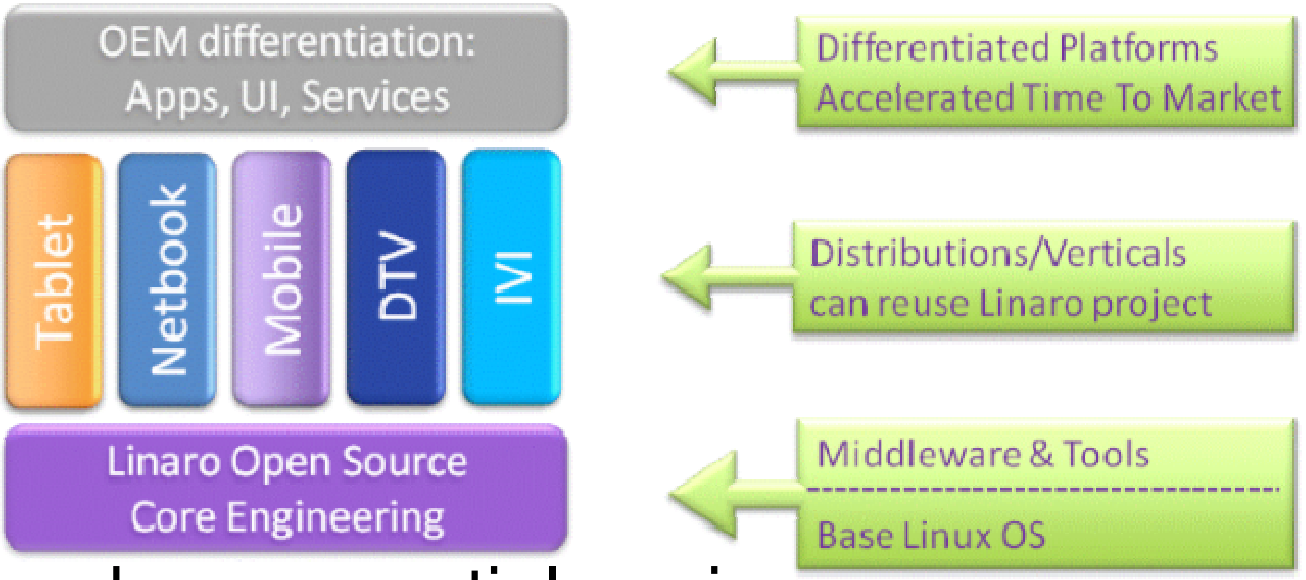
Linaro™ Update

Software Solutions for an Open Digital World

About Linaro

- Our purpose is to:

  "Make it easier for ARM partners to deploy the latest, optimized technology into Linux based products"



- Linaro does essential engineering
  - Relevant to multiple verticals markets
  - Relevant to multiple distributions

Linaro

Linaro launch

- Industry leaders creating the future
  - Launch at Computex created significant global news
  - ~150 News article with positive sentiment to Linaro (incl WSJ, FT, nationals)
  - Key message: ARM, IBM, Freescale, Samsung, ST-Ericsson and TI investing to deliver the best Linux on ARM and reduce low level fragmentation

ARM 等 6 大業者攜手成立新公司

台北國際電腦展(COMPUTEX)的影響力已經不再僅侷限於台灣代工業者硬體產品的代工生產製造，而是與全球資訊產業的脈動息息相關，為了強化採用 ARM 架構處理器終端設備今後的發展能力，由安謀(ARM)等 6 家業者共同成立了名為 Linaro 的新公司，將為晶片、系統及代工等方面的業者在進行 ARM 架構產品的開發上，提供更便捷的方式。

由右而左分別為：Linaro 執行長 Tom Lantzsch、ARM 全球總裁 Tudor Brown、IBM 亞太區微電子事業部系統暨科技事業群總經理 Sam Baker、Freescale 多媒體應用部產品管理總監 Ken Obuszewski、Samsung System SLSI Team 副總經理李政九、ST-Ericsson 台灣總裁黃茂原、TI 行動上網裝置事業部總經理 Seshu Madhavapeddy、Linux Foundation 執行總監 Jim Zemlin。 杜念香攝

