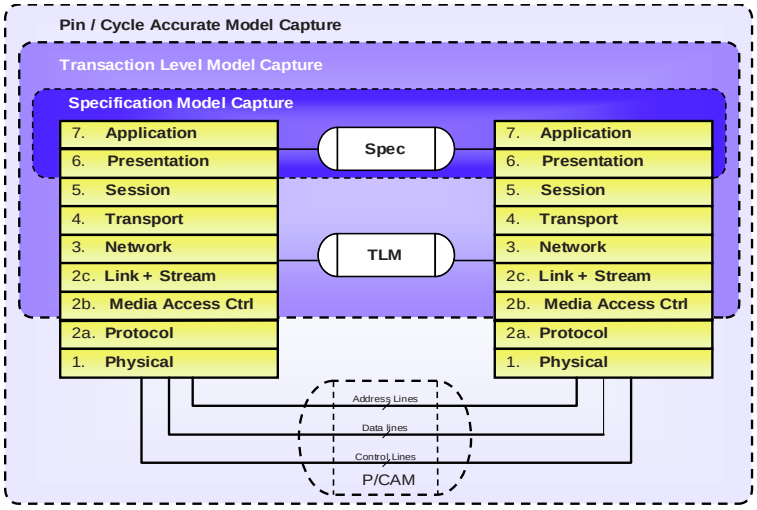
Embedded Systems Environment
Back End

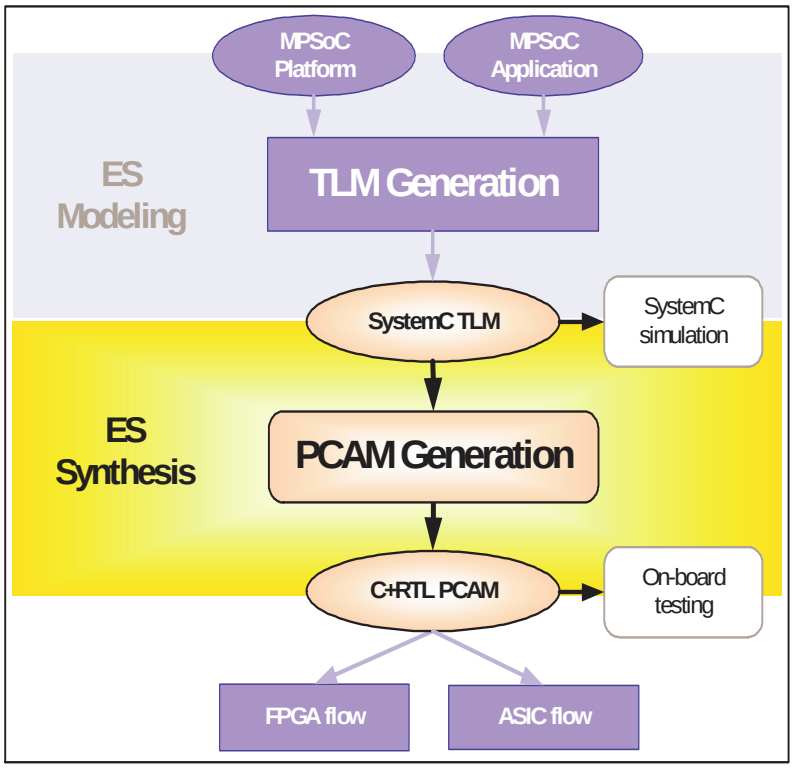
ESE Technology

Today's embedded system designs are complex heterogeneous platforms consisting of multiple standard and custom processors, each with possibly different interface, communicating over a network of busses and bridges.

System design tools are needed for prototyping such platforms with FPGA or ASIC technologies. ESE **incorporates more than 15 years of research and development** in system languages, synthesis and verification to provide automatic system prototyping from TLM.



ESE Back End helps system designers by automatically synthesizing system prototypes from the given Transaction Level Models (TLMs). System designers can create, modify and test their platforms in a few days compared to months of RTL coding and simulation. They can quickly make board prototypes available to application developers for generating and validating critical SW and HW interactions across multiple cores



ESE Features

Graphical Entry
TLM capture with application C code and platform specification.

Automatic system SW generation for each processor.

Cycle accurate RTL synthesis for all interfaces and HW cores.

Automatic bridge generation for protocol translation between incompatible cores.

FPGA/ASIC-ready output
The output model has synthesizable RTL for all HW and drivers with application C code for downloading to embedded processors.

