

SpursEngine

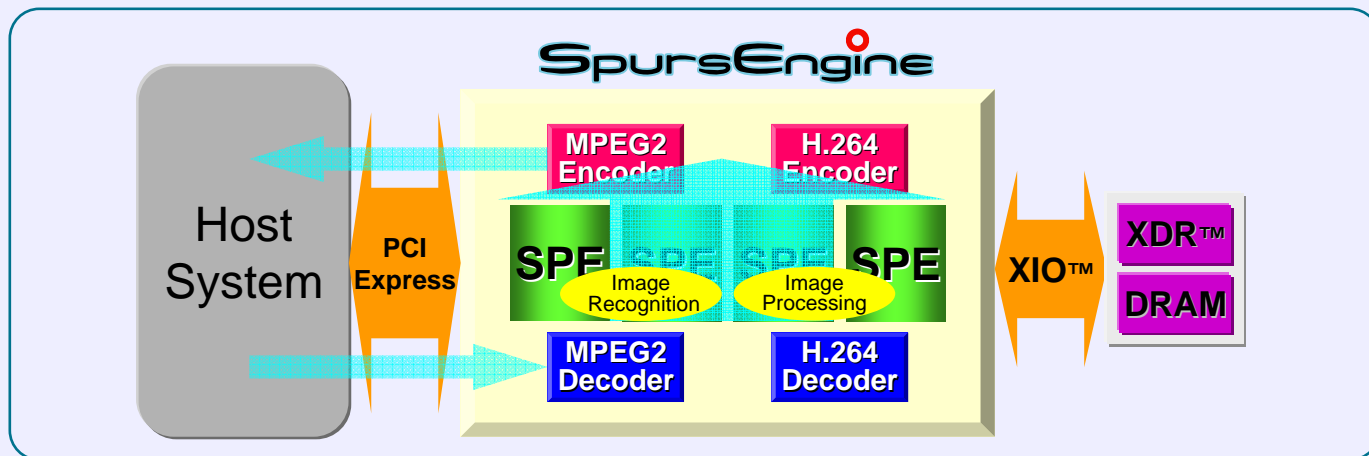
- TOSHIBA Quad Core HD Processor -

SpursEngine™SE1000, combining 4 SPEs derived from the Cell Broadband Engine™ (Cell/B.E.™) and Full-HD codec hardware, is a high-performance stream processor. Enhancing real-time, image recognition, and video editing capabilities, SpursEngine™ SE1000 creates agile and comfortable digital life in Full-HD generation.

Features

- SpursEngine™ SE1000 integrates 4 SPEs derived from Cell/B.E., inheriting flexible software capability of Cell/B.E. software.
- SpursEngine™ SE1000 also integrates MPEG-2 and H.264 codec hardware to process decoding/encoding / transcoding with low power consumption.
- SpursEngine™ SE1000 can connect to the host processor via PCI Express, and be utilized by host side software.
- SpursEngine™ Basic Software (firmware, device driver), Libraries, and Integrated Development Environment (SPE compiler, SPE Debugger, Performance Monitor) are available.

