



**October 2011 Edition** 

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Dinner Meeting – Wednesday, 19 October 2011

# The Power of Partitioning in Systems Architecture

Richard Taylor - Systems Architect Consultant/UMBC Adjunct Professor



Presentation: Partitioning is the heart of system architecting. Effective partitioning can decompose a large, complex problem into a set of largely autonomous simpler problems that, in combination, can solve the larger problem. By contrast, ineffective partitioning can constrain systems architecture so negatively that no developers can save it. This presentation reviews system partitioning strategies, with an assessment of their strengths and weaknesses. It discusses the effect of partitioning on system scalability, availability,

performance, data quality, and geographic flexibility.

**Location:** Applied Physics Laboratory, Johns Hopkins University; 11100 Johns Hopkins Rd Laurel MD 20723 (Main Entrance – Lobby 1)

**Meal:** *Join us for Oktoberfest:* Bratwurst and Knockwurst; Braised Red cabbage; Sauerkraut; Cucumber and caraway salad, rolls and butter, dessert, including a small Fruit Plate, coffee, iced tea.

#### >>Download the Meeting Flyer Here<<

#### **Reservations:**

- By website: Credit card via PayPal, go to our ≥>Registration Page<<</p>

# Presentation ONLY: FREE (no reservations necessary)

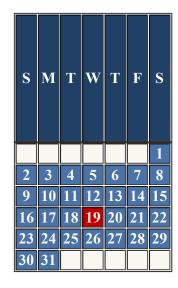
The purpose of the Chesapeake Chapter is to foster the definition, understanding, and practice of world class systems engineering in industry, academia, and government. In light of that goal, every



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#### October 2011



This is the monthly newsletter for INCOSE
Chesapeake, a local chapter of INCOSE
International. We are a not-for-profit
organization dedicated to providing a forum for
professionals practicing the art and science of
Systems Engineering in the Northern & Central
Maryland & Southern Pennsylvania area.

month at our dinner meeting we have a drawing for the latest in Systems Engineering literature. So come on out for a chance to win.

# MARK W. MAIER BEERHARDT RECUTIN

#### October's door prize is:

The Art of Systems Architecting

By Mark W. Maier and Eberhardt Rechtin

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#### **Presidents Corner**

## **Shadowing and Keeping Score**



Here we go again. The 2011 Board of Directors is beginning the handoff to the new 2012 team. The objective is to avoid any break in services to you our members. A smooth transition is especially important in positions like the treasurer where there are a lot of details and a lot of responsibility.

This year we are trying something new, something called "Shadowing." For example, the current treasurer Glenn Gillaspy proceeds with his normal duties while the new treasurer David

Alldredge watches over his shoulder. The new treasurer learns current procedures, the operating plan, our bank account, ECB membership, PayPal, INCOSE corporate, and the web site. Account and membership names get changed on January 1st.

During this period, while the new officers learn the operating plan and bylaws, there will be multiple opportunities for you to participate. This would be a good time for you to volunteer for a committee that improves your skills and advances your career. You can fix existing procedures, write them up more effectively, implement new ones, or get involved in technical working groups.

For example, we already capture most of the popular briefs on our web site. We already have a web presence in LinkedIn and Facebook. Both need systems engineering moderators with strong organizational and people skills. Are you one of those moderators? You could be. Desirable skills include:

- previous forum moderation experience
- regular reader of INCOSE sites
- decisive, fair, consistent, and mature in moderating forum posts
- active participant in the forums themselves, at least daily
- · passion for systems engineering
- 18 years old
- strong language skills

Two other new ideas are video teleconferencing and webinars. Working with our partner JHUAPL, one of our new officers is looking at serving members who are out of commuting range (eg Aberdeen/NASA), constrained by schedule (eg parents), or active in other domains (eg transportation). Do you want to serve on this exciting new committee? Just ask.

This is also the time to keep score. During the next three months, the BoD will be filling out a 10 page spreadsheet that captures our achievements for the year. As usual we expect to score 8000



The Chesapeake Chapter is always looking for volunteers to speak at our upcoming meetings! Please contact our Programs Director, Mr. Donald York, if you would like the opportunity to speak or can recommend someone.

