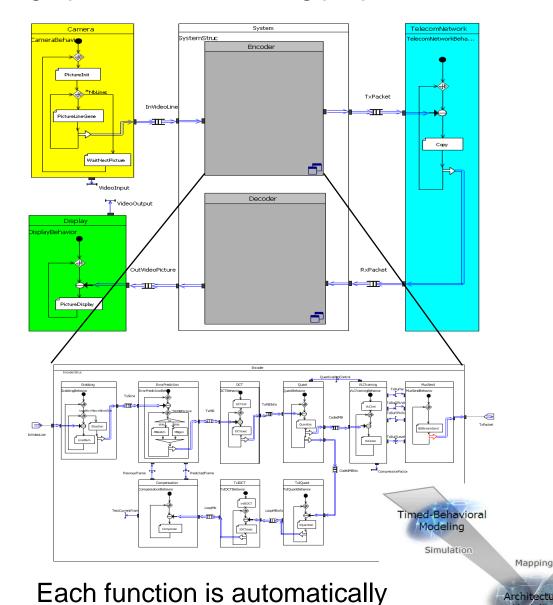# Model-based multicore architecture exploration with CoFluent Studio

MPEG2 ENCODER-DECODER EXAMPLE

Timed behavioral modeling:
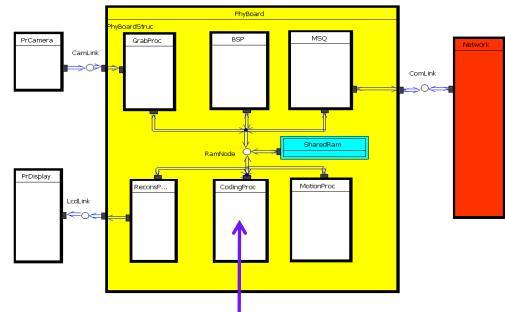graphics, C code, timing properties

Each function is automatically converted to a SystemC thread

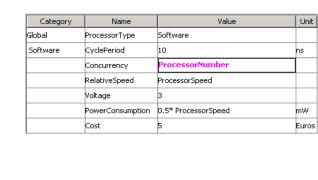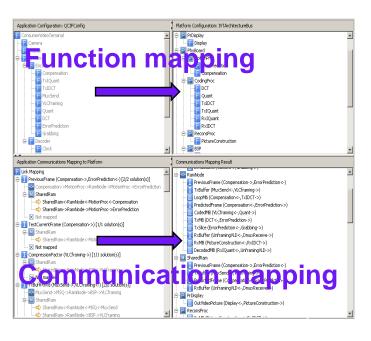### Platform modeling:
graphics, asbstract components:
- HW processing units (FPGA, ASIC)
- SW processing units (DSP, CPU)
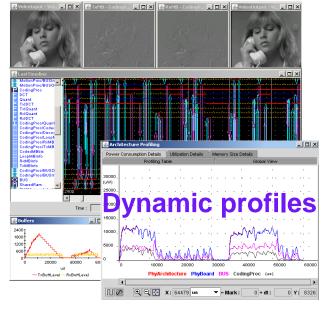- Communication units (Bus, P2P, routers)
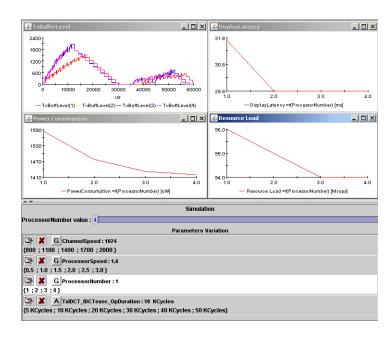- Storage units

Parameterized number of cores

Category	Name	Value	Unit
Global	ProcessorType	Software	
Software	CyclePeriod	10	ns
	Concurrency	ProcessorNumber	
	RelativeSpeed	ProcessorSpeed	
	Voltage	3	
	PowerConsumption	0.5* ProcessorSpeed	mW
	Cost	5	Euros

Architecture Exploration

Function mapping

Communication mapping

Dynamic profiles

⇨ **Optimize** performance of multicore architectures
⇨ **Analyze** change impact in designs (#cores)
⇨ **Validate** architectures against new features

CoFluent Studio