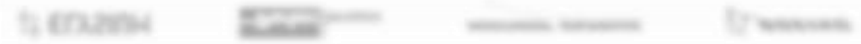


External Standards

Development to Support

Needed Capabilities

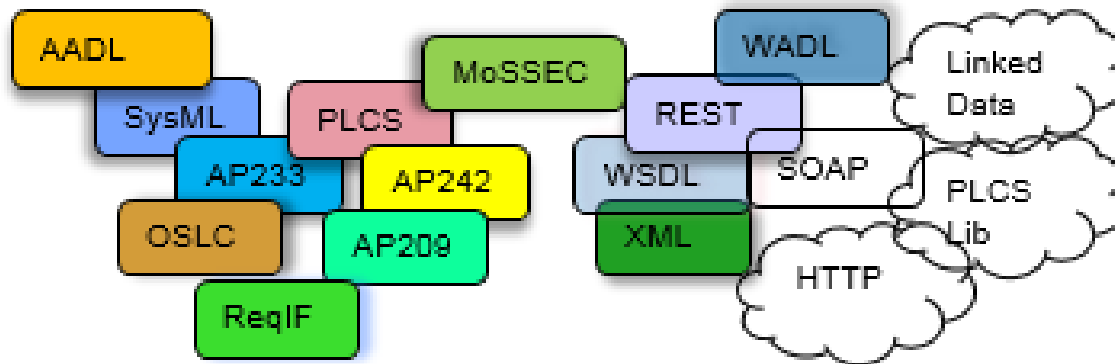
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Systems Engineering Standards Landscape

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- **At the 2015 GPDIS Conference, Jay Ganguli of Boeing** talked about various standards of interest, how they related, what general practices and foundations were involved.

