GARYSMITH EDA

CONSULTING IN ELECTRONIC DESIGN

Bell's Law and Tips, Tricks + Best Practices in Semiconductor Design Methodology

ELECTRONIC DESIGN STRATEGY & MARKET ANALYSIS

www.garysmithEDA.com

Design Methodology

During EDP 2011 I mentioned Bell's Law and there were some who hadn't heard of that Methodology Law before. As EDP, is a methodology workshop, I thought it would be worth while to share Bell's Law and other Tricks, Tips and Best Practices with the attendees.

Feel free to add your own Methodology Laws, Tips and Tricks to this Presentation and send them back. We will add them to the presentation on the EDP Website for future Methodologist. - Gary

Bell's Law

Gordon Bell headed the design team that built the famous DEC 750 computer. Not only this this become the main semiconductor design computer, but the methodology he used became the standard that all computer designers adopted. He went on to pioneer the RTL Design methodology. Bell's Law concerns proper scheduling of your design flow.

Bell's Law of Project Management

I. Determine the Bell Factor.

$$\text{Bell Factor} = \frac{\text{Actual Time to Reach First Milestone}}{\text{Time Scheduled to Reach First Milestone}}$$

II. Multiply the Program Schedule by the "Bell factor". This gives you the actual time it will take to complete the design.

II. If the "Bell Factor" is 1.0 the schedule has too much fat.

If the "Bell Factor" is 1.2 you have a well run program.

If the "Bell Factor" is over 1.8 – (*fire everyone and**) start over.

by Gordon Bell   (*Gary Smith EDA comment)*

The Three Miracle Law *

- **0 miracle design**
  - You will drop behind your competition.

- **1 miracle design**
  - You will keep up with your competition.

- **2 miracle design**
  - You will leap ahead of your competition.

- **3 miracle design**
  - Your design will fail, your start-up will fail and you will be out of a job.

*From Jen-Hsun Huang