



# **COCOMO<sup>®</sup> III Project Status**

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# Working Group

- Relatively small group of people meeting via teleconference once a week since the October 2014 Forum
- Work on and discuss various aspects of the project
  - Working group tasks
- After laying the foundation for the project, the next big milestone is building a data collection instrument

# Working Group Tasks

1. COCOMO III Project Description for Affiliates and Data Contributors (Project Purpose)
2. COCOMO III website for collaboration/dissemination
3. COCOMO III Use Cases
4. Data Management Procedures
5. COCOMO-COSYSMO Model Interactions
6. Scale and Cost Driver additions & modifications
7. Segmentation Strategy for software applications
8. Date Collection Requirements

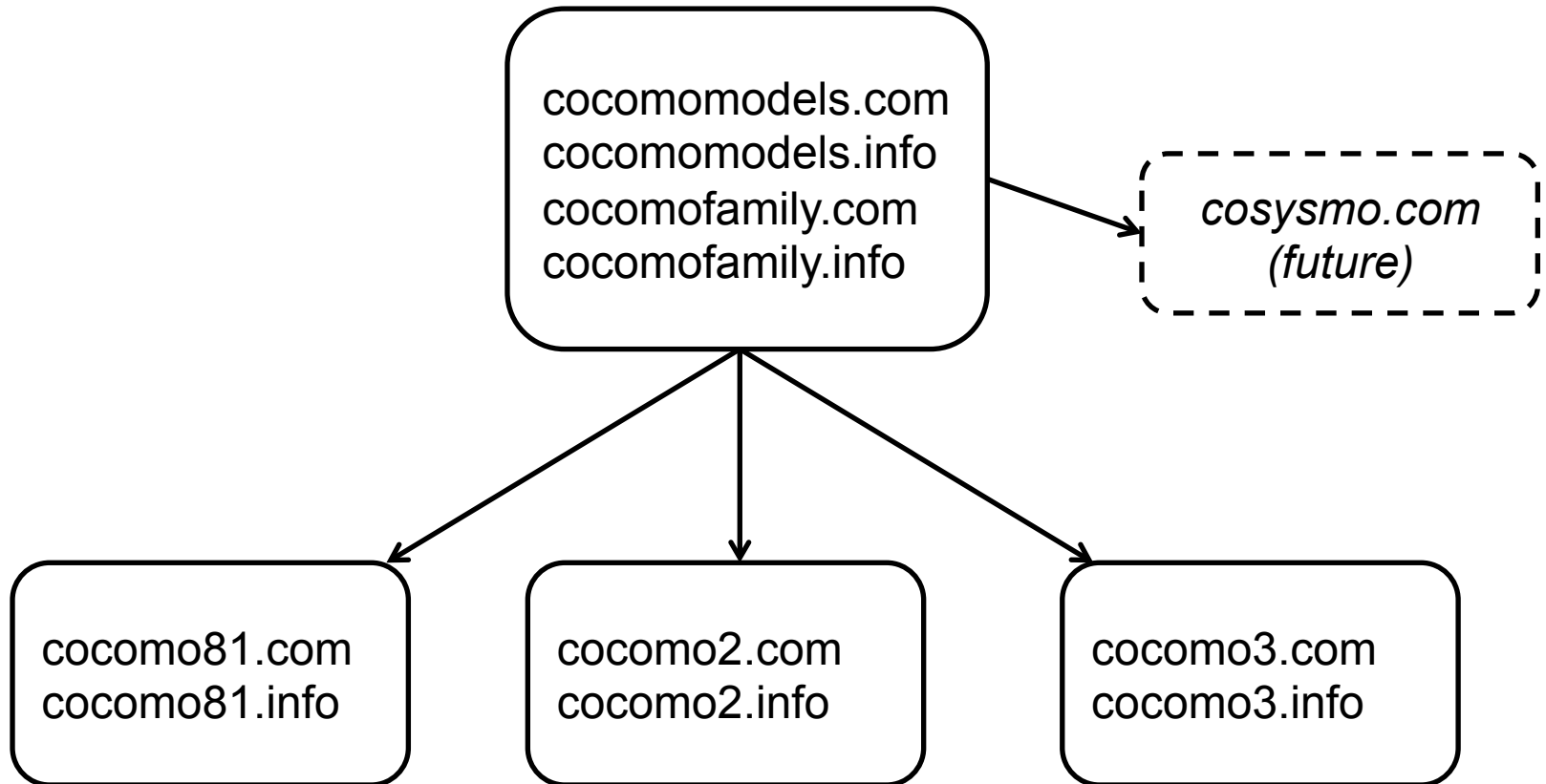
# Project Purpose

The purpose of the COCOMO<sup>®</sup> III project is to develop a software cost estimation model for modern software development.

