



Object Management Group Meeting (Ottawa, Ont., Canada – September 2018)

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This report contains notes from sessions the author personally led or attended during the OMG® Technical Meeting held in Ottawa on September 23-28, 2018, including the closing plenary reports.

A comprehensive list of all the committees, task forces and working groups of the OMG can be found at www.omg.org/homepages/. A list of all the work in progress, with links to the corresponding materials (RFPs, etc.) is at <http://www.omg.org/schedule/>. A list of OMG acronyms and abbreviations is included as an Appendix.

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1. Data Governance Working Group

Due to the difficulty of finding another time when all the key participants were available, the co-chairs of the DGWG convened a meeting on Sunday evening from 5:00 to 8:00 p.m.

The DGWG was formed at the June 2018 meeting in order to bring together four distinct but related groups or initiatives:

- the Data Provenance and Pedigree Working Group,
- the Data Residency Working Group,
- the Information Exchange Framework,
- the Data Tagging and Labeling (DTL) initiative started within the C4I Domain Task Force.



The DGWG is co-chaired by **Claude Baudoin, John Butler, and Robert Lario**. The meeting was mostly devoted to mutual updates among the participants, which also included Mike Abramson, who inherited the DTL initiative from Ron Townsen, Char Wales (MARS co-chair) and others.

We discussed the state of the RFP on data provenance and pedigree being drafted by John and Robert, as well as the prospect for an RFP on a formal representation of the legal and regulatory language concerning data protection and data residency.

At the next meeting in December, we will hold a meeting of the Working Group as well as a public forum, advertised as a special event with free registration, in order to get more people involved. We will also invite Prof. Margo Seltzer, who moved from Harvard to the University of British Columbia, and who has done interesting and very relevant research on provenance and pedigree.

2. Business Modeling & Integration Domain Task Force (BMI DTF)



Fred Cummins (Agile Enterprise Design) and **Claude Baudoin** (cébé IT & Knowledge Management) co-chaired the meeting, which was attended at least in part by a total of 20 different people – 15 in the room and 5 online. The online session was specifically requested in order to bring external participants to the first presentation and discussion reported below.

2.1. Exploring BPMN, CMMN and DMN Unification



Denis Gagné (Trisotech) presented the next iteration of the ideas already discussed at the June meeting, based on the experience of applying the “triple crown” of process standards (BPMN, CMMN and DMN) to the healthcare domain. This proof-of-concept effort was done with the Healthcare DTF and resulted in a “Healthcare Process Modeling Field Guide” (which Stephen White had presented in June), which explains how and when to use each of the three specifications.

The challenge, as Denis had explained previously, is to harmonize the three standards, or at least allow users to use them in combination, without (a) resulting in notation overload, (b) opening a Pandora’s

box of 5-6 years of revision work to create a “BPMN 3” that would encompass all the concepts in the three standards. Besides, such a “BPMN 3” could either fail to be adopted by tool suppliers due to the work involved, or it could disrupt the market if users lose trust in vendors that are not compliant with it, even though BPMN 2.x should be a perfectly acceptable subset.

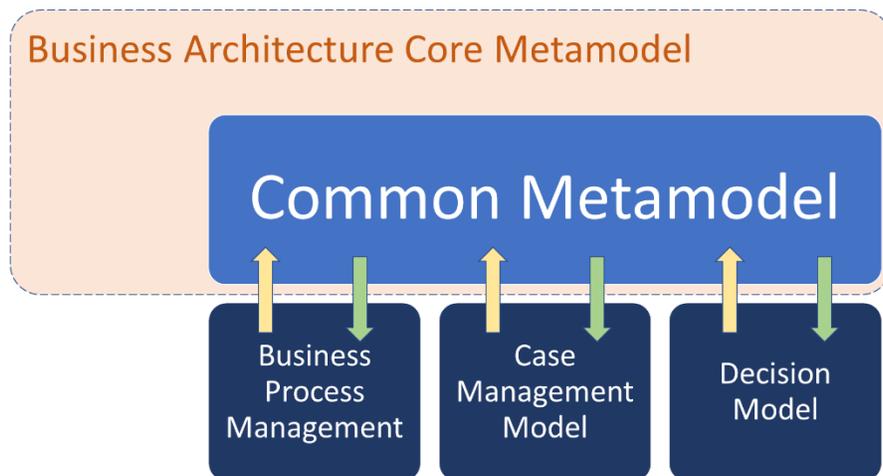
Falko Menge (Camunda, on the phone) said that Camunda would be interested in supporting the initiative proposed by Denis, if it is bounded in time and effort.

As shown in the healthcare field guide, one key idea is to add an “overarching architectural view” of all the process, case and decision components of a complete model set. Denis said that this view gets created after the various models (in BPMN, CMMN and DMN) have been created. **Frederick Hirsch** (Fujitsu) thought that this high-level view could also be the output of an upfront analysis activity, from which the analyst would set up a “workbench environment,” from which one can “drop down” into the analysis of the various parts of the whole model using the appropriate technique in each case.

