

Nomadik™ The Ultimate Mobile Multimedia Processing Platform

25 June 2007

MPSoC'07



Nomadik® Application Space



Quantum

Pocket TV (DVB-H)



JOY



Smartphone



SPH-W2100



SCH-B560



SPH-B5600



SPH-B5650

**Mobile TV phone
(T-DMB)**



Video Phone



TS7000



MWN7000D

Mando

Mobile TV + Navigation (T-DMB)



MMS DECT phone

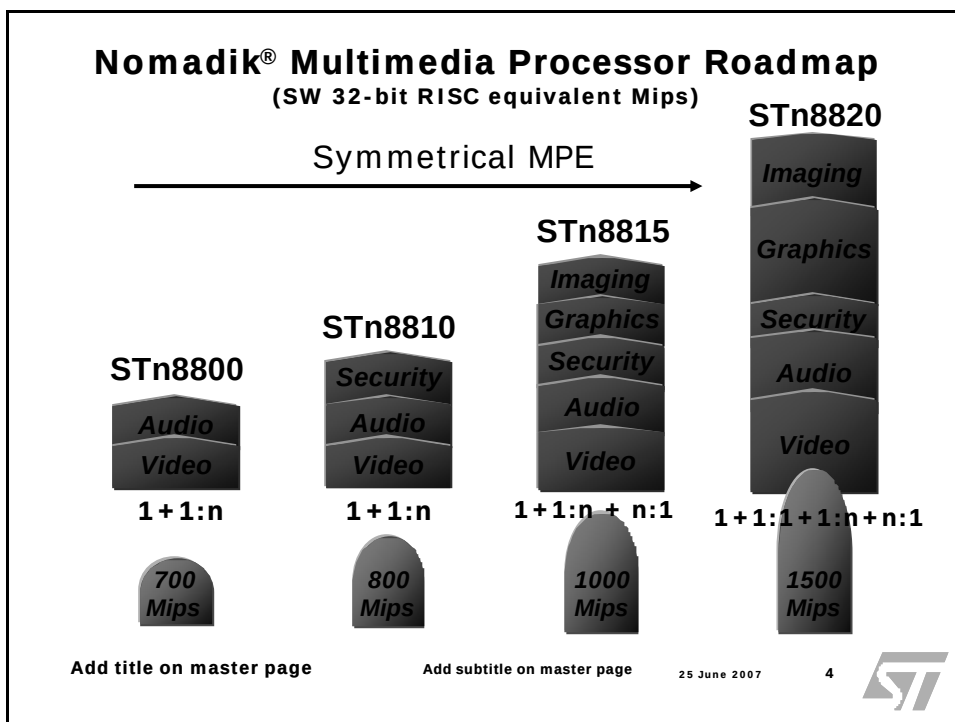
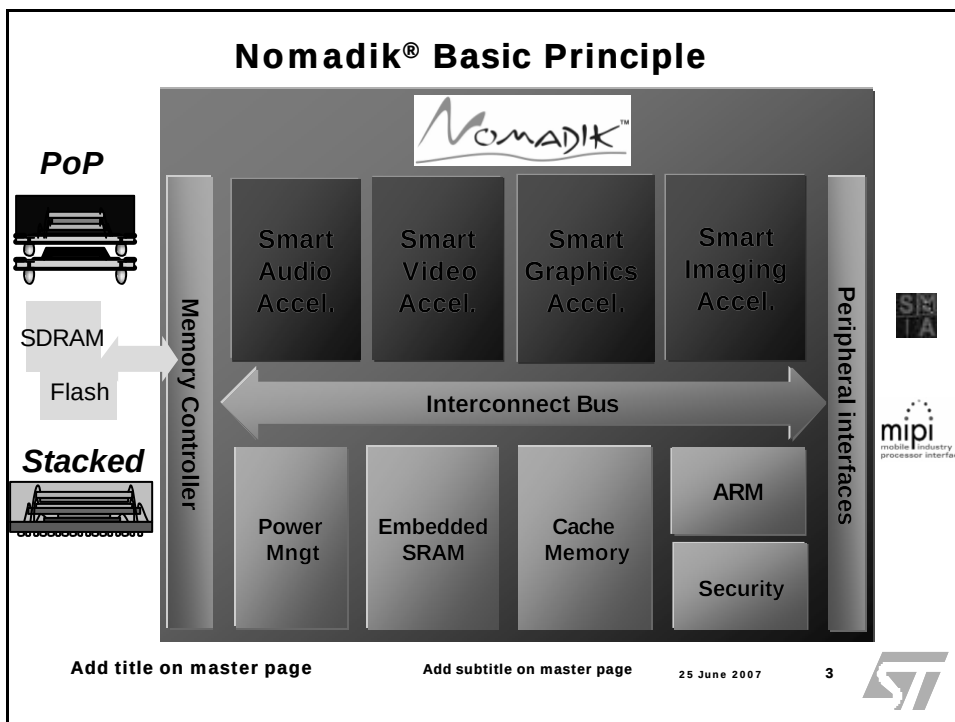
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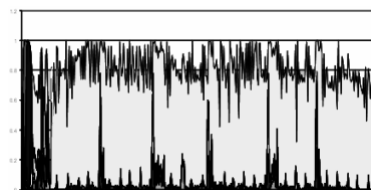
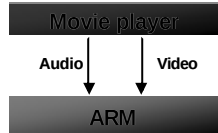
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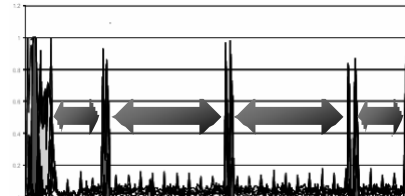
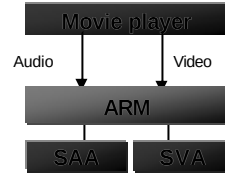


