Migrate to Android Studio 3.0

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Migrate an example project

- https://github.com/rockerhieu/x1f638

Upgrade Gradle version

Update the URL in `gradle-wrapper.properties` as follows:

```
distributionUrl=\
  https\://services.gradle.org/distributions/gradle-4.1-all.zip
```

Upgrade Android Gradle plugin

```
buildscript {
  repositories {
    google()
  }

  dependencies {
    classpath 'com.android.tools.build:gradle:3.0.0-beta5'
  }
}
```

Use Flavor Dimension

- Skip if you don't use build flavor

- Specifies the flavor dimensions you want to use

- Assign product flavor to one of the flavor dimensions

Use Flavor Dimension

```
android {
  ...
  buildTypes {
    debug {...}
    release {...}
  }

  flavorDimensions "color"

  productFlavors {
    black {
      dimension "color"
      ...
    }

    yellow {
      dimension "color"
      ...
    }
  }
}
```

New dependency configurations

- Replace compile with implementation

- If fail, replace implementation with api

- Replace provided with compileOnly

- Replace apk with runtimeOnly

Annotation processing

Replace apt with annotationProcessor

```
dependencies {
    ...
    annotationProcessor 'com.google.dagger:dagger-compiler:<version-number>'
}
```
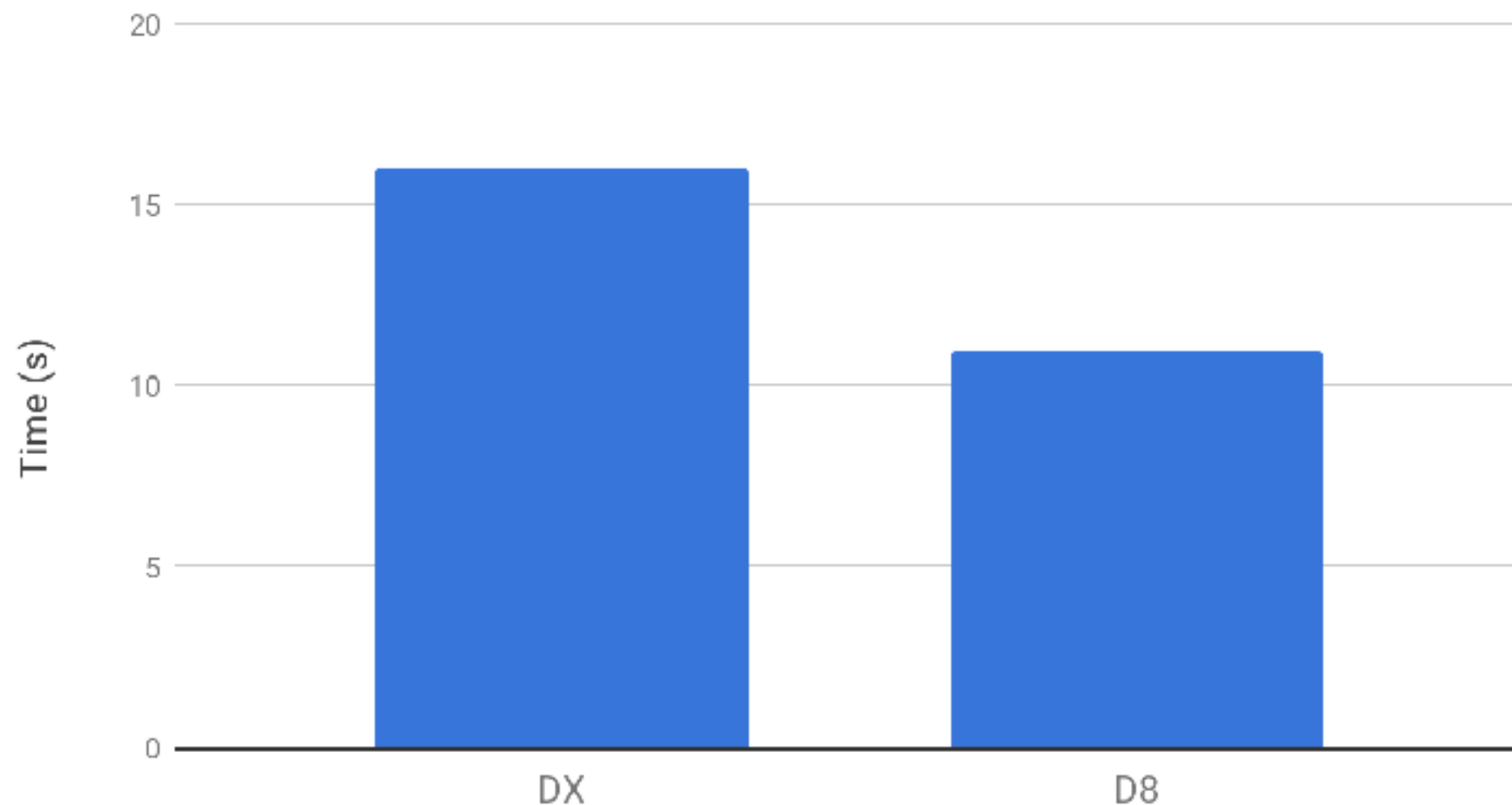
Java 8 support

```
android {

    ...

  compileOptions {
    sourceCompatibility JavaVersion.VERSION_1_8
    targetCompatibility JavaVersion.VERSION_1_8
  }
}
```

D8 support (beta)

