



Android 系統架構



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Android 系統架構

Applications

Application Framework

Binder Inter-Process-Communication (IPC) Proxies

System Services

Hardware Abstraction Layer

Linux Kernel



APPLICATION FRAMEWORK

BINDER IPC PROXIES

ANDROID SYSTEM SERVICES

MEDIA SERVER

AudioFlinger

Camera Service

MediaPlayer Service

Other Media Services

SYSTEM SERVER

Search Service

Activity Manager

Window Manager

Other System Services
& Managers

HAL

Camera HAL

Audio HAL

Graphics HAL

Other HALs

LINUX KERNEL

Camera Driver

Audio Driver
(ALSA, OSS, etc.)

Display Drivers

Other Drivers



Hardware Abstraction Layer (HAL)



AUDIO



CAMERA



BLUETOOTH



DRM



EXTERNAL
STORAGE



GRAPHICS



INPUT



MEDIA



SENSORS



TV

Dalvik

Android 虛擬機

Android 執行期

.dex(dx 編譯器)

.apk(Packager)

Android Runtime (ART)

Android 虛擬機

Google 開發的新式執行期

Android 4.4 就可選用

提高程式執行效率

Android Runtime (ART) II

Ahead-of-time (AOT) compilation

Improved garbage collection

Development and debugging improvements

- Support for sampling profiler

- Support for more debugging features

- Improved diagnostic detail in exceptions and crash reports