Why Multiprocessing

Standard Application Processor



ARM CPU Utilization



ARM CPU Utilization

ARM available for other tasks

Most effective PE(s) on the job

Best Power Profile

2.5-4 times less cycles

50%-60% better power

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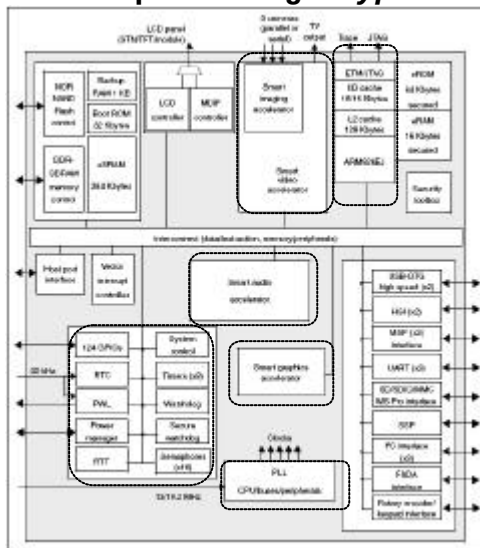
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Multiprocessing - byproducts (STn8815 Example)



ARM ? SxA P & MHz

SxA ? SyA P

Turn on just what is needed
... Runtime!