ARM freescale semiconductor IBM SAMSUNG ST ERICSSON TEXAS INSTRUMENTS

Linaro

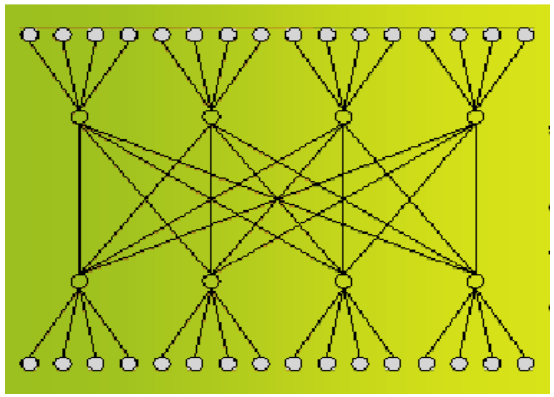
Linux-based Distributions and SoCs

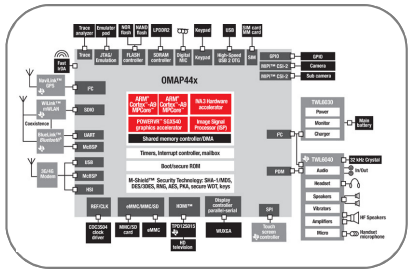
palm webOS

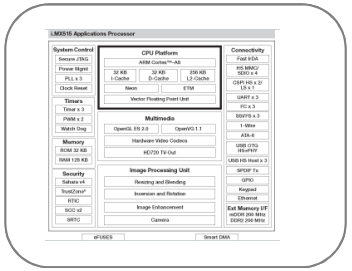
LiMo Foundation

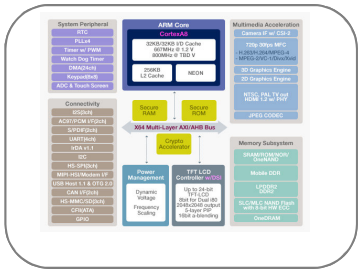
MeeGo

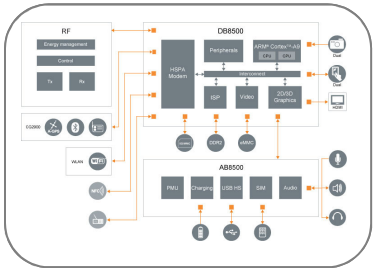
.... Dozens of Linux-based stacks











Advanced SoCs

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Texas Instruments

freescale semiconductor

SAMSUNG

ST Ericsson

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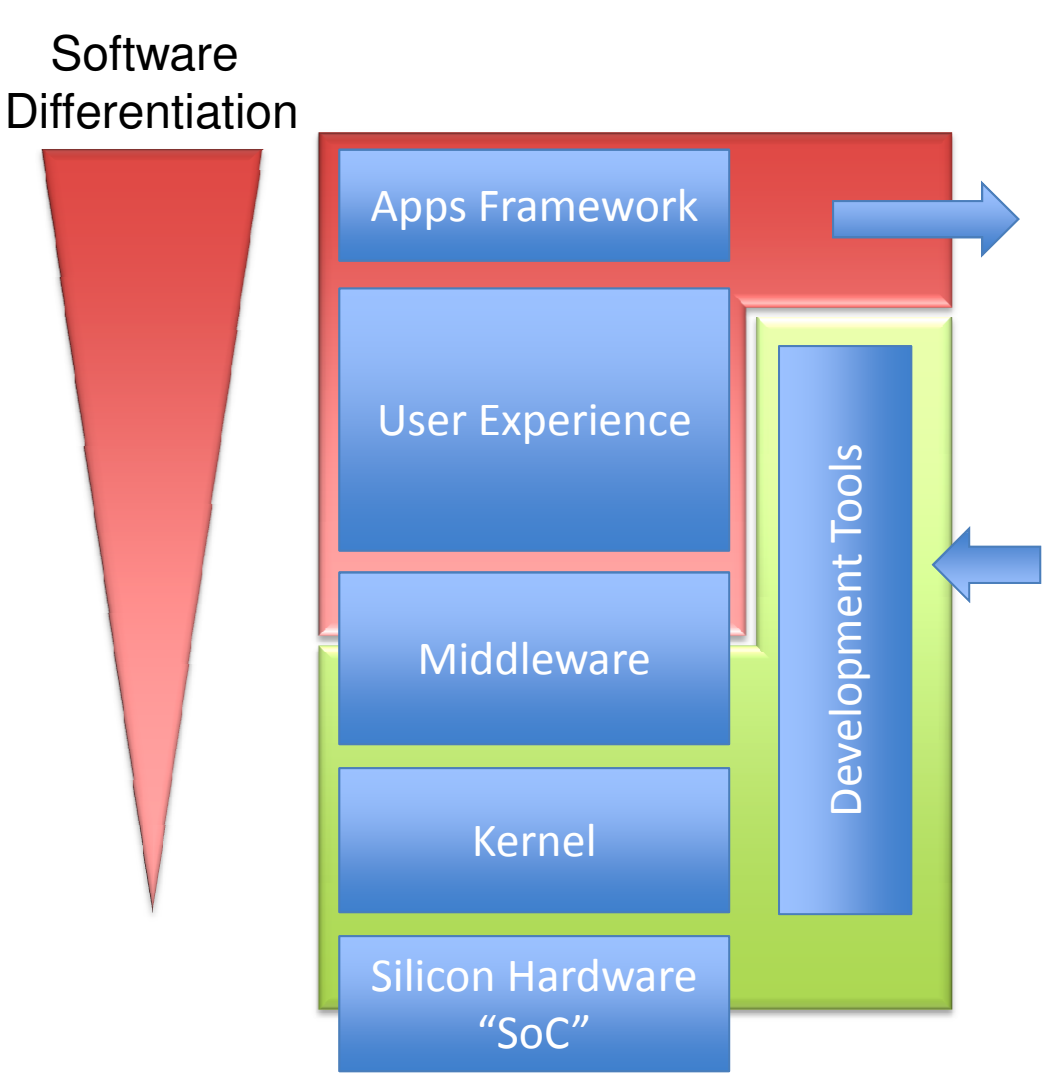
Where Linaro Adds Value



