



University of Southern California
Center for Software Engineering

CORADMO Update

Constructive Rapid Application Development Model

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Background

RAD (Rapid Application Development)

an application of any of a number of techniques or strategies to reduce software development cycle time

COCOMO II Schedule

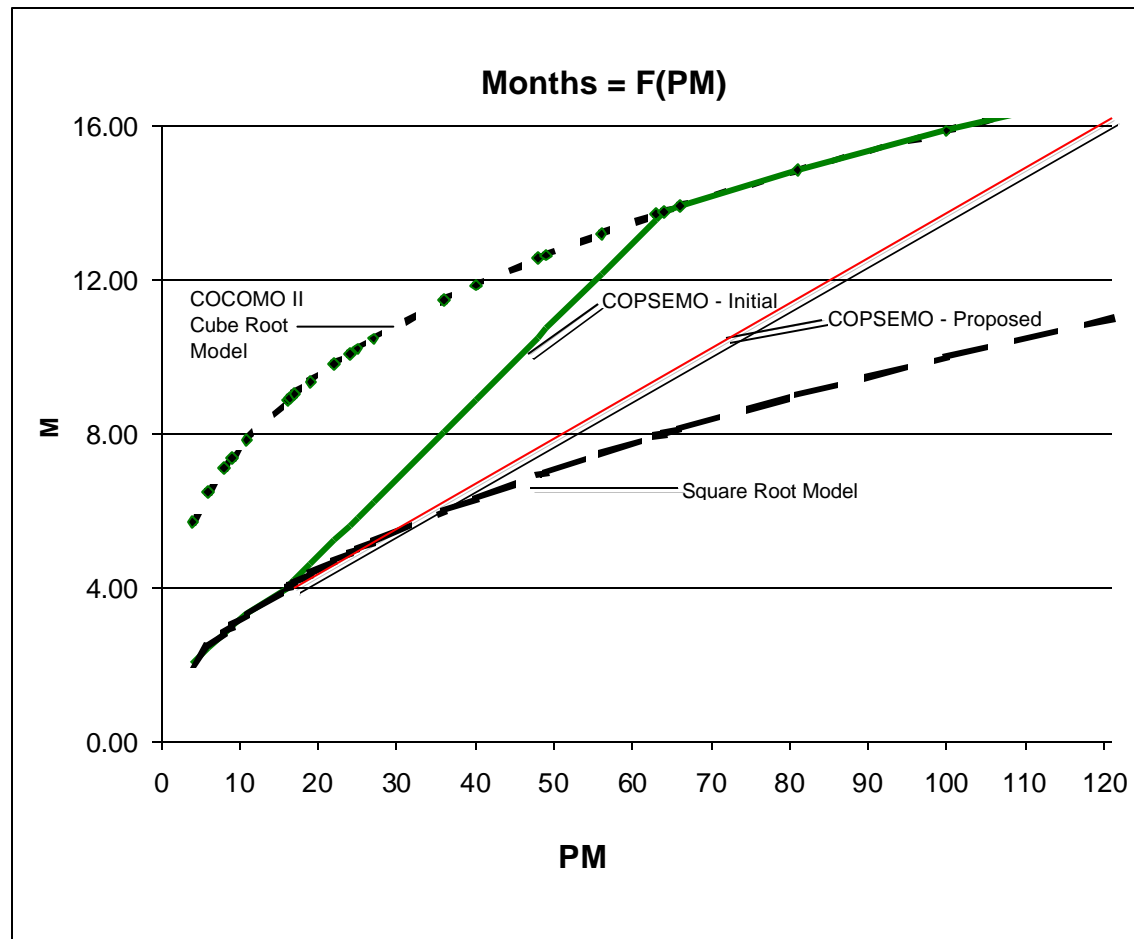
- Reflects a waterfall process model
- Duration calculation unreasonable for small projects
- Model does not address RAD strategies

COCOMO II Duration Calculation

$$\text{Months} \sim 3 \sqrt[3]{\text{Person-Months}}$$

COPSEMO Duration Calculation

(Constructive Phased Schedule and Effort Model)

