RASSP Methodology Overview

RASSP E&F Module Number: 29

Abstract: This module is intended to provide a general overview of the RASSP Methodology to general design engineers or to engineering students at the senior undergraduate or first year graduate level. The module is to be used as an introductory module of any of the RASSP courses. It provides the background so that the audience can better understand how the processes and tools detailed later in the course fit within the overall RASSP program development.

The module provides an introduction to how design practice is studied and how improved methodology is implemented and continuously refined. Definitions are provided so that a consistent terminology is established. The module gives a comparison of the pre-RASSP and current RASSP methodology. It also describes potential process improvements and how they may enable the RASSP program to achieve its cost and life-cycle reduction goals. Examples of key improvements such as hardware/software codesign, integrated product development, enterprise integration, virtual prototyping are described. Finally, the module shows the enterprise integration mechanisms used to control and manage design methodology.

Module Objectives:

To provide a survey of RASSP Methodology. This module may be used as introduction to courses. It is targeted to give design engineers, managers, and student an exposure to the importance of methodology and how RASSP methodology improvement will contribute to the RASSP goals.

Specific Objectives:

Provide information on:

1) Methodology development, implementation, and improvement

2) Pre-RASSP and RASSP methodology

3) Specific examples of key RASSP methodology improvements

Prerequisites:

Prerequisite Modules:

None

Prerequisite Knowledge:

None

Outline:

1) Overview (30 minutes)

   a) Current Practice

   b) RASSP Approach

2) Virtual Prototyping

   a) Executable Requirements/Specifications (10 minutes)

   b) Data/Control Flow Modeling (10 minutes)

   c) Cost Modeling (15 minutes)

   d) Performance Modeling (15 minutes)

   e) Fully Functional Modeling (20 minutes)

3) Model Year Architectures (20 minutes)

4) Reuse -based Design (10 minutes)

5) Results to date (10 minutes)

6) Summary (10 minutes)

Infrastructure:

None required