

ST-Ericsson Android Effort

Linaro Connect Copenhagen 2012



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ST-Ericsson Platform Offering



Power and Performance Optimized, fully integrated and verified Android solution Android compliance testing, CTS and GTS using GMS applications

Performance and stability testing of the full system

Optimized key Android use cases.

Key 3rd party SW preintegration and testing, e.g. secure content playback

Core Software

Full hardware enablement & integration. Optimized Thermal and Power Management

Multimedia Software

Display & graphics, codec acceleration, camera/isp etc.

Tools

Flash, Debug, Modem Trace, Img tuning, Audio Calibration



Complete form factor reference design

APE, Modem, RF, Connectivity

Reference Sensors

Compass, Accelerometer, Gyroscope etc.

Reference camera and display integration and optimizations

Connectivity certified GPS/GLONASS, Bluetooth,

GPS/GLONASS, Bluetooth WiFi, USB, HDMI, NFC

Complete Platforms for Smartphones and Tablets



ST-Ericsson Android Effort



- Power and Performance Optimizations in Android
 - Bionic
 - NEON and ARM optimizations to e.g. memcpy, memcmp, memset, ffs
 - Dalvik
 - JIT optimizations in the code generator
 - Power management
 - General software improvements OpenGL ES drivers, VP8, WebM, CPU freq etc.
- Feature Additions in Android
 - FM radio solution including Android API
 - Bluetooth profiles
 - WIFI features



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- Performance Optimizations in Web Browser Experience
 - Hardware accelerated HTML5 canvas
 - V8 Java script engine optimizations
 - Skia optimized blitters
 - Jpeg decode optimizations
 - NEON optimization of IDCT and color conversions

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- Feature Additions in Web Browser Experience
 - WebGL enablement



Small, Aggressive, Tactical, Moveable...



- Kernel switch, Android upgrades
 - Speed, flexibility, being agile and open to change
 - Information and knowledge is key
- How?
 - Clear strategy to align and work with communities
 - · Contribute, release early and often
 - Continuous refactoring and sw alignment to be as close as possible
 - Way of working Git, repo, gerrit, gcc tool chain, Android build system...
 - Clear processes, guidelines, infrastructure and tools to support and help developers
 - Measure and track, patch review with upstream in mind

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Develop and maintain a strong open source awareness in the organization



Small, Aggressive, Tactical, Moveable...



- Embrace and work with the communities not against
 - Being close to Google and a valuable partner
 - Information sharing, boot camps, AOSP contributions

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- Anticipate, plan and start upgrade efforts as soon as possible
- Kernel alignment...
- Being a good community member
 - Kernel.org
 - Android Open Source Project
 - BlueZ and other communities
- Linaro



Thank you