- Address the scope of modern software projects
- Improve the accuracy and realism of estimates
- Estimate software cost that is complementary with a COSYSMO system engineering cost estimate
- Improve the value of COCOMO<sup>®</sup> in decision-making
- Create a strategy for maintaining past COCOMO<sup>®</sup> models

Optimistically the project is expected to take two years.

# COCOMO<sup>®</sup> Model Websites



# Use Cases

1. Top-level estimate
2. Multiple component estimate
3. Analysis of alternatives
4. Analysis with Size-Effort-Schedule as independent variables
5. Estimation for different processes
6. Lifecycle cost estimates
7. Legacy system transformation
8. Estimate using COCOMO<sup>®</sup> III and COSYSMO together
9. Alternative size measures
10. Local calibration

# Data Management

- Data Sanitization
- Data Access
- Data Submission
  - Protection level and duration
  - Format
- Data Storage

# COCOMO<sup>®</sup>-COSYSMO Interactions

Intent: Unifying the cost models to enable seamless integration of systems and software estimates

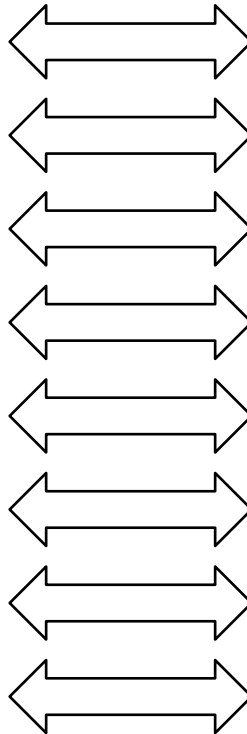
- Questions
  1. Where does COSYSMO end and COCOMO<sup>®</sup> start?
  2. Where do both models cover the full set of engineering activities, i.e., overlap?
  3. What activities are not covered by either model?
  4. Which part of integration and testing effort is considered by each model?
- The estimating scope is ultimately determined by the calibration of the models
  - ***Estimation scope is a major input for data collection requirements***
  - ***Cannot collect SW activity data w/o collecting SE activity data***



# SE / SW Activity Comparison

## Generic Contract WBS

- 1.0 – System/Project
- 1.1 – Integrated Project Management (IPM)
- 1.2 – Systems Engineering
- 1.3 – Prime Mission Product (PMP)
- 1.4 – Platform Integration
- 1.5 – System Test & Evaluation (ST&E)
- 1.6 – Training
- 1.7 – Data Management
- 1.8 – Peculiar Support Equipment
- 1.9 – Common Support Equipment
- 1.10 – Operational / Site Activation
- 1.11 – Industrial Facilities



## Software Activity WBS (COCOMO II)

### Management

- Cost, schedule, performance management
- Contract management
- Subcontract management
- Customer interface
- Branch office management
- Management reviews and audits

### System Engineering

- Software Requirements
- Software product design
- Configuration management
- End item acceptance
- Quality assurance

### Programming

- Detailed design
- Code and unit test
- Integration

### Test and Evaluation

- Product test
- Acceptance test
- Test support

### Data

- Manuals

SE: System Engineering  
 SW: Software Engineering

# COCOMO<sup>®</sup>-COSYSMO Interactions

Desire: Establish a consistent guideline for determining the model scopes and harmonizing the estimates

- Overlap/gaps of development activities
- Analysis of cost drivers
- Commonality of terminology, concepts, lifecycle phases, and measurement units
- Consideration of common size and cost drivers
- Consistent set of model base assumptions

Workshop  
Topic

# Workshop Agenda

- Project Purpose
- COCOMO<sup>®</sup> III Use Cases
- Data Management and Security Procedures
- COCOMO<sup>®</sup> Models websites
  - COCOMO websites
  - Homepage
  - Signup for notifications
  - Forum
  - Link to download if they are an affiliate
- COSYSMO – COCOMO<sup>®</sup> II Model Scopes
- Next Steps