 50669000ns

```

```

System.out.println("Abstract call time: " + end2 - start2);
// 6229900ns
}
}

```