

# INCOSE Patterns Working Group: Meeting Minutes

**Meetings:** Jan 12, 2016, meeting of INCOSE Patterns Working Group, via web conferencing.

**Meeting Participants:**

(\*\*) = co-chairs of working group

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**Summary:**

- Working Group status, and INCOSE web site: The MBSE Patterns Challenge Team is now called the MBSE Patterns Working Group, as a part of the INCOSE MBSE Transformation, and our INCOSE-OMG MBSE Initiative web site can additionally be reached through the new combined listing of INCOSE WGs on the new INCOSE web site.
- Wave 2 Projects: 2H2015 presentations of the Wave 2 projects of Patterns WG members were listed.
- Wave 3 Outreach Projects: The next (current) wave of projects being undertaken by the Patterns WG emphasizes outreach to and joint work with other INCOSE Working Groups, where there are natural partnerships by topic. This includes the Agile Systems WG, System of Systems WG, Health Care WG, and Product Line Engineering (PLE) WG.
- Project Suggestions: Participants suggested additional WG projects, listed below.
- Plans for IW2016 Events Related to this WG: At IW2016, we are planning joint workshops and work sessions with multiple INCOSE WGs.
- Next Meetings Schedule: Multiple meetings of the Patterns WG will occur on Jan 30-31, 2016, at INCOSE IW2016, in Torrance, CA, and via web access.

## Details:

7. INCOSE MBSE Transformation: Troy Peterson, co-chair of our working group, has been appointed INCOSE Asst. Director for Transformation, related to the model-based transformation objective adopted by the INCOSE Board of Directors. Refer to <http://www.incose.org/about/strategicobjectives/transformation>
8. WG Status and Web Site: In coordination with the MBSE Initiative leaders Sandy Friedenthal and Mark Sampson, each of the Challenge Teams and Activity Teams of the (continuing) MBSE Initiative are now also considered regular INCOSE Working Groups (WGs). The new INCOSE web site has been updated to show all the WGs together, and to in turn link to the (continuing) OMG-INCOSE joint MBSE wiki web site, which continues to host the individual web sites of the Challenge Teams and Activity Teams. Refer to <http://www.incose.org/ChaptersGroups/WorkingGroups/mbse-initiative>
9. Wave 2 Projects: During the second half of 2015, Wave 2 projects from members of our WG were seen at the following events:
  - NDIA GVSETS, Aug, 2015:
    - “Re-Uniting Decision Analysis with Systems Engineering: Explicating System Value through First Principles”, Troy Peterson, Bill Schindel.
  - Great Lakes Regional Conference (GLRC), Oct, 2015:
    - “The SE Social Network Pattern”, Chris Hoffman.
    - “Electronic Medical Records Domain Pattern”, Ajay and Vijay Thukral.
    - “Introduction to the Agile Systems Engineering Life Cycle Management Pattern”, Bill Schindel.
    - “Got Phenomena? Science-Based Disciplines for Emerging Systems Challenges”, Bill Schindel
  - Health Care Working Group 2015 Workshop on Agile SE for Medical Devices, Nov, 2015:
    - “Outreach to the Health Care Working Group”, Bill Schindel.
  - INCOSE Agile System Systems Engineering Life Cycle Model (ASELCM) Discovery Project, a joint activity with the Agile Systems Working Group, includes development and validation of an S\*MBSE representation for the ASELC Pattern:
    - Navy SPAWAR/MITRE ASELCM Workshop, San Diego, CA, Aug 2015.
    - Northrop Grumman ASELCM Workshop, Mclean, VA, Aug, 2015.
    - Rockwell Collins ASELCM Workshop, Cedar Rapids, Iowa, Sept, 2015.
    - Lockheed Martin ASELCM Workshop, Ft. Worth, Texas, Oct, 2015.
10. Wave 3 Projects: Next wave projects in this group are being undertaken or moving into next phases. Substantially all of them emphasize outreach to and joint work with other INCOSE Working Groups, where there are natural partnerships by topic:
  - Product Line Engineering (PLE) WG: A joint demonstration project is being planned with this WG, to be discussed at the IW2016 joint meeting scheduled for January 31, 2016. The tentative focus is a future public demonstration of the method of harvesting an S\*Pattern for a product line from an existing legacy product family.
  - Health Care Working Group: A joint undertaking is being explored with this WG, in connection with their pursuit of Agile Health Care Systems. The tentative focus is pursuit

of application of the draft Health Care Domain Configuration of the ASELCM Pattern, and their plans for the 2016 Conference on Agile Health Care Systems.