Denis mentioned that BPMN is used in different ways – to help specify a new process, to document an existing one, to train new employees on how to do their work – and that we do not want to privilege one use case over another.

Stephen White (BPM Advantage Consulting) said that he would like the content of the Field Guide to be standardized in some way.

The discussion led to the following diagram representing the relationship between different models and metamodels. The arrows indicate how common concepts would be extracted from BPMN, CMMN and DMN to populate the common metamodel, and how they a business analyst might create the top model and then “drop down” into each of the three still-separate standards to perform specific modeling work:



In addition, there may be a need to fill the “white space” between BPMN, CMMN and DMN. Another question is whether this common “PCD” metamodel (processes, cases and decisions) would be a proper subset of BACM, as represented in this diagram, or coexist with it in some other fashion.

In support of the desire to avoid notation overload, **John Butler** said that the US DoD went through BPMN and already had to trim it because it is pretty big. He also said that we need to look into how these models represent or connect with data objects and other elements that are part of the

environment. This sounded close to the motivation for the Business Architecture Core Metamodel which is being worked on in parallel.

Fred Cummins said that experienced and novice people may need different models. An experienced person could use a looser model, probably based on cases, as they have the knowledge to know what to do in a particular situation. A novice needs more guidance and may only be able to reliably perform tasks that are described by a prescriptive recipe.

Denis Gagné said that “you do not usually appreciate the need for CMMN until you have done a lot of work with BPMN and have hit the wall” (i.e., encountered situation that BPMN cannot easily model).

We concluded with a consensus to pursue two actions at the December meeting in Seattle:

- Create a “BMI version” of the healthcare field guide – a version that would clearly position the proposed approach as a generic one, not specific to a particular vertical section, and would say that healthcare is only an example.
- Discuss, and start drafting, an RFP.

2.2. The SysML Requirements Package

This was a continuation of the discussion of requirements started several meetings ago by Jason Smith, Bill Ulrich, Jim Rhyne and others. One of the outcomes of the June meeting had been to request a presentation on how requirements are handled in SysML. Jason Smith (Elemental Reasoning) had said that Manfred Koethe had told him that Conrad Bock (NIST) was defining a very generalized requirements package for SysML v2, and that it was not specific to systems engineering. Therefore, we wanted to understand how requirements will be specified in SysML v2, and take this into account in any potential BMI DTF work (including an RFP) on this topic. Upon follow-up, it turned out that Conrad was not involved, but **Sandy Friedenthal** was.



Sandy explained that the four pillars of SysML are *structure*, *behavior*, *parametrics*, and *requirements*. Requirements are usually captured in text, often in systems such as IBM DOORS, and are included in a SysML model in order to achieve traceability (i.e., design rationale). The existence of a textual expression of the requirements (often in a tabular format) is often mandated by the contract between an engineering firm and its clients.

In SysML, the only mandatory features of a requirement are that it must have a name, an ID, and some text, which described the requirement in natural language. There can also be user-defined properties and a classification.

Requirements are often organized as a tree. There are important relationships called “satisfy” and “verify,” in addition to others such as “derive,” “trace,” “refine,” “copy”:

- One may assert that a particular “block” *satisfies* a requirement (no proof needed)
- A “test” can *verify* that a requirement is met.

SysML 1.5 introduced constraint formulas, but these are not captured in a formal expression language. SysML v2 has an objective to specify constraints better, but the manner of doing it is up to the

submitters. Denis Gagné suggested that they should look at FEEL, the Friendly-Enough Expression Language, which is used in DMN.

SysML v2 will also add a mechanism to ensure that requirements are given a unique identifier.

Henk de Man asked whether there was a way to specify “delta requirements” for a new version of a system. For example, in a modernization project, you may not want to have to re-create a complete model of the legacy system, which did not exist, in order to specify the new system. There was no clear answer to this question.

After this clear exposé, the group went back to discussing the differences between *product requirements* (which are what SysML addresses) and *business requirements* (which are what the BMI DTF is trying to model). For Fred Cummins and Henk de Man, naturally, this comes back to their belief that VDML solves everything.

2.3. Roadmap Discussion

The last segment of the meeting was devoted to collecting ideas “parked” during the previous discussions in order to set the Task Force’s short-term roadmap, and in particular the agenda for the Seattle meeting in December. The following table captures the results.

