Android Source Code Guide

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# Android系统启动过程

<https://www.ibm.com/developerworks/cn/linux/l-linuxboot/>

Linux系统启动

BIOS 固定地址引导程序

--> stage 1 512B加载程序

--> stage2 GRUB

--> 解压内核并运行 Head.s: startup\_32

--> start\_kernel

--> setup\_arch/rest\_init/trap\_init/init\_IRQ

--> kernel\_thread --> init

main.c: init

--> do\_basic\_setup

--> sock\_init/do\_initcalls

init.c: paging\_init

-->pagetable\_init

　 physmem.c: init\_maps

startup\_32

---> decompress\_kernel

---> startup\_32 (/arch/i386/kernel/head\_32.S) <进程 0>

---> i386\_start\_kernel

---> start\_kernel

---> rest\_init

---> kernel\_thread <进程 1>

---> do\_fork

---> kernel\_init

---> sys\_access

---> init\_post

---> run\_init\_process(ramdisk\_execute\_command); = '/init'

---> init.rc / init.xx.rc

---> service adbd /sbin/adbd

---> service servicemanager /system/bin/servicemanager

---> service ril-daemon /system/bin/rild

---> service surfaceflinger /system/bin/surfaceflinger

---> service zygote /system/bin/app\_process -Xzygote /system/bin --zygote --start-system-server

---> run\_init\_process(execute\_command);

---> run\_init\_process("/sbin/init");

---> run\_init\_process("/etc/init");

---> run\_init\_process("/bin/init");

---> run\_init\_process("/bin/sh");

---> cpu\_idle

ZygoteInit -> Main Zygote启动

---> registerZygoteSocket

---> new LocalServerSocket

---> preload

---> preloadClasses

---> preloadResources

---> preloadOpenGL

---> gc

---> startSystemServer 启动SystemServer

---> Zygote.forkSystemServer

---> nativeForkSystemServer 通过JNI调用native代码

---> Dalvik\_dalvik\_system\_Zygote\_forkSystemServer

---> forkAndSpecializeCommon

---> fork()

---> SystemServer.main

---> nativeInit

---> ServerThread.initAndLoop

---> new DisplayManagerService

---> new TelephonyRegistry

---> new PackageManagerService

---> new ServiceManager

---> new BatteryService

---> new VibratorService

---> new WindowManagerService

---> new WifiService 启动WifiService

---> new ConnectivityService 启动ConnectivityService

---> handleSystemServerProcess

---> RuntimeInit.zygoteInit

---> commonInit

---> nativeZygoteInit

---> applicationInit

---> runSelectLoop

---> closeServerSocket

# Android应用启动过程



# Binder机制

# AudioFlinger

# MultiMedia框架