

IC CAD Market Trends 2007 The Beginning of "Big" Definition DFM

EDA MARKET TRENDS 2007 - EXECUTIVE SUMMARY

EDA is a challenging market in more ways than one. The technology is daunting; not only is it addressing some of the greatest challenges in technology it is now also on the forefront of Parallel Computing. The marketing aspect of EDA is no easier. Rather than a few large market areas, it is a collection of eighty seven sub-applications; all markets of their own, which really drive the overall market. If you want to understand EDA you need to follow these sub-application markets closely. Knowing which the major sub-applications are, who has dominant position in which sub-application and which sub-applications hold the greatest potential for future growth are a vital part of any EDA market plan.

The Users of these EDA tools, the Design Engineers and CAD Departments, who support these tools also need to follow the competitive environment closely. While we don't recommend that a company buy EDA tools solely based on Market Share, we do believe that the market position and information on the dynamics of the sub-applications, included in the Market Trends Report, will give an engineering team valuable guidance in choosing the EDA tools needed to fill their Design Flow.

IC CAD – THE BEGINNING OF "BIG" DEFINITION DFM

When DFM first came on the scene there were a multitude of definitions with some fairly outrageous TAM numbers being thrown around. It became evident that there were two real definitions, the "Little" definition including RET (Resolution Enhancement Tools) and DFY (Design For Yield tools), and the "Big" definition which basically included a re-write of all IC CAD (Integrated Circuit Computer Aided Design) tools for DFM (Design For Manufacturing or Manufacturability). So far we have been talking about the Little Definition DFM, as that is where the sales are happening.

Now, at the 45nm silicon node we are moving into the Big Definition of DFM - the rewrite of almost all IC CAD tools. The DFM issue that is driving that is the move from Rule-Based DFM to Model-Based DFM. The complication is the sheer number of DFM violations we are seeing at 45nm. What we need to do is to use the Router to screen out as many of the violations as possible, using Rule-Based DFM techniques, and then post GDS II Model-Based DFM tools can correct the rest. These tools take a long time to develop, but it's even worse today. That is being caused by the data explosion being generated by one hundred million plus gate designs. In order to handle that you need a tool that can use the computational capability of a multi-core/multi-processor computer.

INTRODUCTION

This report includes the IC CAD section of the EDA 2007 Market Trends; one of the three applications listed under the overall EDA market. In this report we will discuss the trends of each of the important sub-applications of IC CAD giving market share and the five year market forecast.

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