Subject	Comments	Seattle Agenda
BACM	The revised submission date is Nov. 12 (4 weeks before the Seattle meeting)	1 hour for each submission team (potentially 3 of them)
Requirements	We identified multiple sources or efforts to which this is related: ISO, IIBA, SysML, SEBOK, SWEBOK. Jason Smith and Bill Ulrich, who started this discussion, were absent this time.	Discuss the right steps: <ul style="list-style-type: none"> • A discussion paper on the needs? • An RFI to find more standards? • Then we’ll know if we need to draft an RFP
Liaisons	Activities may be required if the liaison with TC 309 starts being active or if the IEEE SSIT SC wants to work with us.	Nothing to plan yet
BPMN, CMMN, DMN	There are two action items for Denis and Stephen: <ul style="list-style-type: none"> • Genericize the Field Guide • Propose a common metamodel (RFC), or the requirements for one (RFP) 	One hour to present on the revised Field Guide and the metamodel, if ready. Members should be invited to attend the interoperability demo on Monday, 5-7 pm
Risk Management	We need to revive this given that the SysA Operational Threat & Risk (OTR) metamodel effort has stopped. We have a broad taxonomy created by Fred. How does this connect to BACM? Is there a community and tool vendors who would submit in response to an RFP?	Write a discussion paper, starting with the taxonomy and perhaps a list of existing standards, regulations, etc.

3. Cloud Working Group



Claude Baudoin chaired this half-day inaugural meeting of the new Cloud Working Group, which replaces the Cloud Standards Customer Council (CSCC) since July 2018. We had 7 people in the room and up to 7 online, including co-chair **Karolyn Schalk** (IBM) and Jean-Claude Franchitti (Archemy). Tracie Berardi (OMG), whose help has been invaluable during the life of the CSCC and during this transition period, was also present.



3.1. Overview

Claude Baudoin went through a prepared presentation to explain the transition from the CSCC to the CWG, derived from a webinar we conducted on July 19.

John Draga (Micro Focus Inc.) asked a question about the process to transform the existing CSCC white papers and practical guides into OMG discussion papers. This process has been discussed with Char Wales, co-chair of the MARS Task Force, which is expected to be the body reviewing and approving new and revised papers from the CWG.

3.2. CWG Governance

Claude explained that he had become the first co-chair “by default,” or rather by virtue of having proposed to transform the CSCC into a Working Group of the OMG, and working with OMG management to make it happen. The second person to volunteer was Karolyn Schalk of IBM. Since it was important to have a second co-chair, and IBM has played such a key role in supporting the CSCC during its seven years of existence, it was natural to make Karolyn a co-chair.

Shortly after that, **Lisa Schenkewitz** of IBM also volunteered. However, it seemed undesirable to have too many supplier representatives, and especially two people from the same company, as co-chairs. After discussion, Karolyn and Lisa agreed to work together and to alternate role on an annual basis. Thus, Karolyn is expected to hand off her co-chair role to Lisa in the summer of 2019.

Finally, **David Harris** of Boeing also expressed interest in being co-chair, with a sense of urgency as he needs to submit a paper for the SIA conference at the end of October, and it would help him to be able to speak on our behalf. Having David in that role balances the team with a representative of a cloud *customer*.

Upon Claude’s proposal, the people present at the meeting approved this initial roster of co-chairs, and Claude said that we will henceforth have elections on an annual basis in order to give members of the group a direct voice in selecting the leaders.

3.3. ISO/IEC SC 38 and Potential Liaisons

Steven Woodward (Cloud Perspectives) had asked whether we had an official liaison with ISO/IEC JTC 1/SC 38, “Cloud Computing and Distributed Platforms.” The CSCC had established such a liaison in 2015, and the OMG has liaisons with several other ISO committees. We may need to update/migrate the SC 38 liaison.

Based on this offline discussion, we had offered Steven a time slot to present what SC 38 does. He said that there are 3 standards in progress in that group:



- ISO/IEC 23189, Framework for Trust in Processing for Multi-Sourced Data. This actually relates more to the OMG's Data Governance WG than to the Cloud WG. This will be mentioned to the other Data Governance WG co-chairs for their consideration.
- ISO/IEC 22624, Taxonomy-Based Data Handling for Cloud Services.
- ISO/IEC 22678, Guidance for Policy Development

... and 4 more in the pipeline:

- ISO/IEC 23167, Common Technologies and Concepts
- ISO/IEC 23187, Interacting with Cloud Services Partners
- ISO/IEC 23188, Edge Computing Landscape. This is coordinated with SC 41 (IoT), whose Working Group 3 (IoT Architecture) is led by Erin Bournival (Dell) who also co-chairs the Standards Task Group (STG) of the Industrial Internet Consortium (IIC). This is more relevant to the IIC than to the OMG, but since Claude participates in the IIC STG meetings, he can discuss the connection to the cloud with her.
- ISO/IEC 23613, Service Metering and Billing.

There are certainly other organizations that have standards related to the cloud. Steven mentioned that NIST issued Special Publication 500-291, "NIST Cloud Computing Standards Roadmap," but that it has not been revised since 2013 (he said 2011 during the meeting, but there was a Version 2 in July 2013). Give that, it was decided to create a "cloud standards landscape" web page, probably as part of the OMG CWG wiki. In parallel, the co-chairs will work with Steven on the liaison with SC 38.

