

Kalray

MPPA[®], a New Era of Processing

June 2012

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The electronic industry paradox

Only few products can get the performance advantages of advanced silicon technologies

- **Development cost** of dedicated ICs (ASICs) becomes unaffordable for most applications
- **Development time** of dedicated ICs (ASICs) reaches market visibility
- Programmable ICs (FPGAs, DSPs) reach their **limits of performance** (programmability, power consumption, cost)

Multi/many-processors architectures go beyond existing technologies

MPPA[®] manycore processors & software tools for embedded computing



- High processing performance
- Low power consumption
- Productive and optimized parallel programming
- Faster time to market for complex embedded systems
- System integration

256 Processors onto a single silicon chip
500 Giga operations per second (GOPS) – 230 GFLOPS
5W typical power consumption

Kalray, A Global Offer

MPPA[®] : Powerful and Programmable Manycore Processors

- 256 processors – 28nm technology
- High performance @ low power consumption
- Fully software programmable



AccessCore[®] : MPPA[®] Software Development Kit (SDK)

- Manycore compiler, simulator, debugger, profiler, GUI
- Programming from high-level C-based language



MPPA[®] Development platform

- “Ready to use” platform
- Hardware and Software solution for application development
- Access to full computing power of the MPPA[®] processors



MPPA[®] Applications

WIRELESS

- 3G-LTE Base Stations
- Broadband microwave
- Adaptive antenna
- Digital TV

WIRELINE

- Routers
- Switches
- Access Point Gateways



Telecom

Imaging,
Medical,
Industrial

VIDEO COMPRESSION

IMAGE ANALYSIS & PROCESSING

- Broadcast / Codec & Transcoder
- Video Protection
- Medical Imaging
- Digital Cinema
- Augmented Reality



HPC / SECURITY

- Cryptography
- Security Appliances
- IPSec



Data
Security/
Network
Appliances

Transport &
Aerospatiale

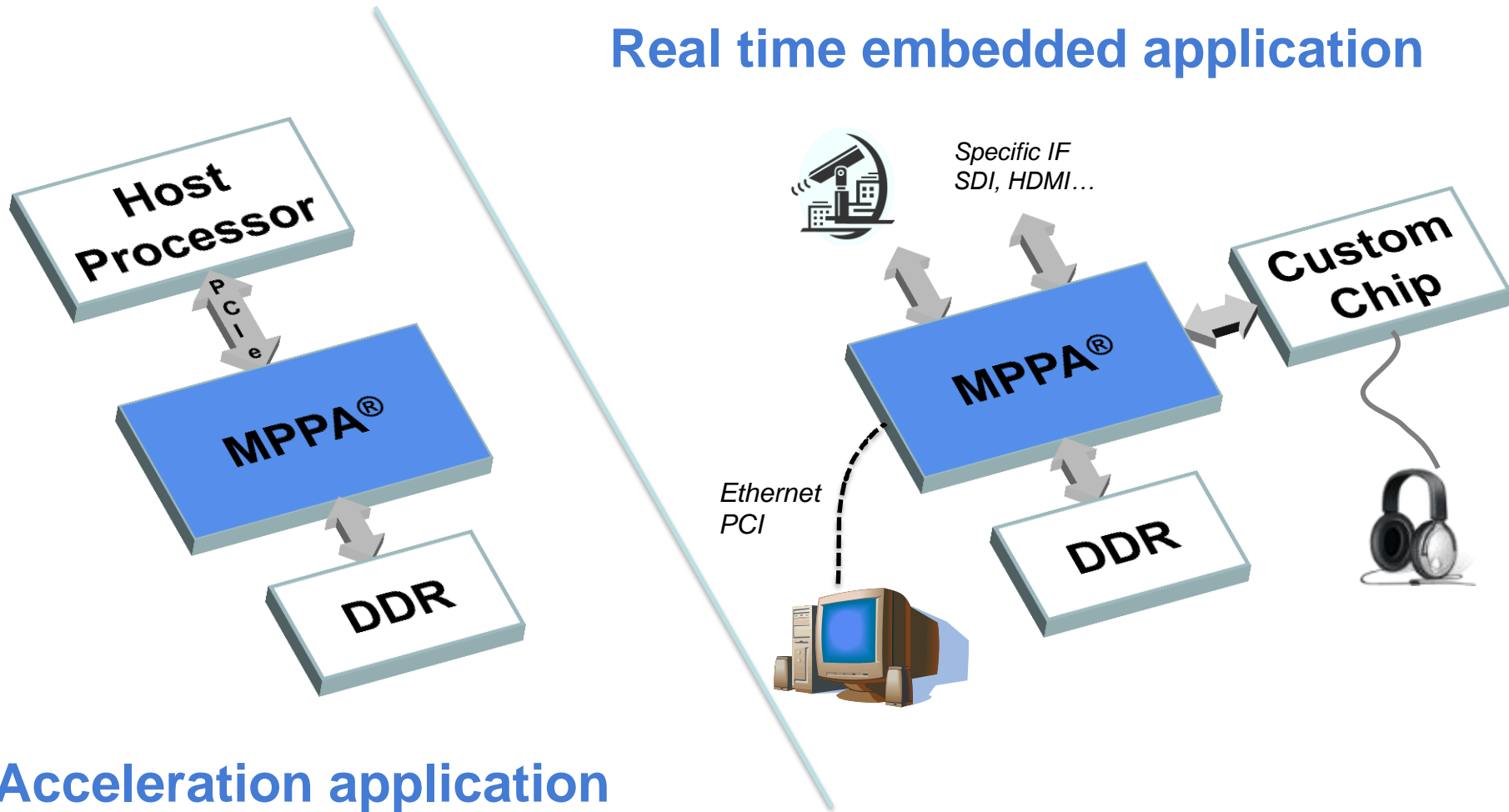
SIGNAL PROCESSING CONTROL

- Software Defined Radio
- Radar
- Control & Command
- Sensors



MPPA[®] integration context

Real time embedded application



Acceleration application

AccessCore[®]

Parallel Programming Environment

Standard C/C++
Programming
Environment

Dataflow
Programming
Solution

Profiler & Debugger

Low-level
Programming
Environment

Software component
examples

Acceleration
Programming
Environment



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