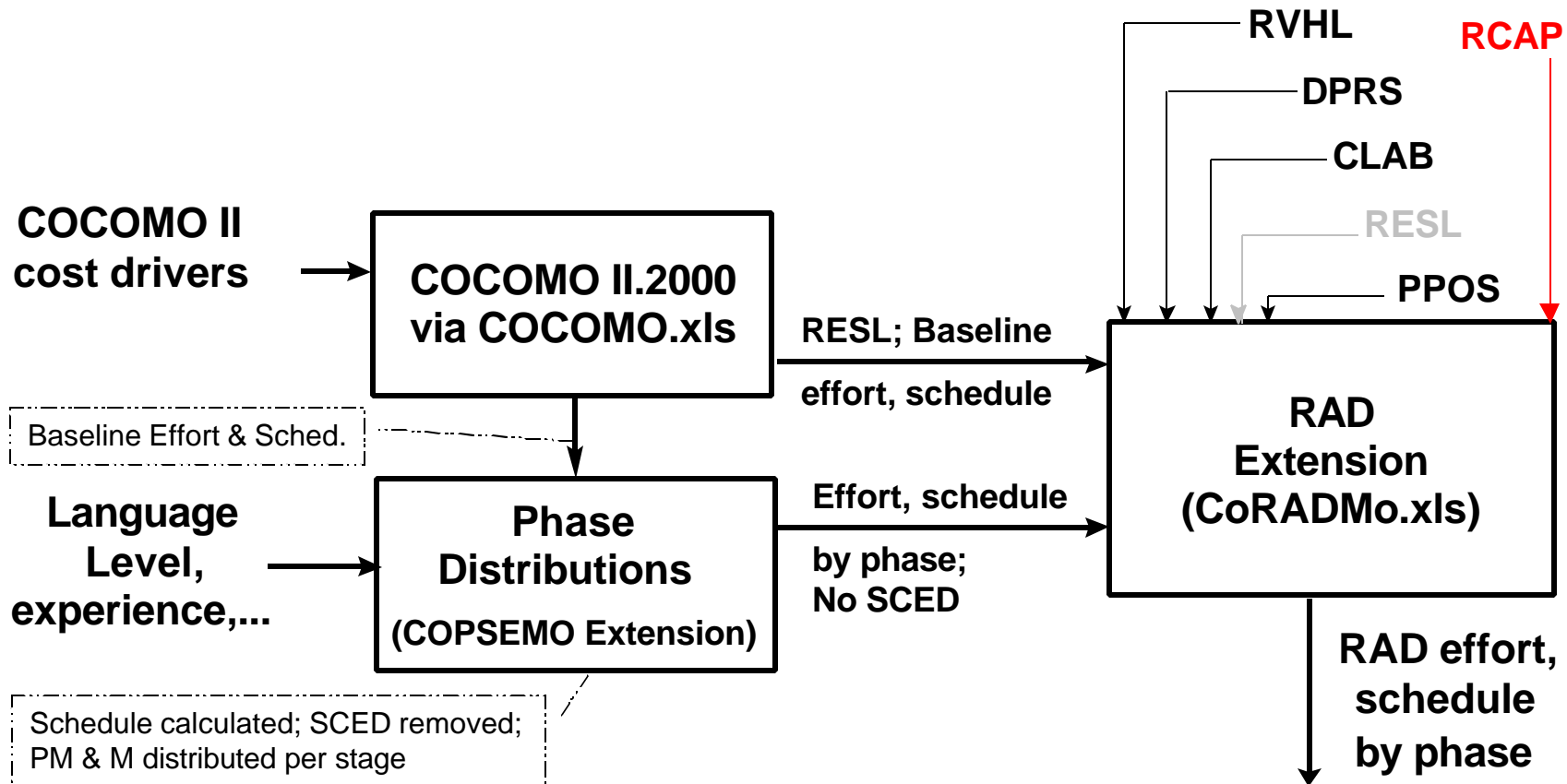


Progress Since Last Year

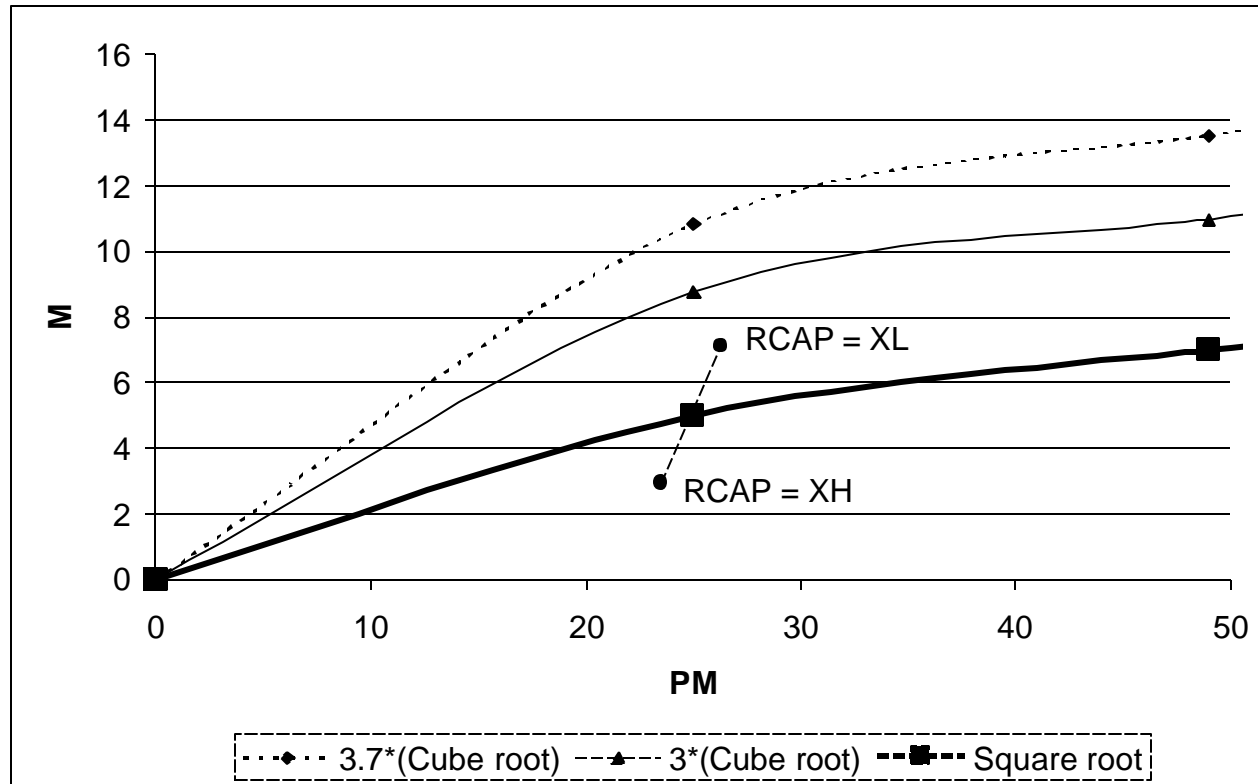
- **Interned at RAD Affiliate**
 - **C-bridge**
- **Obtained RAD data, experience**
- **Enabled resolution of RAD people effects**
 - **RCAP (RAD Capability of personnel)**
- **About to complete Delphi Round 1**
 - **Added experienced RAD participants much needed**
- **More data is coming in**
 - **Marotz**

RCAP Cost Driver

Accounts for the effects of personnel capability and experience in RAD projects (includes TEAM effect)



Effect of RCAP on Cost, Schedule



RCAP Delphi Results to Date

EMR = Effort Multiplier Range = Highest / Lowest

SMR = Schedule Multiplier Range = Highest / Lowest

Default Values

Phase	EMR	SMR
Inception	1.2/.8=1.5	1.5/.5=3
Elaboration	1.2/.8=1.5	1.5/.5=3
Construction	1.2/.8=1.5	1.5/.5=3

Delphi Respondents

Phase	EMR		SMR	
	Mean	Standard Deviation	Mean	Standard Deviation
Inception	1.50	0.26	2.51	1.01
Elaboration	1.48	0.13	2.42	0.98
Construction	1.50	0.14	2.42	0.97

Revised CLAB Definition

- **Originally: Colloboration Efficiency**
 - Including some personnel effects
 - o Team Cohension, Personnel Experience
- **RCAP now covers personnel effects**
- **New CLAB definition: Colloboration Support**
 - **Multisite tool support (SITE) plus special collaboration tools**
 - **Reduced effect on schedule and effort**

Next Steps

- **Completed Delphi Round 1**
- **Complete Delphi Round 2**
- **Gather Data**
- **Bayesian Analysis**
- **Get Ph.D.**