The Chesapeake Chapter of INCOSE is proud to recognize the following organizations for sponsoring our endeavors to expanding the understanding and appreciation of Systems Engineering in the local area:













points and win a gold medal. We also hope to hear new ideas from the membership. This is a good time to capture those ideas in next year's operating plan.

By the way, we did certify the election. The following individuals won:

President Elect: Don York

• Treasurer: David Alldredge

• Secretary: Mark Kaczmarek

• Program director: Erik DeVito

Communications director: Paul Martin

• Membership director: Janet Deery

However, there was one complication unique to volunteer organizations. Family and work obligations comes first. You all know Gundars Osvalds was our 2011 President Elect and expected to become President on 1 Jan 2012. Due to evolving situations at home and at work Gundars has resigned effective 1 October 2011.

That triggered a shuffle. According to the Chapter Bylaws, "Vacancies, to complete a term of office, shall be filled by nomination of the President and approval of the Board."

That being said, I nominated Dr. Don York to serve out Gundars Osvalds' term of office as President Elect in 2011, President in 2012, and Past President in 2013. Both he and the board accepted this nomination.

Finally, runner up Dr. Bill Ewald will serve as President Elect in 2012, President in 2013, and Past President in 2014.

Thus I am now proud to introduce the 1 Jan 2012 lineup...

• President: Don York · President Elect: Bill Ewald • Pass President: John Lewis

• Treasurer: David Alldredge • Secretary: Mark Kaczmarek • Program director: Erik DeVito

• Communications director: Paul Martin • Membership director: Janet Deery

Regards,

John Lewis, CC President, john.lewis@incose.org

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#### Announcements

#### 1) The 2012 Board of Directors

#### Mark your Calendars with these upcoming area events:



#### October 20-21, 2011

Baltimore Convention Center Baltimore. MD

#### **Design Your Future – Security 2020**



INCOSE members will receive discounted pricing. See FLYER for more info.



Washington, DC October 24 -25, 2011

#### Wednesday 16 Nov 2011



Panel: Systems Engineering &

Program

Management. Is there a conflict?

- New Location: UMBC Technology Center
- Limited to 50 INCOSE attendees

#### **New Improved Web Site**



Check it out. Including our new Blog Section. Read some ruminations on Systems Engineering by chapter members: Can Systems Engineering account for a corrupt heart?



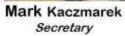
Don York President

Bill Ewald President-Elect

John Lewis Past-President

Dave Alldredge Treasurer









Janet Deery Membership

#### **Feature Article**

### **Elections: The End of a Beginning**

By George Anderson, Elections Chairman and Past President

The 2012 election process is almost complete with the announcement in this issue of the winners of the Chesapeake Chapter's membership vote for the 2012 Board of Directors. Two more events remain before the new Board takes office. The first event occurs at the November 16, 2011, membership meeting when all new officers are formally introduced to the membership and asked to affirm that they will faithfully perform their duties as defined in the Bylaws. In addition to duties assigned, the Board Members, acting in accordance with Roberts Rules of Order, execute decision authority delegated to them by the membership.

The second and final event of the elections cycle is the seating of the new Board. The incoming members' authority vests on January 1, 2012 when the 2011 Board dissolves. Realistically, the Board members first meet in formal session on the second week of January. Members are scheduled to meet 11 times during the year and are individually engaged at membership meetings, special events, joint meetings with other chapters, outreach activities, INTERNATIONAL INCOSE events, Student Chapter mentoring, tutorials, and other events including invitational or social.

The intense schedule of performance entrusted to a Board member as well as unanticipated changes in personal obligations frequently results in resignations that must be promptly filled to insure the Board's functions are not impaired. Our election this year with its multiple candidates, high membership participation and increased awareness, creates a backlog of qualified and motivated candidates to fill vacancies as they occur in 2012.

While the bylaws permit the President with the approval of the Board to appoint any member to fill a vacancy occurring between membership elections, the members who have stood for election are the primary candidates as they have already been presented to the chapter and shown an interest in serving.

