



# SE REVIEW



August 2008

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## President's Perspective

If you haven't read "Complexity, The Emerging Science at the Edge of Order and Chaos" by M. Mitchell Waldrop, it is well worth putting on your to do list. In the book, Waldrop discusses the observation that complex systems sometimes exhibit emergent behaviors. Emergent behaviors are unanticipated and increase the complexity of the system. The book brings out examples from evolution to economics.

Consider the system of Internet broadband suppliers and home broadband consumers. The supplier provides a pipe to the internet, and the consumers provide a fixed amount of cash monthly to have access to the pipe. This has been a fairly stable system, with a high demand on the consumer side and with a growing infrastructure and simple price fluctuations on the supplier side. This dynamic is changing with some emergent properties now appearing.

Central to the system and the emergent properties is the pipe. For example, I have a typical broadband connection with Metrocast cable and pay \$41.95 for 6.0 Mbps download service and 384Kbps upload service. Metrocast assumed that its customers would use the 6.0 Mbps infrequently when they designed how many customers would be able to share a Data Over Cable Service Interface Specification (DOCSIS) leg. If they had assumed their customers would use the 6.0 Mbs concurrently, Metrocast would need to have no more than about 6 customers per leg and have many, very costly pipes to the internet to service all their customers.

I expect to see complex service and fee structures (emergent system properties) within the near future. Recently, the Federal Communications Commission's order to Comcast cable to stop blocking peer-to-peer traffic from applications like BitTorrent was upheld in court. Also, Frontier Communications Corp. has instituted 5 GB per month usage cap for its broadband consumers and other broadband suppliers are considering similar caps. This is more complex than demand outstripping supply. Advertising is paying for and contributing to the media rich, congested internet. Social networks like Facebook and YouTube are drawing in more people to media rich internet usage. Online purchase of music and movies take big chunks of internet throughput capacity. Massive multiplayer, online role-playing games are also growing in popularity and in resource requirements. There are also the spammers and cyber attackers that make use of others computer resources to do their work. There is no lack in innovation in internet usage. There is only limited growth in internet delivery resources from the service provider to the home consumer. There is a lot of information in the TCP/IP packets which can be measured as part of a fee or service structure.

**Next Board Meeting**  
4 September 2008  
1700 – 1830  
Booz Allen,  
Expedition Building

**Next Chapter Meetings**  
3 September 2008  
1700-1900  
Frank Knox Bldg  
Room 120

16 September 2008  
1130 – 1300  
Officer's Club

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This discussion of the system of Internet broadband suppliers and home broadband consumers is one example of how complex systems manifest emergent properties. The book "*Complexity, The Emerging Science at the Edge of Order and Chaos*" will give more insights. Also, I would recommend the INCOSE Forum on Connect "Can emergent properties be truly anticipated?" for a good discussion on the subject for Systems Engineers.

Respectfully,  
John Walker  
President, Southern Maryland Chapter  
[president@INCOSE-SoMD.org](mailto:president@INCOSE-SoMD.org)

## INCOSE News

### INCOSE Webinars

INCOSE has launched a new Webinar series. There will be something for everyone:

- Learn about latest technology, techniques, and standards.
- Find out about INCOSE and member benefits.
- Hear extended presentations of the best symposium papers
- Get facts about professional systems engineering certification

### Call for Nominations for 2008 Elections

Stand for election and help shape INCOSE's future! We are seeking passionate members who want to make a difference in our organization and our profession by bringing their talents and energy to key leadership positions. Positions for election on this year's ballot are:

Secretary - 2 years

Director for Commercial Outreach - 3 years

Region III Member Board Representative (Europe, Israel, South Africa, Turkey) - 3 years

Region V Member Board Representative (South America, Central America and South Eastern United States) - 3 years

Region VI Representative (Australia and Asia) - 3 years

Detailed roles and responsibilities for all positions are available on the election information page (<http://www.incose.org/lib/2008ballot/>). If you would like to run for office or would like to nominate someone, please contact David Long, Chair of the Nominations and Elections Committee. Nominations will close September 5. The 2008 international elections will begin October 1.