Tracie Berardi (OMG) has a list of other organizations that CSCC was collaborating or liaising with. This will need to be reviewed.

3.4. Communications Materials

The participants reviewed the contents of the CWG's web page and wiki. People who wish to contribute to the wiki can request a username and password. There is a visual editor, and the Dokuwiki markup language is not hard to learn.

3.5. Deliverables Planning

After reviewing the suggestion that were made during the summer by some of our members, the group agreed to pursue three papers as the first priorities:

- Version 3 of the **Practical Guide to Cloud Service Agreements** (Version 2 is from early 2015). Atem Samson, from the National Oceanographic and Atmospheric Administration (NOAA) said that they are working on procurement criteria, therefore they are interested in this paper.
- A new **Practical Guide to Cloud Deployment (or Delivery?) Platforms**, suggested by Karl Scott of Satori Consulting. John Draga, who is a member of the MARS Task Force, wants to make sure

that this paper takes into consideration the requirements to support required communication protocols, such as DDS (based on a negative experience with Pivotal).

- A new **Practical Guide to Cloud Governance**, suggested by Karolyn Schalk and independently by Ash Heda (Wipro). Atem had said in the meeting that “we need to talk about governance,” therefore we will put him in touch with Karolyn and Ash.

3.6. Meeting Planning

There was general agreement that in addition to teleconferences, face-to-face meetings (such as this one) are useful. They increase the sense of belonging to a community of people pursuing a common goal. At the same time, since participants won’t travel to a different location each quarter for a half-day or even full-day meeting, teleconferences will remain a key mechanism to ensure regular progress between physical meetings.

For the December OMG meeting, we agreed to meet on Tuesday, December 11, all morning (9:00 to 12:00) followed by a reserved lunch table. We will also use a teleconference bridge. We tried YouTube Live for this meeting, but it does not readily allow remote participants to intervene (other than through the chat window). Since the number of participants is unlikely to be very high, we will use the OMG’s GoToMeeting account.

At that meeting, key agenda items will be to review the three papers in progress, and decide which ones can be proposed to the MARS Task Force for an adoption vote on December 12 or 13.

The intent was to have an interim CWG teleconference, perhaps during the week of October 29.

3.7. Attendee Feedback

During the final round of feedback on the meeting, two additional points were mentioned.

Atem (from NOAA) said that “we need to bring up systems engineering for the cloud, because we are moving from a stovepipe environment to an enterprise architecture at the same time we are moving to the cloud.”

Atem said that he should read the Practical Guide to Cloud Computing carefully, socialize it with colleagues, and then he can tell us what he/they find missing. Then, those of us who know the past work of the CSCC can tell him whether there is another document that covers the topic in question, or whether there is actually a gap that needs to be filled by a new deliverable.

John Glaubitz, from Vertex, said that they are interested in everything we do. They have some of their own papers, which they could share. They may be willing to give a presentation at our next meeting.

Someone said in conclusion that our motto could be, as in potluck parties, “bring a friend and bring a dish.” In other words, recruit more members but also be ready to contribute.

4. Special Event: OMG Standards for the Federal and Provincial Governments of Canada

OMG took advantage of a rare passage through Canada to hold a two-day forum (Sep. 26-27) aimed at demonstrating the applicability of OMG's work to the various government entities of Canada (federal government, 10 provinces, 3 territories), as well as recruiting new members from those departments and agencies.

The meeting was alternatively emceed by Claude Baudoin (cébé IT & Knowledge Management) and Djenana Campara (KDM Analytics). OMG staff did a great job preparing the event brochure, which contained links to relevant OMG web pages on each of the topics presented.

4.1. Morning of Day 1

Richard Soley, OMG's Chairman and CEO, started the first day of the event with a keynote on "OMG standards and empowering government."

Ed Seidewitz (Model Driven Solutions) gave a brilliant presentation summarizing what a model really is and the history of OMG's modeling work. He then followed up with another talk explaining the basic aspects of UML and SysML.

4.2. Plenary Lunch Keynote, Day 1



Len Bastien, Assistant Deputy Minister for Information Management, and CIO of the Department of National Defence (DND), gave the plenary lunch keynote on the DND's "journey to analytics."

The CIOs of Canada's government agencies had half of their responsibility taken away when Shared Services Canada was created in 2011. As a result, they had to refocus from infrastructure to information and applications.