For those of you who ran and were not selected, I want to extend a special invitation to join the board in an understudy or associate capacity. We have been successful in encouraging members to participate in these board activities, without voting authority, in order to learn the Chapter's business rhythms. This program began with three candidates in 2010. Today, I am proud to say

by Paul Martin
Sherlock Holmes Takes a Shot
by George Anderson

#### Discover Systems Engineering



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current
issue
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a
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time:
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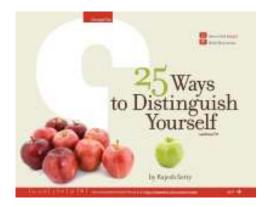
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- Insight, innovation, and the big picture in system design (pages 223 238)
- Dynamic maritime systems inquiry: The DIVER approach (pages 239 254)
- Advancing systems engineering in support of the bid and proposal process (pages 255 – 266)
- A cognitive collaborative model to improve performance in engineering teams – A study of team outcomes and mental model sharing (pages 267 – 278)
- A probabilistic approach to system maturity assessment (pages 279 293)
- An architectural systems engineering methodology for addressing cyber security (pages 294 – 304)
- Model Based Systems
   Engineering with
   Department of Defense
   Architectural Framework
   (pages 305 326)
- Generating SysML views from an OPM model:

all three have been elected to Board positions. David Alldredge, Mark Kaczmarek, and Erik Devito have dedicated two years of professional and untiring service to the Board and the membership. They have already been an integral and necessary element of our past success and you should be fully confident in their abilities to serve next year.

For those of you who were candidates and others who want to distinguish yourselves, please consider taking Dave, Mark or Erik's place as an Associate Board member.

For the membership at large, please help us maintain our leadership superiority by recommending and encouraging worthy candidates for both associate and committee service. Your new board always needs this support.



Finally, thanks to all who supported our first on-line ballot and please attend and participate in our Board investiture on Wednesday, November 16, 2011

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#### 2) Student Division Underway

The INCOSE Chesapeake Chapter Student Division was started last year. We're starting the new School semester off with a informal mixer on Wednesday 5 October 2011 (6:00 – 9:00 pm)

at Looneys Pub South @ Maple Lawn. This so the various Systems Engineering students from the three major colleges and universities in the area can find out more about the program. Here's the official invite for students so they can RSVP.

The Points of Contact to Student Division the are:

• Student Lead: Joshua Proteau; Joshua.Proteau@jhuapl.edu

#### **Faculty Advisers**

- JHU/APL : Bart Paulhamus; Senior Professional Staff; bart.paulhamus@jhuapl.edu; School website
  - UMBC: Paul Martin, CSEP; Adjunct Professor; pmartin@umbc.edu; School website
- UMD: Stephen J. Sutton, PE, ESEP; *Director, Systems Engineering Program*; ssutton@umd.edu; <u>School Website</u>

Read more at the **Chesapeake Chapter Student Division Webpage**.

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**Did You Miss Last Month?** 

# Our September was a Very Busy Month



1) The CSEP Gala

On Wednesday, 7 September 2011 the Engineers Club

- Design and evaluation (pages 327 340)
- Harmonizing ABET accreditation and the certification of systems engineers (pages 341 348)

As a member of INCOSE you have online Access to the current and past issues of The Journal of Systems Engineering via the Wiley InterScience site. Search the archives and download papers of interest. Registration on the Wiley site is required. Instructions for accessing the SE Journal can be found in INCOSE Connect

With Connect you can also download the July 2011 Issue of INSIGHT Systems of Systems and Self-Organizing Security



Click on image above and Log-In today.

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This Newsletter is to serve our members and is open to all for contributions. Do you have an interesting idea for an article?

A review of a new book related to engineering? Let us know. We'd love to hear about. It may wind up in a future issue of our Newsletter.

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#### Get Involved with your Chesapeake Chapter

## Join a Committee! Make a Difference!

Be part of the organization that's promoting Systems



of Baltimore was invaded by a cadre of Systems Engineering Professionals (SEPs) of the associate, certified, and expert variety.

After the dinner and during dessert, the first speaker was Mr. Stephen P. Welby; Deputy Assistant Secretary of Defense for Systems Engineering and the second speaker was John Thomas, Senior Vice President at Booz Allen Hamilton and President Elect on the INCOSE Board of Directors, gave an inspiring speech on how systems engineers "Do Great Things" by solving complex

problems

Read More Details and see More Photos ....