### INCOSE 08 Symposium

The INCOSE 2008 Symposium was an amazing success. Sincere appreciation goes out to the host committee and all those who contributed to making the symposium in Utrecht one we will surely remember. Even if you did not go to the symposium, you may view many of the presentations, including the key-note speakers presentations, in the Event Archive <https://connect.incose.org/eventarchive/default.aspx> of INCOSE Connect.

### Share your Photos from the 2008 IS in Utrecht

If you took photographs at the symposium and would like to share them, please send them to <mailto:webmaster@incose.org?subject=Pictures%20from%20Utrecht> with the subject line "Pictures from Utrecht." We will post them in the Event Archive Picture Library <https://connect.incose.org/eventarchive/Photo%20Library/Forms/AllItems.aspx?RootFolder=%2Feventarchive%2FPhoto%20Library%2F2008%20IS%20%2D%20Utrecht&View=%7b76F01B14-9ED9-4A43-9D9C-09E4B27EFAC4%7d> for everyone to see.

### Tool Vendor Challenge Results on the IS2008 Website

At the 2008 International Symposium, ten vendors responded to a challenge presented to them just days before the Symposium. The general background of the challenge was this:



\* NotiiHotels is a world-wide hotel chain with head-offices in Paris, specializing in low-cost, high-value business hotels in city centers around the world. Each hotel has some space for parking, but the space is often occupied by people working in nearby offices, causing arriving guests not to find space for parking their car near the hotel. In order to secure parking space for their guests, they plan to develop an automated parking system that can regulate the use of the limited parking space.

The full text of the challenge is posted here [http://www.incose.org/symp2008/index.php?option=com\\_content&task=blogcategory&id=68&Itemid=134](http://www.incose.org/symp2008/index.php?option=com_content&task=blogcategory&id=68&Itemid=134). They each had 30 minutes to present their solutions. To see the questions and answers and the presentations, please go to the Tool Vendor Challenge [http://www.incose.org/symp2008/index.php?option=com\\_content&task=view&id=137&Itemid=123](http://www.incose.org/symp2008/index.php?option=com_content&task=view&id=137&Itemid=123) portion of the IS2008 website <http://www.incose.org/symp2008>.

### INCOSE of the Future

If you attended the Closing Plenary of the Symposium in Utrecht, then you heard about the future of INCOSE. If not, I recommend you check out the Closing Plenary Slides [https://connect.incose.org/eventarchive/SAWG%20Shared%20Documents/2008%20International%20Symposium%20-%20Utrecht/5%20-%20Thursday%20-%2019%20June/IS2008\\_Closing%20Plenary\\_Thursday.ppt](https://connect.incose.org/eventarchive/SAWG%20Shared%20Documents/2008%20International%20Symposium%20-%20Utrecht/5%20-%20Thursday%20-%2019%20June/IS2008_Closing%20Plenary_Thursday.ppt) in the symposium archive <https://connect.incose.org/eventarchive/SAWG%20Shared%20Documents/Forms/AllItems.aspx?View=%7b1BE74EA1%2d6F37%2d4D34%2dB4C7%2dCCD7859F3E2C%7d>. Look for an article with more details about the notional federated model of INCOSE in an upcoming issue of *INSIGHT*.

### REMINDER: Basis for INCOSE Certification Exam Changed

The CSEP examination is based solely upon version 3.1 of the INCOSE Systems Engineering Handbook. In addition, for those Applicants of the CSEP Acquisition Extension (CSEP-Acq), the exam will have additional questions based on chapter 4 of the U.S. Department of Defense Acquisition Guidebook.