DND includes 19 "lines of business" (the very use of that term is indicative of a progressive mentality to apply the principles of business architecture to the public sector). Mr. Bastien commissioned a report, which said that it would cost CAD. 500 million and ten years to consolidate the ERP portfolio of 300 systems (across these units) down to 4 systems. Because of this cost and schedule, he had to look for a different approach. This consisted of:

- Consolidating technology – based on a system of record that serves as a basis for analytics and performance reporting. With this system, one can easily tell where the government's money is used, etc.
- Deploying a suite of applications aligned with separate business processes, rather than attempting to find a single application for everything.
- Executing a pilot project with the Royal Canadian Navy (Cmdr. Ron Lloyd, originally a skeptic, now a big supporter) – this was a four-year journey to clean up the data and make it possible to pull business intelligence reports in minutes instead of months.

Two key lessons learned are:

- These transformations impact people, therefore change management is important. “Invest in your people.” The first third of the national defense policy is about people.
- Solve data ownership – the DND has a Chief Data Officer, Stephen Berg.

Mr. Bastien is now expanding the approach successfully piloted with the Navy to other parts of DND.

4.3. Afternoon of Day 1

Matthew Hause (PTC) and **Graham Bleakley** (IBM) gave an overview of the Unified Architecture Framework.

Following up on this, **Nick Mansourov** followed up with a talk on UAF-based Risk Analytics, and in particular the Model-Based Cybersecurity Assessment (MBCA) which the Systems Assurance Task Force is working on.

Denis Gagné (Trisotech) gave his usual clear presentation of how BPMN, CMMN and DMN solve three related but distinct business modeling problems, how they can be used in combination, and what are common signs that one of the modeling languages is being used when one of the others would be more appropriate.

To conclude the day, **Bill Ulrich**, representing the Business Architecture Guild, focused on how business architecture enables IT transformation and modernization.

4.4. Morning Keynote on Day 2



Teresa D'Andrea, Director of the Government of Canada Digital Exchange, gave the second morning keynote on “how standards enable digital exchange,” by which she means interoperability between agencies.

She used the example of coordinated emergency response to show the importance of seamless integration and interoperability – something OMG is very familiar with, based on the NIEM work that was in part motivated by the first responders’ communication issues experienced during the September 11 attacks.

Her particular work is focused on interoperability within the Treasury Board Secretariat (TBS). A community of practice of 300 people has been formed across multiple government agencies. A set of API standards will be published soon, and TBS will open an “API Store” for all government agencies to offer their API catalog to organizations that want to automate access to and submission of data. Within TBS, there will be a common message bus and a standard messaging platform. Some of the APIs will allow people to use Amazon’s Alexa to access government services.

Ms. D’Andrea related her impressions from a recent visit to Estonia for a conference on e-Government. She was amazed to find out that she could not pay for the conference fee by mailing a check from Ottawa – because Estonia can no longer process paper checks, they have been used for years to performing all transactions electronically. Estonians have a generalized chip-based identity card system that also serves as an electronic signature, as a payment card for transportation and other services, and as a voting card, and gives each citizen a unique national e-mail address. Each citizen has the ability to

see what queries were made by others about their identity. It was clear that Ms. D’Andrea considered this a model of e-government capabilities and that her vision is to enable a similar system in Canada in the future.

In response to a question, the speaker said that her organization is not yet working with a specific standards body – this sounded like an opportunity for OMG, perhaps especially the Finance DTF.

4.5. Morning Presentations on Day 2

The rest of the morning was devoted to Data Governance, and was made up of four talks:

- **Claude Baudoin** gave a talk about data residency challenges and the resulting opportunities for standardization.
- **John Butler** (Auxilium Technologies) presented the work started in the area of Data Provenance and Pedigree. He gave two interesting use cases: the correction of nautical charts, and the spread of a misattributed and misinterpreted study on addition to opioids.
- **Mike Abramson** (ASMG) presented the work started in the C4I Task Force to develop a data tagging and labeling standard, the initial use case being cooperation between militaries of allied countries.
- **Mike** concluded this section with an overview of the Information Exchange Framework (IEF).

4.6. Afternoon of Day 2

The next segment of the forum shifted focus to infrastructure-related standards.

Gerardo Pardo (RTI) gave an overview of DDS, including use cases, sample implementations, and evolutions of the standard to address security and the needs of resource-constrained IoT environments.

Jeffrey Smith (Sierra Nevada Corp.) talked about the work done on Secure Network Communications (SNC), the successor to the “software-based communications” work done at the U.S. Department of Defense (a confusing number of different phrases have been used over the last several years, including software-defined radio, software-based communications, software communications architecture, etc.).

There were two presentations related to systems assurance and software quality.

Djenana Campara (KDM Analytics) reviewed the work of the Systems Assurance Task Force, its existing specifications, and current work in progress,

Joe Jarzombek, representing the Consortium for IT Software Quality (CISQ), described the group’s work to establish automated measures – that can be calculated from static analysis of the source code – of software size, reliability, maintainability, security, and performance efficiency. The latest deliverable from CISQ is a technical debt measurement standard.

Finally, two presentations addressed standards for the military and space domains.