palm webOS

MeeGo

LiMo Foundation

Dozens of Linux-based stacks

Linaro Helps Distribution Creators

- Get a better base to start from
- Enabled on multiple ARM platforms
- More commonality, less fragmentatio

Linaro Helps Down Here

- Better tools to build optimal software
  - Used at all levels of the OS
  - Crucial to achieving best PPA
- Move toward a common kernel
- ARM optimized kernel & middleware
- Enabled on multiple silicon platforms

Linaro scope

Not Linaro

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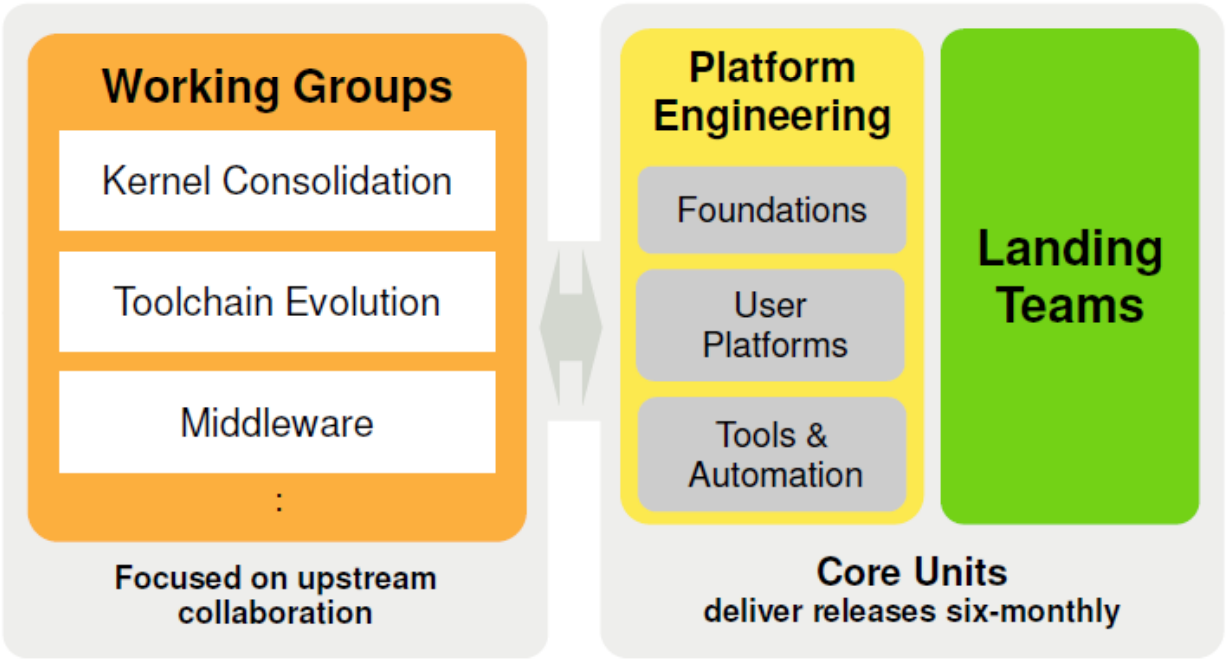
What does Linaro do?