### Schedule of *INSIGHT* Deadlines

The following is a list of upcoming INCOSE *INSIGHT* deadlines:

| SUBMISSION DATE  | PUBLICATION DATE | THEME  | THEME EDITOR  |
|------------------|------------------|--|---|
| 15 October 2008  | December 2008    | Space Systems: Navigating Complexity to Explore the Unknown      | Jim Andary<br><a href="mailto:James.F.Andary@nasa.gov">James.F.Andary@nasa.gov</a><br><a href="http://www.incose.org/insight/volume2012/number201">http://www.incose.org/insight/volume2012/number201</a> |
| 15 February 2009 | April 2009       | Cognition: Pursuing the Next Level in System Performance         | Steve Deal  |
| 15 May 2009      | July 2009        | The Interplay of Architecture, Systems Engineering, and Security | Rick Dove   |
| 13 August 2009*  | October 2009     | East Meets West - The Human Dimension to Systems Engineering     | Leo Tin Boom (TBR)  |
| 15 October 2009  | December 2009    | Model-Based Systems Engineering: The New Paradigm                | Rob Cloutier  |

\*early submission date

### Renew Your Membership

Don't forget to renew your membership. Your annual membership now expires 12 months after your enrollment anniversary. If you want to know what your enrollment date is and when your current membership will expire, just view your member profile <https://www.incose.org/membersOnly/memberInfo/updateMemberInfo.cfm>. Should you have problems or questions, e-mail Central Office (<mailto:info@incose.org>).

### Update your membership profile

Did you know that you have the ability to reset your own password, change your address, phone number and employer, and even change the e-mail addresses you want your incose.org e-mails to go to? Did you know that you can also update your biography and even your picture? To keep your membership information up to date, just go to [www.incose.org](http://www.incose.org). On the left side, select the option to View / Update Member Record.

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## Chapter Highlights

### Member Profile

Please welcome our new members:

**Charles McDowell** joined on 24 June. He is a Senior Analyst at Northrop Grumman Mission Systems. His e-mail is [Charles.McDowell@ngc.com](mailto:Charles.McDowell@ngc.com), and phone number is (301) 862-5169.

**Jack Felsher** joined on 27 July. He is a Program Manager/Senior Systems Engineer at JF Taylor Inc. His e-mail is [jfelsher@jfti.com](mailto:jfelsher@jfti.com), and phone number is (240) 298-0259.

**David Turner** joined on 12 August. He is an Engineer at SURVICE Engineering. His e-mail is [dave.turner@survice.com](mailto:dave.turner@survice.com), and phone number is (301) 866-2080.

### Member Contributions & Support Needed

We are in desperate need of more help, more involvement, more members, and more leadership from our current members to maintain our ambitious schedule of events. Also please send news on your projects at work, on your personal or professional achievements, any notable upcoming events the membership should know about, etc. Send electronic pictures, too! We continue to request that each of the Chapter members provide us with a brief bio, so everyone will get to know you a little better. This will also make it easier to network with other Chapter members. Please include items such as where you went to school and any degrees, current and past positions, INCOSE activities, and any other information you would like to share. Our newsletter can use your articles and your support. Please send all contributions to Karl Geist at [kgeist@md.metrocast.net](mailto:kgeist@md.metrocast.net), Dawn Jaeger at [Dawn.Jaeger@navy.mil](mailto:Dawn.Jaeger@navy.mil), or Steve McKeown at [mckeown\\_steve@bah.com](mailto:mckeown_steve@bah.com). If you have any questions, please send an e-mail or call Dawn at 301-757-0907, or Steve at 301-862-7033. So, please consider volunteering and being part of the exciting opportunities in Systems Engineering. As current members, the Chapter Board of Directors (BOD) welcomes your feedback to the chapter's plans. Address these comments to any of the Chapter's Officers or BOD members found in the Chapter's monthly SE Review newsletter. Thank you!

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## Upcoming Events

### Southern Maryland SPIN/INCOSE Chapter Meeting

*Co-hosted by SoMD SPIN Chapter and INCOSE SoMD Chapter in Patuxent River, Maryland*

**When:** 3 September 2008, 1700-1900

**Where:** Frank Knox Building, Room 120

**Theme:** Systems Engineering in the DoD today: Vision, Policy, Instructions, and Source Materials

**Speaker:** Mark Schaeffer, former Systems Engineering Director for the Office of the Under Secretary Of Defense, Acquisition Technology and Logistics

## Upcoming Events (cont.)

**Info:** <http://www.somdspin.org/>

**POC:** Liz Burnett at 301-862-7398, [Liz.Burnett@ManTech.com](mailto:Liz.Burnett@ManTech.com) or Karl Geist at 301-475-5646, [kgeist@md.metrocast.net](mailto:kgeist@md.metrocast.net)