For information please contact Grace Wu, CECS, Irvine, CA 92697-2625
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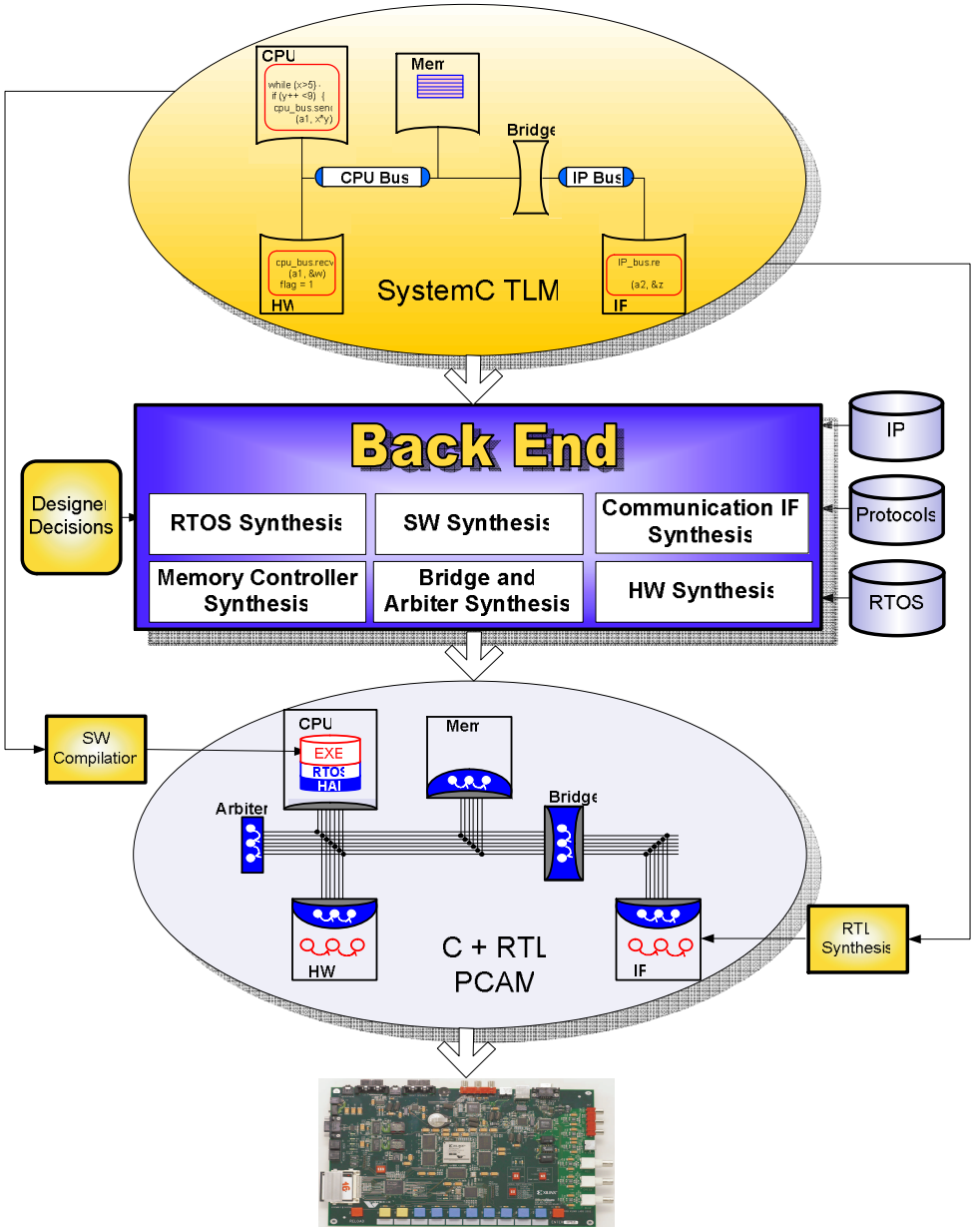
Designer Advantages

Graphical entry to ESE	→	No need to learn system level modeling style or languages
Automatic RTL generation	→	No need to develop synthesizable RTL code for HW interfaces
Automatic SW generation	→	No need to develop processor and platform specific system SW
TLM is easier to debug and fix	→	No need to simulate, learn and debug cycle accurate models



Management Benefits

Automatic system design from TLM	→	1000X productivity gain in modeling and verification
Synthesizable RTL/C output	→	Easy fit with existing tools, minimal training time
Design decisions and TLMs can be shared	→	Simplified globally-distributed collaboration
TLMs can be easily reused and extended	→	Easier product upgrade and customization

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