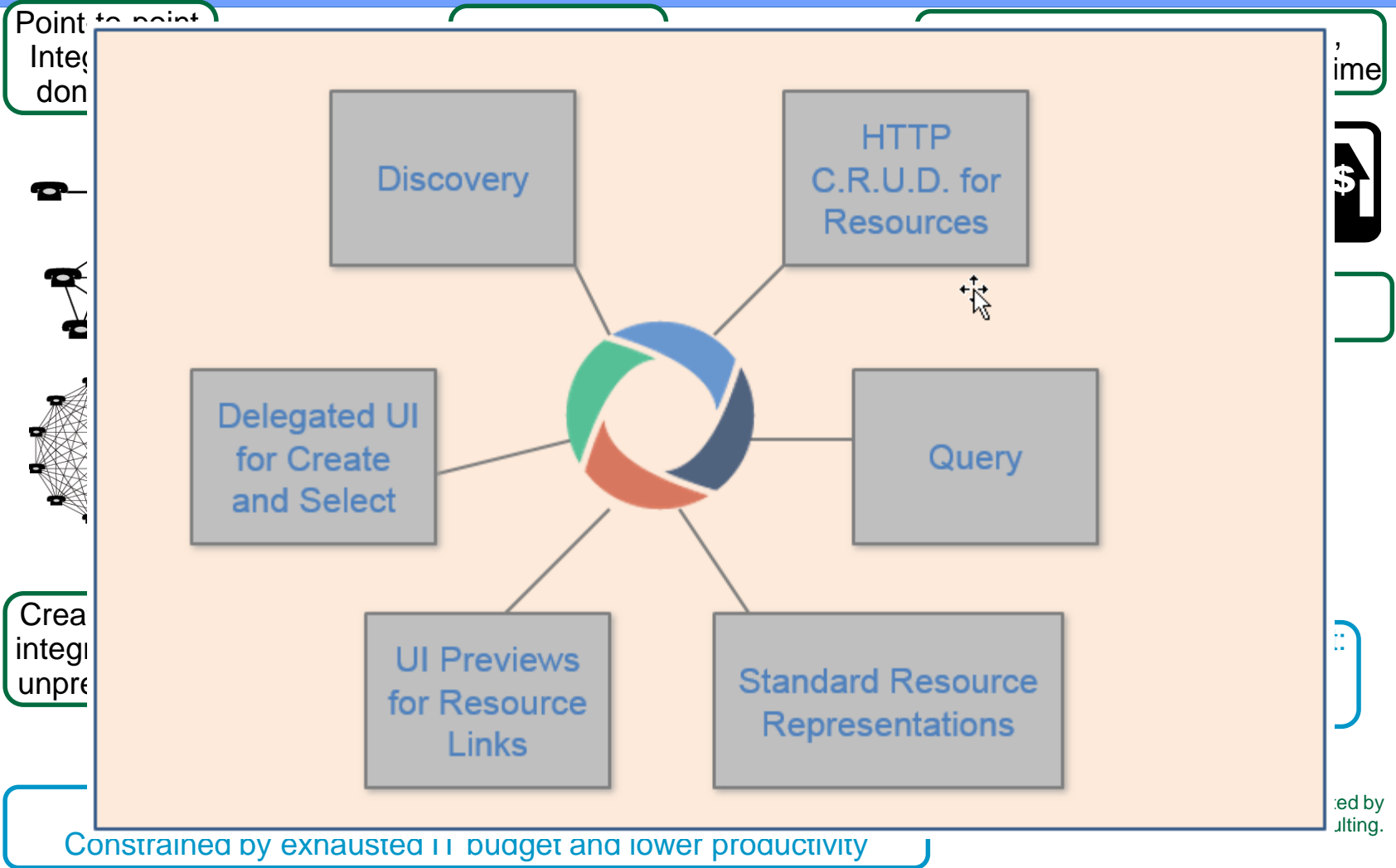


Will talk about a couple of these in the context of **most important for SE** (SysML, Modelica, OSLC, Functional Mockup Interface (FMI) and XMI) as discussed last year

- How do any of these apply to needed capabilities?
- Ways to interact with the standards bodies?

The Integration Problem - The OSLC Solution

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The important areas of integration and alignment for the Software (ALM/SDLC) and Product lifecycle management (PLM) - Role perspective

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Development Management

1. Common process gates	4.5
2. Project management	4.5
3. Field problem reporting and integrated resolution	4
4. Release management	4
5. Change request handling	3.5
6. Coordination of Systems Engineering across the disciplines	3.5
7. Variation management and reuse	3.5
8. Systems and Product modelling	3
9. Integrated requirements, validation and verification	3

Project Management

1. Integrated requirements, validation and verification	4.75
2. Change request handling	3.71
3. Systems and Product modelling	3.43
4. Coordination of Systems Engineering across the disciplines	3.14
5. Field problem reporting and integrated resolution	3.14
6. Project management	3
7. Variation management and reuse	2.71
8. Common process gates	
9. Release management	

Systems Engineer

Integrated requirements, validation and verification	4.33
Variation management and reuse	4.17
Change request handling	3.67
Project management	3.67
Coordination of Systems Engineering across the disciplines	3.5
Release management	3.33
Systems and Product modelling	3.33
Field problem reporting and integrated resolution	3.17
Common process gates	3

If we look at the top 4 areas of alignment and integration between the software and product lifecycle processes for the roles which had significant representation amongst those that responded, we can see some clear variations in priorities that can be attributed to the focus areas of the different roles.

Other Senior Technical Management

1. Project management	5
2. Coordination of Systems Engineering across the disciplines	4.67
3. Systems and Product modelling	4.33
4. Change request handling	4
5. Release management	4
6. Integrated requirements, validation and verification	4
7. Variation management and reuse	3.33
8. Common process gates	3.33
9. Field problem reporting and integrated resolution	

OSLC (Open Services for Lifecycle Collaboration)

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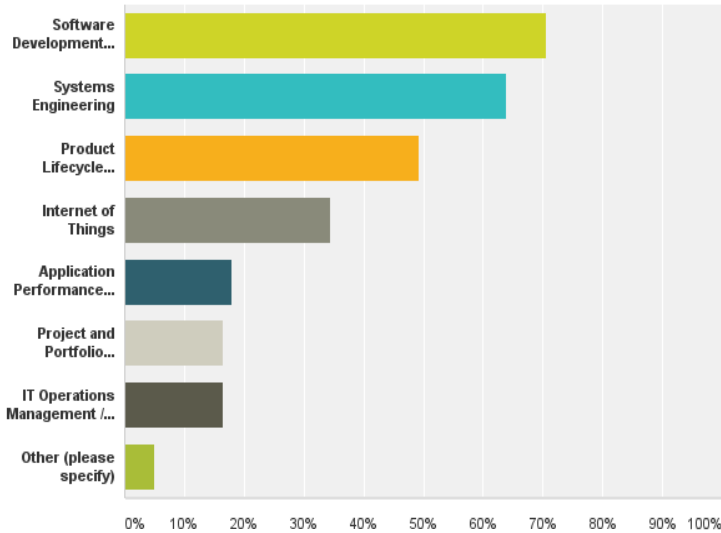
- **OSLC Steering Committee Vision Statement**
<http://open-services.net/wiki/steering-committee/vision/>
- **OSLC Survey (asking the OSLC stakeholders)**

The results available at:

<https://www.surveymonkey.com/results/SM-2XVJT6CR/>

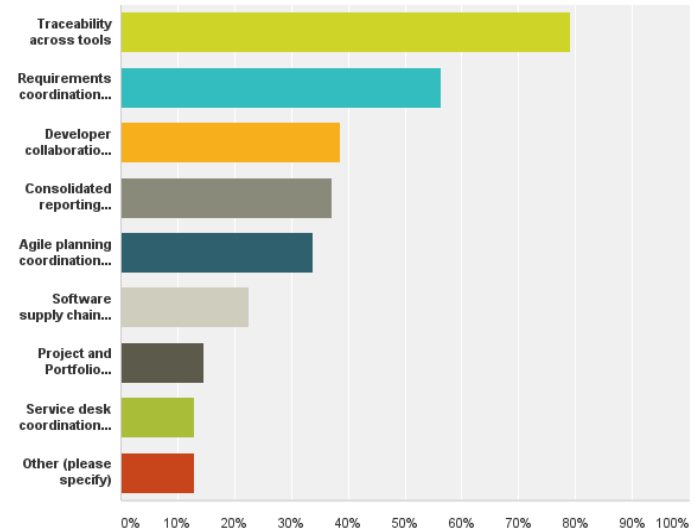
Q2 Which of the following areas are you most interested in integrating via OSLC?

Answered: 61 Skipped: 1



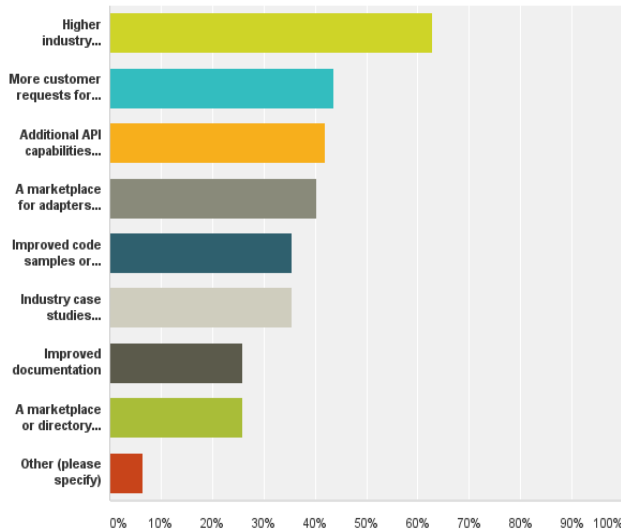
Q3 Which of the following benefits would you like to achieve with lifecycle integration?

Answered: 62 Skipped: 0



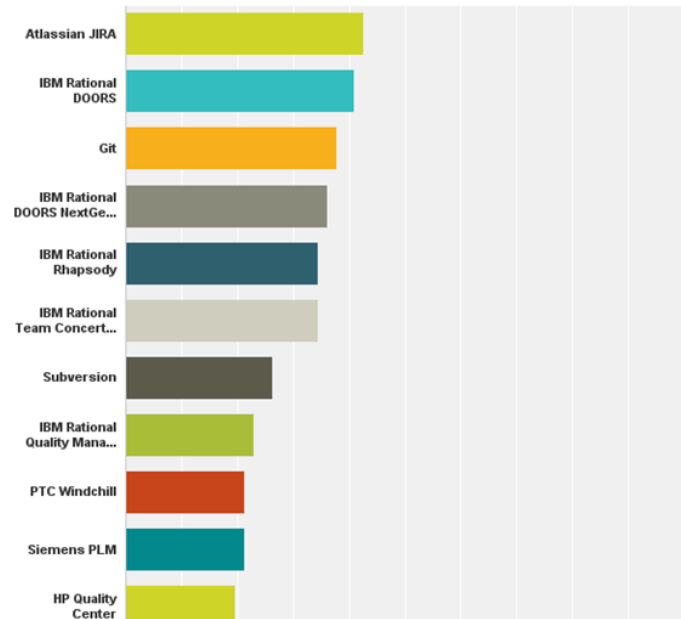
Q5 Which of the following are most likely to drive your organization to increase adoption of OSLC?

Answered: 62 Skipped: 0



Q7 Which of the following products does your organization need to integrate?