**Venue:** Snacks

**Cost:** Free

### Southern Maryland Chapter Meeting

*Hosted by INCOSE SoMD Chapter in Patuxent River, Maryland*

**When:** 16 September 2008, 1130-1300

**Where:** NAS Patuxent Rivers Officers' Club, Patuxent River, MD

**Theme:** Technical Performance Measures: Gluing PM and SE Together

**Info:** [www.incose-somd.org](http://www.incose-somd.org)

**Speaker:** Mr. Jim Armstrong, Industry Professor of systems engineering at Stevens Institute of Technology

**POCs:** Karl Geist, 301-475-5646 or Steve McKeown, (301) 862-7033

**Venue:** Buffet

**Cost:** \$5.00 for SoMD INCOSE Chapter members, \$8.00 for Non-members

**Description:** Much has been written about Technical Performance Measures (TPMs); however, it has been stove-piped into the technical management side of systems engineering. Similarly, information abounds on basic management of programs and progress tracking with regard to cost and schedule. These techniques, EVMS in particular, have fallen into the exclusive domains of the program manager and accountants. One of the keys to connecting the dots between these two worlds is the TPM. This presentation will address how the two should be connected. Also addressed are the correct implementation of TPMs and several problems encountered in current usage.

### Asia-Pacific Conference on Systems Engineering (APCOSE 2008)

*Hosted by INCOSE Region VI Chapters*

**When:** 22-23 September 2008

**Where:** Yokohama Hiyoshi Campus of Keio University, Yokohama, Japan

**Theme:** Systems Engineering: Wisdom for Global Harmony

**Info:** <http://www.incose.org/japan/apcose2008/>

**POC:** Prof. Hidekazu Nishimura, [apcose2008@sdm.keio.ac.jp](mailto:apcose2008@sdm.keio.ac.jp)

**Description:** The suggested keywords for APCOSE 2008 are given below and relevant researchers/engineers are encouraged to take advantage of this opportunity to make a presentation of their work and interact with other scientists and engineers in the field.

- International Security
- Safety and Security
- Safety and Risk Management
- Environment Conscious Development
- Disaster Mitigation
- Education/Public Outreach
- Human Factors and Facilitation
- Systems Engineering Management
- Space Systems Design and Operations
- Product Line Engineering
- New Product Design and Development
- Innovative Use of Information Technology
- Multi-objective Optimization
- Model Based System Engineering
- Embedded Systems
- Architecting and Integrating
- Systems Engineering Research

## Upcoming Events (cont.)

Information on  
Working Groups  
can be found at the  
INCOSE web site:

[www.incose.org](http://www.incose.org)  
*Advancing the Practice*  
→ *Technical Activities*

### Systems Engineering and Test & Evaluation (SETE) 2008 Conference

**When:** 22-24 September 2008

**Where:** Rydges Lakeside, Canberra, Australia

**Theme:** "SETE for the Enterprise – Enhanced Capabilities through Integration"

**Info:** <http://www.sapmea.asn.au/conventions/sete2008/>

**POC:** Fiona Gurd, SAPMEA Meetings Management, 08 8274 6053 or e-mail at [sete2008@sapmea.asn.au](mailto:sete2008@sapmea.asn.au)

**Description:** Tutorials will be held on Monday, 22 September followed by two full days of Conference Sessions. The program includes a combination of plenary, panel, tutorial, and workshop sessions as well as providing time to network with colleagues during refreshment breaks that will be held within the exhibition area.

This conference will focus on emerging Systems Engineering and Test and Evaluation (T&E) challenges in the System of Systems (SoS) domains as well as addressing systemic problems in those areas, with the objective of providing sponsors and attendees with a high return on investment. SoS integration and T&E are areas of concern for both Industry and Defense. IT systems in many organizations, for example, are little more than a collection of independently useful applications that could benefit significantly through integration. Issues addressed will include lifecycle governance, evolutionary acquisition, rapid acquisition, architecture at the Enterprise level and professional practice standards.