- Aligned investment in upstream WGs – Solving problems
- Staging tree/release every six months – Early access to good code/tools
- Assist ARM SoC vendors to leading edge of open source & landing Linaro software on latest SoCs



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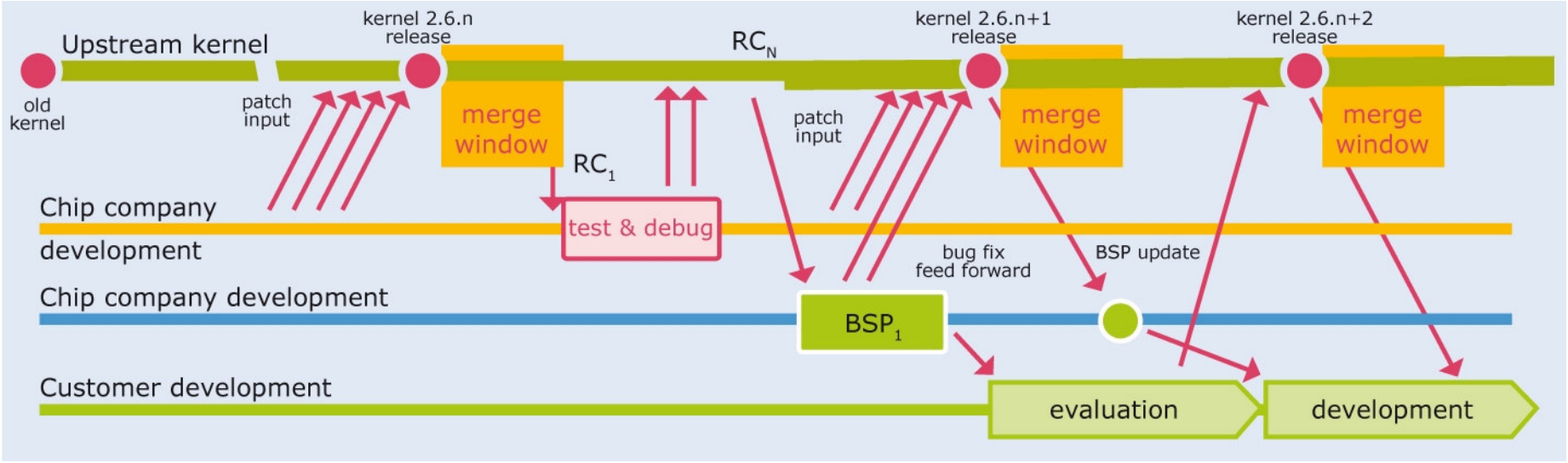
Keeping up with open source

- Kernel and tools versions increment every few months
- Linaro can help Silicon partners upstream software support for latest SoCs
- Having good support at leading edge of Upstream makes it easier for device manufacturers (Better BSP shorter TTM)



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Developing Thought Leadership

- Working groups drive content innovation
- Six working strategic WG's
  - Kernel consolidation
  - Multimedia & graphics
  - Power management
  - Toolchain
  - Infrastructure
- More at https://wiki.linaro.org/FrontPage

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Downstream Distributions

- Linaro wants distributions to:
  - Influence Linaro deliverables
  - Include Linaro deliverables in products and services
- This can be achieved in a variety of ways
  - Loosely coupled [Advisory member]
  - Tightly coupled [Official launching partner]