DVFS on ARM

Modulate CPU P&MHz

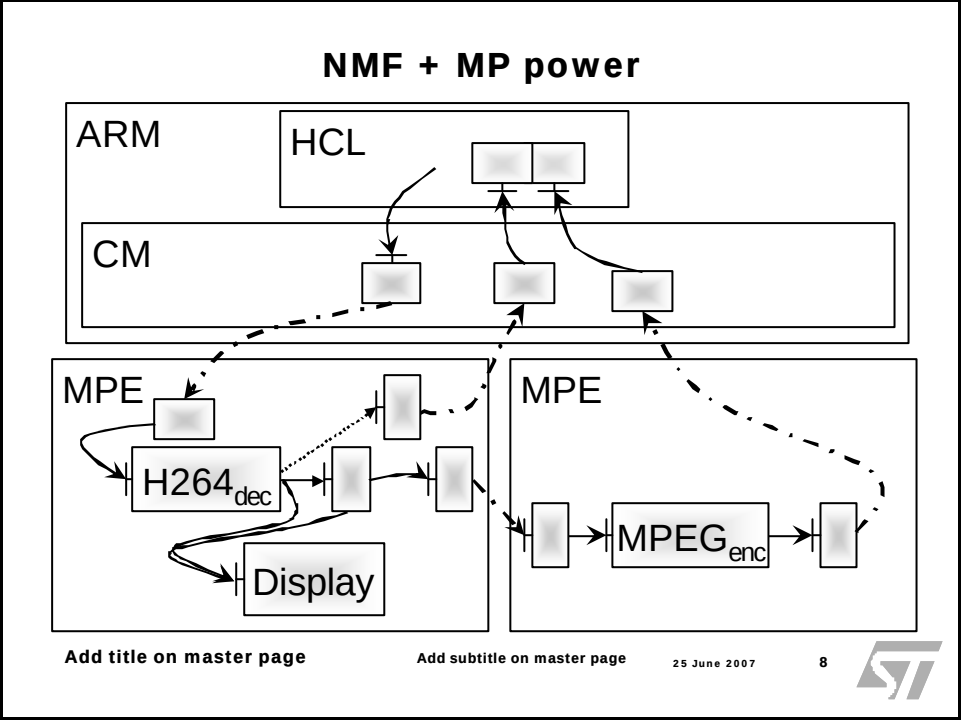
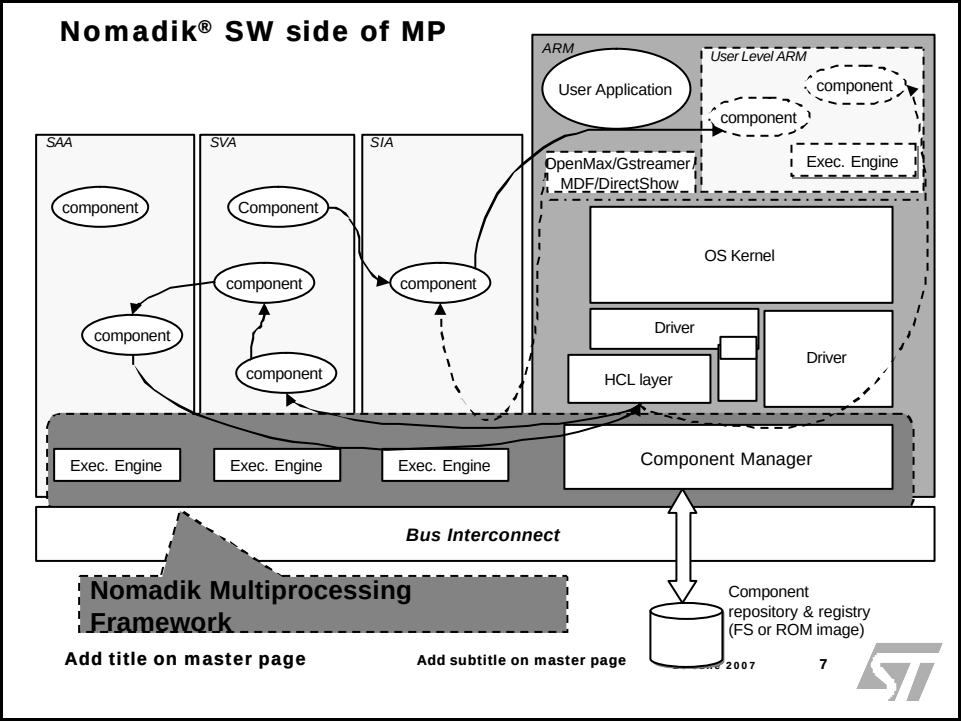
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Where Next – Envisioned trends

- Packetize on chip communication (NoC)
 - GALS links management
 - QoS management
 - Ultra Low Power
 - System Resilience & Re-configurability
- Increase number and symmetry of MPE
 - Co-operative distributed computing
 - Interchangeable MPE / SMA combinations
 - Average vs. Pick performances trade-offs
- Innovative memory hierarchies
 - Data Localization
 - Data compression
 - Data streaming among PE's

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