Simon Mettrick (MITRE), described the work of OMG’s C4I Task Force. A current priority is to align the Open Group’s Future Airborne Capability Environment (FACE) with the OMG’s Unified Architecture Framework (UAF) through a “FACE Profile for UAF.”

Brad Kizzort (Peraton) gave the last talk on “Space, Satellite and Ground Systems.” He described the work of OMG’s Space Domain Task Force to define standards for satellite operations and ground systems interoperability, among others.

4.7. Contacts

Mariane Huard represented the Standards Council of Canada at the meeting. Given her role, it seems very important to follow up on her interest in OMG. Claude Baudoin introduced her to Steven MacLaird and Terry McElrath.

5. Business Architecture Innovation Summit (excerpt)

This section of the report covers only one of the many presentations given during a two-day Business Architecture Innovation Summit, which overlapped with the Government of Canada Forum.

“Using Business Capability Models to Enable IT Strategy and Drive Application Rationalization” by Michael Khodosko (Senior Enterprise Architecture, Suncor Energy / Petro Canada)



Suncor Energy, including its Petro Canada subsidiary, which operates the company’s network of gas stations, is the largest vertically integrated energy company in Canada. In addition to the core business of extracting, refining and selling petroleum products, the company ends up operating large construction and air transport businesses in order to serve its oil sands sites in Northern Alberta.

Suncor has about 25 subsidiaries and a combined annual revenue of CAD. 33 billion.

Mr. Khodosko showed some of the foundations of the business architecture work done at Suncor:

- Value chain diagrams
- Company values

One strategic theme across this work, and the fundamental reason to apply business architecture modeling, is: “How do we make sure that we don’t misunderstand strategy?” He uses **business capabilities** (there are 22 in total) to translate strategy into projects. One high-level model describes the entire enterprise, while some of the detailed models are owned by the vendors of several systems.

The methodology used is fairly common (analyze the strategy value chain, capabilities, etc.) and the speaker remained at a fairly general level. He gave the example of a turnaround project for a refinery – a scheduled event when it is shut down, upgraded, and restarted. Due to the extensive shutdown, which averages 45 days across the industry (but the Suncor turnaround time is closer to 60 days), the cost may reach \$1 billion. Levels 3 to 5 of the capability map were developed for this project, allowing an assessment in terms of the personnel, processes and technology required to execute.

One of the lessons learned is “Do not oversimplify – business managers know that their business is complex.”

Suncor uses Alfabet, Software AG’s IT planning and portfolio management solution.

6. Plenary Reports and Technical Committee Sessions

Friday morning, as always, was devoted to plenary sessions during which all OMG subgroups briefly reported on their work, and the Platform and Domain Technology Committees made decisions on technology adoptions. While many attendees leave after the work of their Task Forces and SIGs ends on Wednesday or Thursday, the plenary reports offer a comprehensive view of OMG activities.

The points listed in the subsections that follow were singled out as worthy of mention, but are not an exhaustive list of the work the group chairs reported.

This section will frequently refer to the three forms of requests issued by OMG Technical Committees:

- A **Request for Proposal (RFP)** is a formal call for the submission of specifications; it opens up a time window for organizations at the appropriate level of membership to submit proposals.
- A **Request for Comments (RFC)** is a fast-track process whereby someone submits a specification that is expected to receive broad consensus. A comment period opens to allow people to voice any objections or submit changes. If there are no serious objections, the proposal is adopted. If there are, then the process may revert to a competitive RFP.
- A **Request for Information (RFI)** is a less formal process to obtain feedback from the community, and organizations can respond regardless of OMG membership level. An RFI is often used to generate enough information about the “state of the practice” to allow the writing of an RFP.

6.1. Architecture Board Subgroup Reports

Liaison Subcommittee	<p>Sumeet Malhotra (TCS) reported that a single reference for all OMG liaisons has been developed and will be at www.omg.org/about/liaisons, a permanent URL for public consumption. A richer copy including contact information is held by OMG but not made public for privacy reasons.</p> <p>Sumeet then listed the new relationships:</p> <ul style="list-style-type: none">• ISO TC 309, Governance of Organizations• ISO TC 68, Financial Services <p>... as well as some updated ones.</p> <p>Since shepherding OMG specifications through the OMG process is not obvious, a guide is being developed.</p>
Specification Management Subcommittee (SMSC)	<p>Larry Johnson said that exceptionally, the SMSC did not meet this week. It will meet the following week by teleconference.</p> <p>There is now an “https:” prefix policy for all standard URIs.</p> <p>There was some confusion regarding the process for RFCs, with the names “first reading and second reading” being unclear. This is now aligned with the RFP process. The first vote will be for <i>issuance</i> and the second one for <i>adoption</i>. The meaning remains the same, but those names should be easier to understand.</p>
Model Interchange Working Group (MIWG)	<p>There was no one present to report on the work of the MIWG, but J.D. Baker said that the group plans to hold another “interchangeathon” in December in Seattle.</p>

Object Reference Model SC	The dissolution of the ORMSC had been mentioned several times, but Larry Johnson said that he is keeping it open as a placeholder, because he thinks there will be a use for it in the future.
Business Architecture SIG (BASIG)	Did not meet this time (it rarely does, as its leaders are busy holding the Business Architecture Guild's summits).

