Architecture Design, Simulation and Visualization Using SysML

Chesapeake Chapter INCOSE
International Council on Systems Engineering

Presented by:
Gundars Osvalds,
Senior Principal Enterprise Architect
Northrop Grumman

Wednesday, 18 Aug 2010 (6:00 – 8:00 pm)
Applied Physics Laboratory, Johns Hopkins University
11100 Johns Hopkins Rd Laurel MD 20723 (Main Entrance – Lobby 1)

Presentation: Verification and Validation of systems designs are difficult because the stakeholders' (e.g., owners, users, and developers) perception may differ from the architects' views. Thus there needs to be a solution that allows the stakeholders and the architect to verify that the design meets the requirements documented and the system capabilities are designed as the stakeholder expected. The architectural design is supported by a Graphical User Interface which the stakeholder can use to approve the design before implementation. The IBM Rational Rhapsody modeling tool is used with supports of SysML and the Harmony for Systems Engineering Process in the development of system architectural designs. The IBM Harmony Process provides process guidance and a SE Toolkit that implements automated generation of diagrams and helps enforce traceability between the diagrams. These executable scenarios are then used to drive a Java interfaced GUI for the architecture visualization..

Speaker: Mr. Gundars Osvalds is a Senior Principal Enterprise Architect at Northrop Grumman where he is responsible for developing processes that support the design of systems that meet the needs of our customers. Mr. Osvalds supports large government transformation programs with systems engineering and architecture tasks, including planning, implementation and reviews of architectural products, and processes for architectural design and modeling. Mr. Osvalds has used and supported the DoDAF and OMB FEA architecture frameworks for the Federal Government and DoD communities. Currently Mr. Osvalds is developing Model Driven Systems Engineering techniques and tools for use in large systems. Mr. Osvalds is a member of the INCOSE team supporting the ISO on enterprise architecture concepts for the next version of ISO 15704 and 42010 (an update of IEEE 1471). He supported the Network Centric Operations Industry Consortium (NCOIC) Interoperability Framework (NIF) Architectural Concepts Functional Team and Working Group in the development of the NIF Reference Manual.

Note: Dinner will be held in the Howard County Room #3 (Enter the Main Laboratory Entrance, Lobby 1, and take a right at the guard station into the main cafeteria. We're down at the end of the hallway in the very last dining room.) Topic discussion will follow dinner.

Delicious friendly networking buffet dinner: Bistro Steak Salad and Honey Mustard Chicken Wonton Salad Buffet, rolls and butter, dessert, coffee and iced tea.

Dinner Reservations: To register for dinner, contact Don York at donald.york@tasc.com

Dinner Cost: Guests: **$20;** INCOSE members: **$15** if payment is received by Aug 13th, 2010, **$20** afterwards. To pay by credit card or PayPal, visit our website: **http://www.incose.org/chesapek;** or to pay by USPS, mail checks (payable to INCOSE-CC) to:

INCOSE-CC, PO Box 142, Linthicum, MD 21090-0142.

Dinner Cancellation Policy: If you make a dinner reservation and then find that you will be unable to attend, please notify Don York by Monday, Aug 16th, 2010. There will be no refunds after Monday, Aug 16th, 2010.

Presentation ONLY: FREE (no reservations necessary)

Corporate Sponsor: We wish to thank the Applied Physics Laboratory for supporting the systems engineering profession through use of their facilities.

Our Evening's Agenda

5:45 – 6:00 pm	**Arrival and Socializing**
6:00 – 6:45 pm	**Dinner**
6:45 – 6:50 pm	**Member Introductions**
6:50 – 6:55 pm	**Chapter Business Items**
7:00 – 8:00 pm	**Presentation**

Directions: **JHU APL**, 11100 Johns Hopkins Road, Laurel, Maryland 20723,   Phone (443) 778-5000

See APL's Visitor Guide for more: http://www.jhuapl.edu/newscenter/visitor/default.asp

From Washington DC and Capital Beltway (I-495):

Take I-95 North toward Baltimore, 10 miles to Columbia exit (MD Route 32 West),

Go 2.5 miles to the Washington DC exit (US Route 29 South).

Go 1.5 miles south and take Johns Hopkins Road exit (bear right at the top of the hill).

Or from the Capital Beltway (I-495):

Take US Route 29 North (Colesville Road) 10 miles and follow signs for the turn onto Johns Hopkins Road.

From Baltimore and Baltimore Beltway (I-695):

Take I-95 South toward Washington DC.

Go 13 miles and take Columbia exit (MD Route 32 West).

Go 2.5 miles and take Washington DC exit (US Route 29 South).

Go 1.5 miles south and take Johns Hopkins Road exit (bear right at the top of the hill).

Once you're on Johns Hopkins Road:

APL is a half-mile west of US Route 29 on your right side. Go past the first entrance, continuing past the pond and take the next right turn onto a tree-lined lane. Park in the visitor's lot on your left side. Enter at the main entrance marked **Building 1** (flagpoles and traffic circle in front).

Dinner is held in the Howard County Room #3 located at the end of the cafeteria hallway to the right of the entryway just before the Guard's desk.