### OCD & CONOPS in Capability Development Course

*Presented by Mr. Robert Halligan, FIE Australia*

**When:** 10-14 November 2008

**Where:** Clarion Las Vegas, Nevada

**Info:** [www.ppi-int.com](http://www.ppi-int.com)

**POC:** 1-888-772-5174 or [contact@ppi-int.com](mailto:contact@ppi-int.com)

**Cost:** \$3,250.00

**Course Code:** P958-03

**Description:** This course is a 5-day immersion in the development of military capability, with a focus on problem definition, Operational Capability Description (OCD—how the capability, and each element of its solution, will be used), and the Concept of Operations (CONOPS—how the military outcome is to be achieved). The course is consistent with a systems approach to problem solving, as advocated by defense administrations worldwide.

### Systems Engineering for Technology-Based Projects & Product Developments Course

*Presented by Mr. Robert Halligan, FIE Australia*

**When:** 08-12 December 2008

**Where:** Clarion Las Vegas, Nevada

**Info:** [www.ppi-int.com](http://www.ppi-int.com)

**POC:** 1-888-772-5174 or [contact@ppi-int.com](mailto:contact@ppi-int.com)

**Cost:** \$2,350.00

**Course Code:** P006-355

**Description:** This course will provide a strong foundation for achieving improved results on technology-based projects. The course, already delivered to over 4,000 delegates worldwide, addresses systems engineering as it is understood and practiced in world-class organizations (developer, acquirer, and supplier). The course provides an integrated approach to the set of management and technical disciplines which combine to optimize system effectiveness, enhance project and product success, and reduce risk.

### 2009 INCOSE International Workshop

**When:** 31 January – 3 February 2009

**Where:** San Francisco, California

**Theme:** Various Committees, Working Groups, and Certification Beta Test

**Info:** <http://www.incose.org/>

**POC:** PCMI, (858) 565-9921

**Description:** The workshop features many committee and working group meetings such as the Certification Working Group, Handbook Working Group, INCOSE Fellows, the Corporate Advisory Board, Certification Advisory Group, Certification Beta Test, etc.

## Upcoming Events (cont.)

### Second International Conference on Model-Based SE (MBSE'09)

*Hosted by the Israeli Chapter of INCOSE*

**When:** 2-5 March 2009

**Where:** Herzeliya and Haifa, Israel

**Info:** <http://www.mbse-org.org>

**POC:** Prof. [Dov Dori](#), Technion, Israel [dori@ie.technion.ac.il](mailto:dori@ie.technion.ac.il)

**Description:** The Conference is a premier forum for the elicitation and exchange of ideas on issues and problems regarding systems engineering and its relation to the development, evolution, adoption, evaluation, and dissemination of languages, methodologies, and approaches for conceptual models of complex systems. The objective of the Conference is to improve practices of Model-Based Systems Engineering by endowing this evolving discipline with missing theoretical and methodological underpinnings and improving the communication of complex systems' function, structure, and behavior among stakeholders. In addition to research and practice papers the conference will feature invited speakers, tutorials, and an industrial exhibition.

### 2009 INCOSE International Symposium

*The 19th International Symposium -- Hosted by Region VI Chapters of Australia, Beijing, Japan, Korea, Singapore, and Taiwan*

**When:** 19-23 July 2009

**Where:** Suntec International Convention and Exhibition Centre, Singapore

**Theme:** East Meets West: The Human Dimension to Systems Engineering

**Info:** <http://www.incose.org/symp2009/>

**POC:** ASK International Conference, [is2009@askintlconference.com](mailto:is2009@askintlconference.com)

**Description:** The theme for INCOSE 2009 highlights the dramatic expansion in the scope of contemporary Systems Engineering where the human cognitive dimension is becoming an integral part in the Systems Engineering processes. Future systems, where the machines are designed around the man, will benefit from Systems Engineering best practices and processes. Systems Engineering methodologies have been successfully applied to designing large-scale complex engineering projects that are multi-disciplinary in nature.



## SoMD BOARD OF DIRECTORS

|                                      |  |
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