6.2. Domain Technical Committee Subgroup Reports

Larry Johnson verified that the quorum was met. The minutes of the previous meeting were approved by white ballot. The DTC then proceeded with the presentation of subgroup reports.

Business Modeling & Integration DTF	Claude Baudoin (cébé IT & Knowledge Management) reported on this meeting. See details in Section 2 of this report.
Government Information Sharing DTF	<p>JD Baker (Sparx Systems) reported that there is a plan of action to update the UML Profile for NIEM to reflect the changes in NIEM 4. The intent is to issue an RFC based on the existing implementation of this new version by Sparx.</p> <p>NIEM is now owned by a DoD program office, but has become a big deal worldwide. A major revision, NIEM 5, is being proposed. Mike Abramson said that Canada is going to adopt NIEM 5. Since this is important for internationalization of the standards, it is important to track this by attending appropriate meetings</p>
Healthcare DTF	<p>Robert Lario (Veterans Administration) reported on the meeting.</p> <ul style="list-style-type: none"> • A BPM Health Community is being chartered, because organizations want a forum to work on BPM in healthcare without incurring OMG membership fees. • There was discussion of whether DMN and the Clinical Quality Language (CQL), a functional language, can complement each other. Someone is taking a CQL model and trying to generate the beginning of a DMN model. • There was a presentation on the harmonization of BPMN, CMMN and DMN, similar to what was happened in the BMI DTF meeting (see 2.1). • V2 of the “Field Guide for Sharable Clinical Guidelines” was reviewed. <p>The Task Force’s work in progress includes the “Coordination of Care Services” RFP, which is probably going to die for lack of submissions.</p> <p>Other work to be considered at future meetings includes:</p> <ul style="list-style-type: none"> • MDMI (Model Driven Model Interoperability) 2.0: initial submissions delayed once again, to the March meeting. • Order Service: initial submissions to be presented in March. • Discussion of a Healthcare Framework Architecture. • Discussion of HL7’s Fast Healthcare Interoperability Resources (FHIR) standard, and its alignment with BPMN.

Command, Control, Communication, Computers and Intelligence (C4I) DTF	<p>Mike Abramson (ASMG) reported that this was a light meeting, focused on developing an RFP for a UAF profile for FACE™, the Future Airborne Capability Environment.</p> <p>Next on the roadmap will be an RFP for Tactical Decision Aids, and work on the C2INAV (Command and Control Interface for Navigation) submissions.</p> <p>Mike also mentioned the alignment between data tagging and labeling, data provenance and pedigree, data residency, and IEF within the new Data Governance Working Group.</p>
Manufacturing Technology and Industrial Systems (ManTIS)	<p>Uwe Kaufmann (ModelAlchemy) welcomed Christian Muggeo (Contact Software) as co-chair.</p> <p>The Industrial Internet Consortium (IIC) requested the issuance of an RFP for a Simple Electronic Notation for Sensor Reporting (SENSR), the need of which originated from work on one of its testbeds. This was initially called "Simple Electronic Notation for Sensor Radiobeacons." The RFP required intense effort during the week, as the initial requirements were very unclear. Thanks to Jason Smith for multiple successive drafts. Initial submissions are due in May.</p> <p>The planned joint mtg with the Systems Engineering DSIG and the Model Interchange AB SIG on model interchange was delayed to December, including a progress report from prostep ivip and the identification of a use case. Boeing will discuss a possible RFP for a "product knowledge framework."</p> <p>There will be discussions next time about reaching out to related organizations.</p>
Finance DTF	<p>Mike Bennett (EDM Council) reported on:</p> <ul style="list-style-type: none"> • Establishing a liaison with ISO TC 68 (Financial Services) • A vote to issue a FIBO v2 RFC, proposed by the EDM Council • IOTA's plan to standardize the Tangle technology through an OMG RFC <p>... and various discussions and updates on FIBO and ontologies.</p> <p>The December meeting will include half a day on blockchain. The Task Force is looking at issuing an RFP for a more general Distributed Ledger Technology (DLT) architecture, which would not complete with the IOTA Tangle Architecture RFC. Claude Baudoin says that the Task Force should connect with GBA, the Government Blockchain Association – an idea supported by Sumeet Malhotra and Bobbin Teegarden.</p>
Mathematical Formalism SIG	Did not meet this time.
Workplace Benefits DTF	Did not meet this time, as announced in June.
System Engineering Domain SIG	Did not meet this time.