Answered: 61 Skipped: 1



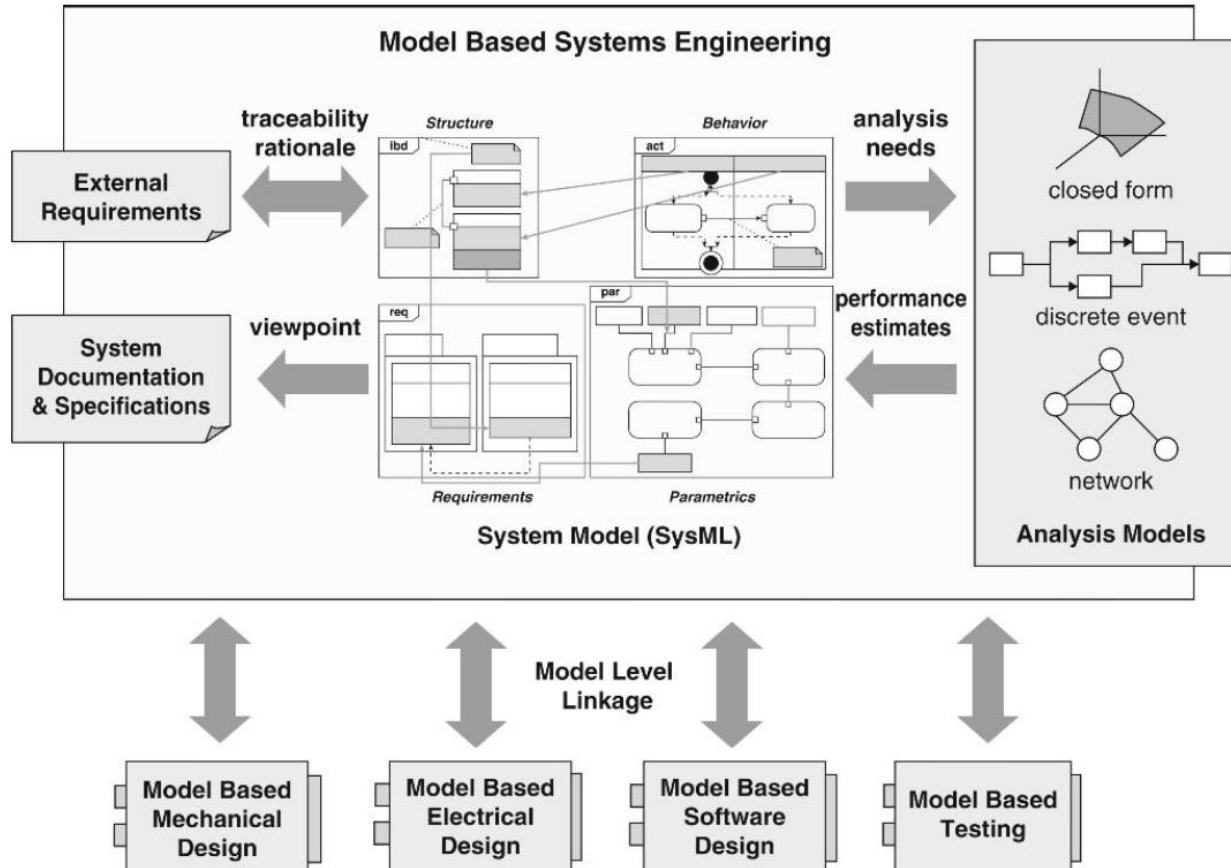
OMG Standards

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- **OMG standards are driven by vendors, end-users, academic institutions and government agencies. Member-controlled not-for-profit**
- **OMG Task Forces develop enterprise integration standards for a wide range of technologies and industries. OMG's modeling standards include UML, SysML and MDA.**
- **Specifications freely available**
- **"No Shelf-ware" policy bars all proposed specifications that do not have an implementation plan from being adopted by OMG.**
- **Other Standards of interest:**
 - **Unified Profile for DoDAF/MODAF (UPDM)/Unified Architecture Framework (UAF)**
 - **UML Testing Profile V2**
 - **Unified Component Model for Real-Time and Distributed Embedded Systems**
 - **UML Operational Threat and Risk Model**
 - **Front Line Cyber Security Protection (currently an RFI)**
 - **Precise Semantics of UML State Machines**

What is Model Based Systems Engineering

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8

Important SysML-related work activities

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- **SysML V2 Planning and Requirements Working Group**
 - **SE key concepts**
 - Their objective is to derive a data model that captures the core Systems Engineering concepts and vernacular. Use that to derive the system modeling language requirements that will be used in SysML V2 RFP.
 - http://www.omg.org/syseng/SE_Conceptual%20Model/SE_Conceptual_Model.htm
 - **Issues with model construction**
 - **Issues with model visualization**
 - **Issues with model management topics**
 - **PLM Integration needs**



- **SysML 2 will be more focused on the Systems Modeling Environment as opposed to just the modeling language**
 - **What is the environment in which SysML work is done?**
 - SME shown here is optional, defining API service rqmts only

