

Verification and Validation of SE Models

Day 1 Intro Workshop

Facilitator: Oscar Mondragon, UTEP professor

Assistant: Michael Robinson, NMT Student

Participants:


- **Mary Compton** Sandia National Labs
- **Ann Hodges** Sandia National Labs
- **Ron Lyells** Retired Honeywell
- **Joe Marvin** Prime Solutions Group
- **Paul McGoey** Retired
- **Tim Wiseley** Labs



Verification & Validation of SE Models – Day 1

Socorro Systems Summit 2019, INCOSE Enchantment Chapter

Facilitator: Oscar A. Mondragon Ph. D. UTEP



Verification & Validation of SE Models – Day 1

Reception Poster

- ▶ Need
 - ▶ Having a multidisciplinary team that agrees to a common model
- ▶ Customers
 - ▶ Involvement of all stakeholders (all discipline leads, customers and final users,
- ▶ Issues to focus on
 - ▶ Levels of extraction
 - ▶ Lack of ontology among disciplines
 - ▶ Problems with execution of the validation process
 - ▶ Specs are entrenched as the common model

Verification and Validation of SE Models

Day 2 Workshop Results

Day 2 Participants:


- **Grizelda Acosta** UTEP Student
- **Mary Compton** Sandia National Labs
- **Jim Larkin** MEI Technologies, AFRL Contractor
- **Alexander Mazarakis** NMT Student
- **Oscar Mondragon** UTEP Professor
- **Tabatha Oria** UTEP Student
- **Tim Wiseley** Sandia National Labs



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Day 1

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Having a multidisciplinary team that agrees to a common model

- ▶ Identify organizational and cultural impediments to recognizing the problem as one in need of attention and solution.
- ▶ Converge on broadly acceptable requirements for an embraceable solution.
- ▶ If appropriate, plans for subsequent solution collaborative action.
- ▶ Develop general session brief out slides.





Identify organizational and cultural impediments to recognizing the problem as one in need of attention and solution.

- ▶ Information filtering as it passes throughout the organizational structure, to and from the contractor.
- ▶ Lack of validation and documentation of assumptions within a model and among the models.
- ▶ Geographically distributed locations.
- ▶ Different engineering groups feel comfortable working in their own silos.
- ▶ Engineers talk past each other and think they are in agreement.
- ▶ The word model is overused and overloaded leading to confusion and misinterpretation.



Converge on broadly acceptable requirements for an embraceable solution.

- ▶ Involve all technical groups.
 - ▶ Provide a clear definition of scope, breadth, and fidelity.
 - ▶ Reach consensus on the models among technical groups, customers, and users.
 - ▶ Create baseline models and datasets.
 - ▶ Open the channels of communication, get people talking.
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If appropriate, plans for subsequent solution collaborative action.

- ▶ Hold interdisciplinary meetings.
- ▶ Have show and tell of the models.
- ▶ Create timelines for the iteration and integration of models.
- ▶ Release baselines of the models.
- ▶ Hold periodic meetings.