- System of Systems (SoS) Working Group: A joint activity concerned with this WG, beginning with a jointly-produced half-day workshop on Patterns of Systems of Systems, on January 30, 2016, at the IW2016. The tentatively proposed focus of a follow-on project activity is in the area of extending the scope of SoS Patterns to include additional elements of the S\*Metamodel.
- Agile Systems Working Group: This activity is the next phase of the 2015-2016 INCOSE Agile Systems Engineering Life Cycle Model (ASELCM) Discovery Project, already undertaken together in the earlier wave. It includes next discovery workshop sites and updates to the S\*Pattern for the ASELCM.

11. Project Suggestions from Meeting Participants: The participants in the meeting made the following suggestions of additional candidate projects, added later below to the list of members' previously suggested projects:

- Library of Interface Patterns: Frank Salvatore, chair of the INCOSE Decision Analysis WG, suggested the creation of an INCOSE library of interface patterns, and followed up the meeting by supplying recent communications in which he has advocated this.
- Façade Pattern: Related to Frank's suggestion, Andy Pickard discussed the use of the Façade Pattern, in software design patterns, to provide client systems with an object-oriented interface to complex or less well-packaged systems and services.

#### **Action Items:**

12. Complete arrangements for the IW2016 meetings (session leaders).
13. Outreach: Follow up with other WGs on potential joint projects using PBSE (all members)
14. Identify to Bill Schindel your suggestions for and interests in participation in future Patterns projects (all members)
15. Schedule remaining 2016 meetings of the overall WG (Troy Peterson, Bill Schindel).
16. Follow up on member historical suggestions for candidate projects:
  - Library of S\*Patterns: Discussed by George Walley, Ford.
  - Library of key physical science S\*Patterns: Discussed by Mark Burrell, Procter & Gamble.
  - Joint project with System Science Working Group: Discussed by RW Russell. (James Martin, chair of SSWG, also suggested a project in connection with mapping S\*Patterns into OPM (object process methodology)).
  - Example implementation of an S\*Pattern in a PLM System (discussed by Saumya Sanyal).
  - Archetypes of MBSE Implementation Strategies—INCOSE aids in the form of archetype MBSE adoption strategies are being discussed in the MBSE Transformation (Bill Schindel)
  - Supporting INCOSE objective for SE as model-based; the Case for Stronger MBE Metamodel / Underlying Semantics (Bill Schindel) See also:  
[http://www.omgwiki.org/MBSE/lib/exe/fetch.php?media=mbse:patterns:got\\_phenomena\\_glrc\\_2015\\_v1.2.5.pdf](http://www.omgwiki.org/MBSE/lib/exe/fetch.php?media=mbse:patterns:got_phenomena_glrc_2015_v1.2.5.pdf)
  - Mapping to COTS Tools and Information Systems
  - Mapping to ISO 15288

- Example Space Systems Pattern (e.g., CubeSat; Joint with Space Systems WG)
  - INCOSE Library of Interface Patterns (Suggested by Frank Salvatore); applications of the Façade Pattern (Suggested by Andy Pickard)
17. Update the WG Charter (originated as a Challenge Team) to the form used by INCOSE WGs. (Troy Peterson, Bill Schindel)

**References:**

18. General web site for Patterns Working Group, charter, meetings listing, etc.:  
<http://www.omgwiki.org/MBSE/doku.php?id=mbse:patterns:patterns>
19. Jan 12, 2016, Patterns WG meeting materials, at:  
[http://www.omgwiki.org/MBSE/doku.php?id=mbse:patterns:patterns\\_challenge\\_team\\_mtg\\_01.12.16](http://www.omgwiki.org/MBSE/doku.php?id=mbse:patterns:patterns_challenge_team_mtg_01.12.16)