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Is Your Safety Net an Afterthought?

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[Note: Product liability and reliability litigation may focus on whether the product was adequately designed during development. This blog discusses how safety nets are often an afterthought in many companies, which may leave them legally exposed.]

At a recent DesignCon, I attended a panel, "The Same Chip Killers Keep Delaying Your Schedules – What Are You Doing About It?" consisting six panelists. Two of the panelists each made a statement about five minutes apart from the other that, when put together, had a disturbing implication.

With regards to hardware design, one panelist said that too often software is an afterthought. Less then five minutes later, while discussing defects in the chip, another panelist said that software is a safety net that allows vendors to ship defective chips by using software workarounds. My own observations and those of my colleagues seem to indicate that both these statements are true, which makes me wonder:

Why are companies risking the success of their products—or even the companies themselves—to an afterthought? In a construction zone, safety is of most importance; hard hats cannot be an afterthought.

Fortunately, the industry is slowly turning in the right direction. Cadence's EDA360 vision advocates having software dictate hardware design instead of leaving software to an afterthought. Walden Rhines, CEO of Mentor Graphics, has discussed the importance of ESL design tools to prototype system-level behavior before committing designs to silicon.

While the industry is moving in that direction, there are still many who think that co-simulation and virtual prototypes are the answer to getting software teams involved. These tools are an improvement; they get the hardware and firmware teams collaborating together sooner and allow the teams to make changes before the hardware is cast in silicon. But these tools don't prevent the wasted effort of modeling the wrong design. Collaboration needs to occur during the initial high-level system design phase in order to know what to model.

> **Best Practice:** Start collaboration between hardware and firmware engineers during the initial high-level system design phase.

Start collaboration sooner. Don't let your safety net be an afterthought.

Tags: Afterthought, Safety Net