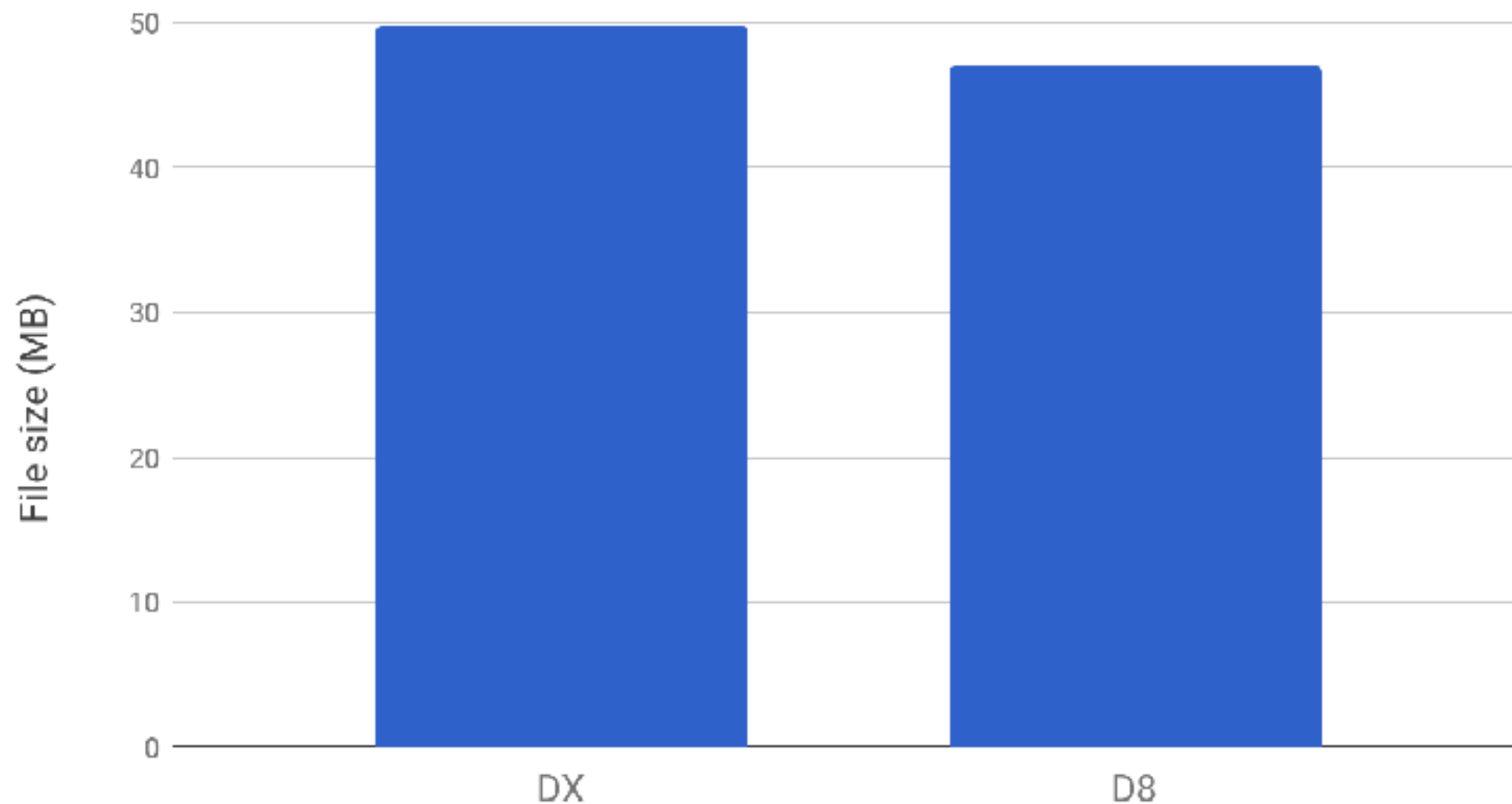**https://android-developers.googleblog.com/2017/08/next-generation-dex-compiler-now-in.html**

Dex Compilation Time: DX vs D8

D8 support (beta)

https://android-developers.googleblog.com/2017/08/next-generation-dex-compiler-now-in.html

.dex file size: DX vs D8

D8 support (beta)

How to try it?

```
// gradle.properties

android.enableD8=true
```

AAPT2

```
// gradle.properties

android.enableAapt2=true
```

Kotlin

```
// root build.gradle

buildscript {
  repositories {
    ...
  }
   dependencies {
    classpath "org.jetbrains.kotlin:kotlin-gradle-plugin:$kotlin_verson"
  }
}
```

Kotlin

```
// project build.gradle

apply plugin: "kotlin-android"

...


dependencies {
  ...
  compile "org.jetbrains.kotlin:kotlin-stdlib-jre7:$kotlin_version"
}
```

Annotation Processing

```
// project build.gradle

apply plugin: "kotlin-android"
apply plugin: "kotlin-kapt"
```

Replace annotationProcessor with kapt

Databinding

```
// project build.gradle

apply plugin: "kotlin-android"
apply plugin: "kotlin-kapt"

...

dependencies {
  ...
  kapt "com.android.databinding:compiler:3.0.0-beta5"
}
```

Learn Kotlin?

- Android Studio 3.0

- http://slack.kotlinlang.org/

- https://kotlinlang.org/

- https://github.com/Kotlin/kotlinx.coroutines

- DSL

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Q&A

- https://github.com/rockerhieu/