#### 2) Practical Concepts for Model Based Systems Engineering

On Saturday, 17 September 2011, Zane Scott of Vitech Corporation presented a four hour tutorial on Model Based Systems Engineering (MBSE). This Tutorial was well attended, with over 35 attendees, and most found the lecture and teaching very enlightening.

Read More Details, and Download the Presentations and see More Photos ....

#### 3) Agile Systems Engineering

On Wednesday, 21 September 2011, over 60 attendees got to hear Dr. Suzette Johnson provided a nice overview of Agile from a Systems Engineering perspective. she discussed such topics as the INCOSE SE Handbook view of Agile, the fact the Agile Framework is NOT a methodology, and the importance in capturing requirements by developing good User Stories, including Epic Stories.

Read More Details, Download the Presentations and see More



Photos ....

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#### **Local SE Training**

# Preparing for the Certified Systems Engineering Professional (CSEP) Exam

Obtaining a CSEP is not easy, but that's what makes it so valuable. You have to demonstrate your real world experience via a lengthy application and three references. Then you need to pass a two-hour, 120-question, multiple-choice exam. The courses listed below will help prepare potential candidates for this demanding process by becoming familiar with the INCOSE SE Handbook version 3.2 which is the basis for the examination.



Saturdays — Oct 8, 15, 22 & 29, 2011 — 9:30am – 5:00pm

Engineering across the globe for the benefit of humanity and the planet!

- Communications Contact: Paul Martin We need writers, editors, photographers, website and newsletter maintainers
- Programs Contact: Don York

We need help in planning, arranging, organizing and executing the various
Chapter events to include speaker presentations, tutorials, panel discussions, and the holiday party.

• Membership Contact: Bhanu Sunkara

We need help in growing our membership by reaching out into the local SE community.

If any of these activities sound interesting to you please contact the Committee Director to find out how you can get involved.

# Welcome to our Newest Chapter Members

- Sarah E Bucior Johns Hopkins Applied Physics Lab
- Donald Allen
- Janet E DeeryJohns Hopkins University Applied Physics Laboratory
- Priya Thomas
- Harry V. Winsor IBM Federal Systems
- Jeremy M Shull Booz Allen Hamilton
- Dimitrios Spyropoulos University of Maryland
- Aedan Hurley Raytheon Solipsys

We welcome our latest new members. We look forward to seeing you at our meetings and tutorials.

#### Go to the <u>UMBC Training Centers CSEP Prep webpage</u> for details

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1934 Old Gallows Road; Suite 350; Tysons Corner,VA 22182 – 703.226.8042

#### **Course Outlines**

Request course outlines by emailing us at <u>inquiries@csm.com</u> Please indicate which outline you are requesting in the e-mail header.

**MORE INFORMATION**on our in-house delivered programs call or e-mail Ken Mosteller at: 703.582.8849; kmosteller@csm.com

#### **INCOSE Free Tutorial Webinars**

There are two (2) INCOSE tutorials starting soon

- <u>SE Certification Tutorial Webinar</u> Beginning Thursday, October 6th 2011 and running through March 2012
- <u>SE FundamentalsTutorial Webinar</u> Beginning Wednesday, October 5th 2011 and running through December 2011

See our <u>Chapter's Website Education Page</u> for more information.

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**IS2012 Call for Papers** 

Deadline for draft papers, and proposals for panels and tutorials for IS2012 is November 8th



Keep up with the latest news and events. Find out about our new Board of Directors. Explore our extensive library of previous lectures from our Monthly Dinner Meetings. Learn of the Benefits of Joining INCOSE. Check out Systems Engineering education in the local area. All this and more awaits you at our INCOSE Chesapeake Chapter Website.

value your feedback.

For any comments or suggestions about this newsletter please e-mail our President, John Lewis or our Communications Officer, Paul Martin. We

#### **Board of Director Officers, 2011**

- President: Dr. John Lewis

- Past President: Mr. George Anderson
  - President Elect: Gundars Osvalds
    - Treasurer: Mr. Glenn Gillaspy
    - Secretary: Mr. Bob Berkovits

#### **Directors at Large**

- Communications: Mr. Paul Martin

- Programs: Mr. Donald York

- Membership Committee: Ms. Bhanumati Sunkara

Please use the Forward email link below so we can invite your friends to join our mailing list. Thanks in advance.

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