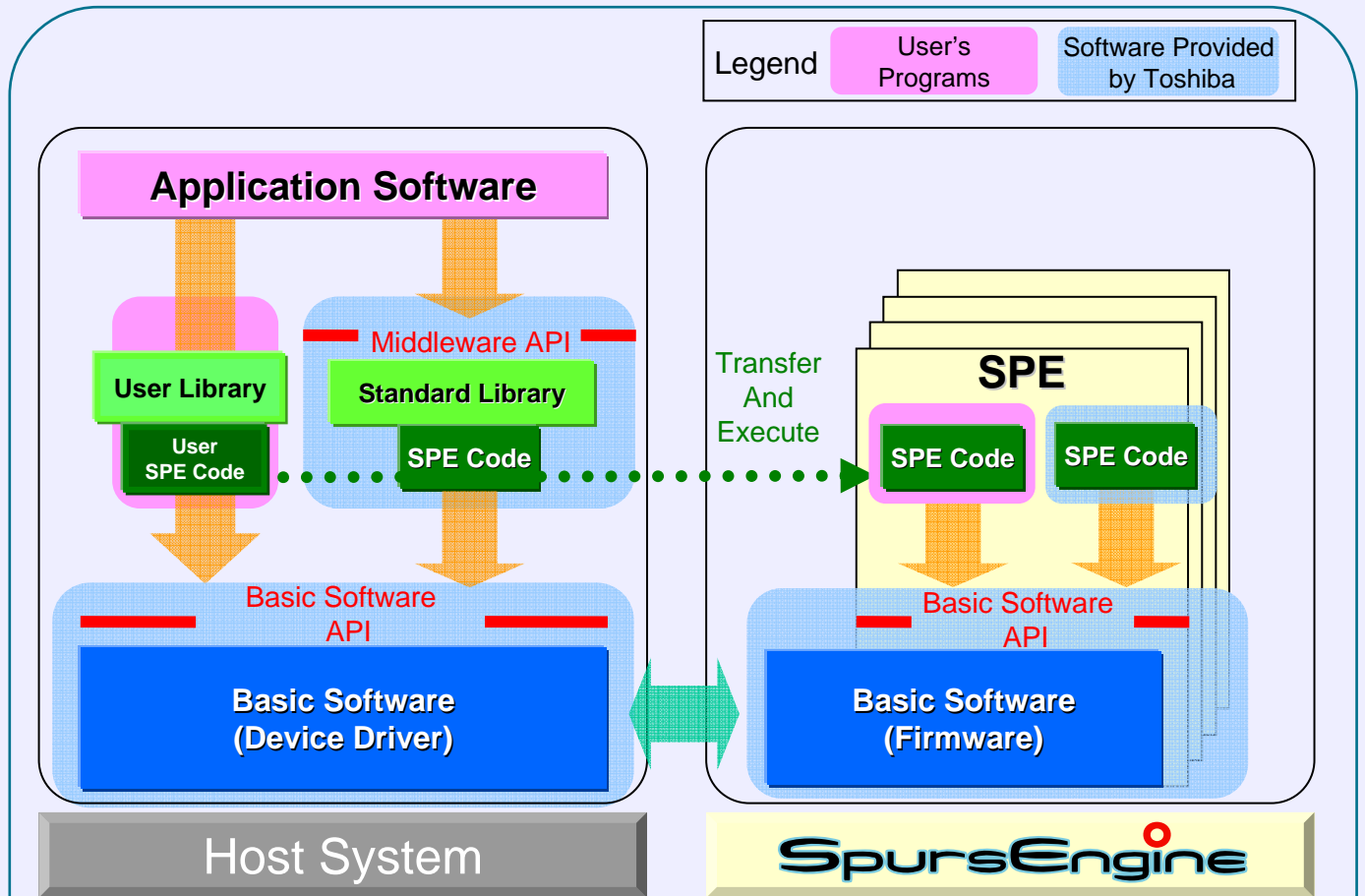
System Configuration Example



Main Functions / Specifications

Items	Functions / Specifications
Processor SPE	Four SPEs per SpursEngine Full compatibility with SPU ISA of Cell/B.E. (SIMD RISC processor architecture, 8/16/32-bit integer, single/double precision floating point numbers) 256KB Local Storage DMAC/MMU functions
Memory Interface	For working memory (XDR™ DRAM) 128MB (512Mbit x2), Physical Bandwidth of 12.8GB/s Data width 32 bits
Hardware Video codec	Full-HD MPEG-2 decoder / encoder : MP@HL Full-HD H.264 decoder / encoder : high Profile@Level 4.1 (Common : 1920 x 1080 60i , up to 24p / 1208 x 720 up to 60p)
PCI Express interface	x4, x1 support PCI Express Base Specification Revision 1.1 compliant

Software Structure



- (1) Software provided by Toshiba
 - Host system Basic Software (device driver)
 - SpursEngine Basic Software (firmware)
 - SpursEngine Middleware Libraries (codec, Indexing, gesture library, etc)
- (2) User development and run-time model
 - Users can develop user programs using Basic Software (device driver and firmware) API and Middleware API, and SPE codes with software development tools.
 - Users can transfer SPE codes from the host system to SpursEngine and executed them on the SPEs.
 - SPE code can be developed by users.

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