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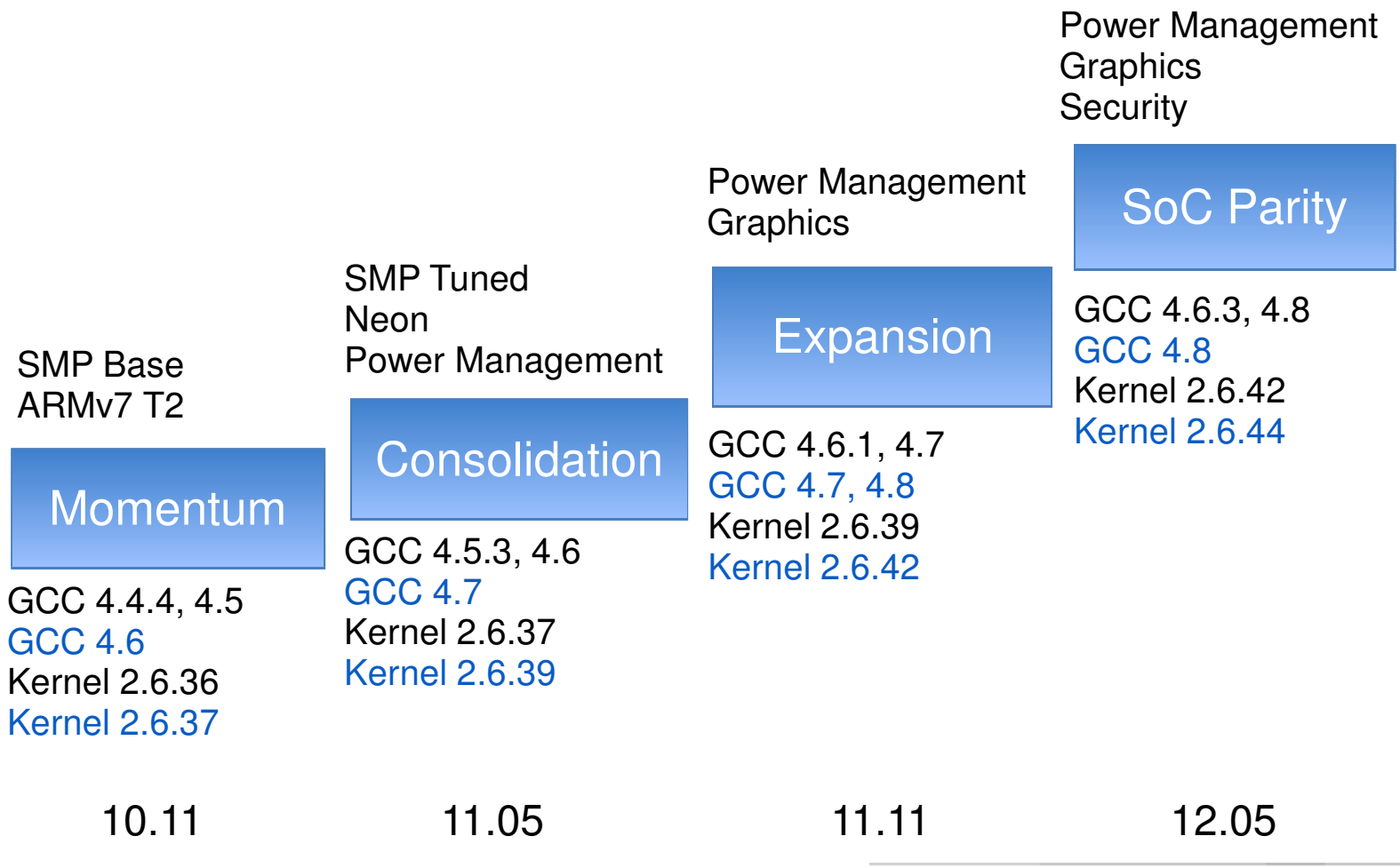
Distribution Involvement

- Loosely coupled
  - Take outputs from upstream or from Linaro
  - Influence technical direction via advisory role
- Closely coupled
  - Dedicated Launching team
    - Alignment of deliverable dates and content
    - De-risk implementation, prioritise bug fixes etc.
    - Develop infrastructure to link environments
  - Engineers participate in Linaro working groups

Roadmap


SMP Base
ARMv7 T2
Momentum
GCC 4.4.4, 4.5
GCC 4.6
Kernel 2.6.36
Kernel 2.6.37
SMP Tuned
Neon
Power Management
Consolidation
GCC 4.5.3, 4.6
GCC 4.7
Kernel 2.6.37
Kernel 2.6.39
Power Management
Graphics
Expansion
GCC 4.6.1, 4.7
GCC 4.7, 4.8
Kernel 2.6.39
Kernel 2.6.42
Power Management
Graphics
Security
SoC Parity
GCC 4.6.3, 4.8
GCC 4.8
Kernel 2.6.42
Kernel 2.6.44
10.11
11.05
11.11
12.05

Linaro for complete value chain

- We want MNOs,OEMs and Silicon partners to use Linaro's engineering to make products that are faster and easier with better optimization
- Linaro is free expert OSS engineering
  - Leverage it by aligning and getting involved in WGs
  - Linaro members can steer the technical direction
- Linaro provides a common base of tools, kernel and middleware for multiple distributions

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Summary

- Linaro is investing in upstream, creating alignment and stable releases of tools and kernel
- Execution is our focus
  - Great code, delivered dependably
  - 10.11 release focus is mobile & mobile computing

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