**Retail Domain
Task Force
(RDTF)**

Bart McGlothlin (Cisco) commented on a very busy meeting.

Two RFPs related to Unified Point of Sales (UPOS) and the finalization report for Video Analytics were approved by the Architecture Board.

There were discussions or working sessions about:

- definitions of “party” and its “roles” in a retail ontology
- best practices for requirements gathering
- a training and certification program for retail standards

The RDTF roadmap was updated, with the addition of an RFC for Tender Information Standardization and an RFP for Digital Receipts v3. Four papers will be published.

There will be some collaboration related to the use of robots in retail with the Robotics DTF.

Several efforts within the RDTF are being pursued between meetings through weekly or monthly conference calls.

Space DTF

Brad Kizzort (Peraton) reported that the Space Task Force worked on:

- Updates to the CubeSat System Reference Model (CSRM) RFP, which was recommended for issuance. It solicits a SysML-based template for satellite mission design and deployment.
- The requirements to be included in an RFP for display page exchange, renamed C2 User Display Language (CUDL). This relates to paging through multiple displays that connect to various models, a common need across many types of operations.

Hugues Vincent (Thales) remarked that the abbreviation “C2” for “command and control” is not unique to the space domain, and the Space DTF should coordinate with the C4I DTF.

- An RFI to obtain input from other domains that have similar operator display requirements.
- The finalization of the C2MS specification.

The December meeting may include a joint session with ManTIS and MARS devoted to a presentation of the SENSR RFP (see the ManTIS summary above).

Robotics DTF

Char Wales (MITRE) presented the summary slides for the co-chairs, who had to fly back to Japan earlier than scheduled because of an approaching typhoon.

- The Robotic Service Ontology (RoSO) RFP was reviewed.
 - The Robotic Functional Service Working Group provided a report.
 - ETRI reported on recent activities between them and ISO TC 299/WG 6 (Robots and Robotic Devices, Modularity for Service Robots), which is working on ISO/AWI 22166-1, “Modularity for Service Robots – Part 1: General Requirements.”
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Following the subgroup reports, the DTC considered, and passed by white ballot, motions to issue:

- the Finance DTF’s RFC on FIBO v2
- the Space DTF’s RFI on Command and Control User Definition Language
- the C4I DTF’s RFP on the FACE Profile for UAF
- the ManTIS DTF’s RFP for SENSR
- the Retail DTF’s RFP for a Unified POS Fiscal API
- the Retail DTF’s UPOS 1.16 Retail Communication Service Device RFP
- the Space DTF’s CubeSat System Reference Model RFP

An initial poll was taken on the adoption of the FTF report on Video Analytics 1.0 (Retail DTF). This preloads the voting process, which will be completed by e-mail.

Several motions were made and adopted to charter, extend or change the membership of some RTFs and FTFs. A motion was made on behalf of the Workplace Benefits DTF to move some of their deadlines. A motion was made and adopted to charter the Alert Management Service (ALMAS) RTF.

6.3. Academic Working Group Formation

Diane Ehramjian (OMG) announced that following a meeting with Claude Baudoin and Jason McC. Smith, an Academic Working Group has been formed and a wiki was created with some initial content, including a charter. The co-chairs are Charles Dickerson and Jason Smith.

6.4. Platform Technical Committee Plenary Meeting

Larry Johnson verified that the quorum was met. The minutes of the previous meeting were approved by white ballot. The PTC then proceeded with the presentation of subgroup reports.

Analysis and Design Task Force (ADTF)	<p>Jim Logan (No Magic) gave the report.</p> <p>Claude Baudoin described a new initiative by the U.S. National Telecommunications and Information Administration (NTIA) on Software Component Transparency – using a “Software Bill of Materials” to trace the cybersecurity vulnerabilities that may be inherited from open-source components.</p> <p>Conrad Bock, Manfred Koethe and Bran Selic gave presentations on several efforts in progress. Various deadlines were moved as a result, with the exception of the MARTE 2.0 RFI (presented by Bran), which was recommended for issuance.</p> <p>There are now 10 specifications in the pipeline (up from 6 last time), with initial or revised submissions scheduled for each of the next 6 meetings (December 2018 to March 2020). The first 4, slated for the December 2018 meeting, are revised submissions for AgEnt, MOF2RDF, MVF and SIMF.</p> <p>Conrad’s presentation was on “Onto Object Models.” Next time, he will give a presentation on “Onto State Machines.”</p>
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Data Distribution Service (DDS™) Platform SIG

Char Wales (MITRE) reported on behalf of the co-chairs.

The key focus, which was already one of the concerns at the previous meeting, was to rationalize and prioritize the five simultaneous RTFs (DDS-XTYPES 1.3, DDS-RTPS 2.4, DDS PSM for C++ 1.2, DDS 1.5, and DDS-Security 1.2).

In terms of new technologies, work was done on:

- IDL4-to-Java submissions
- A draft RFP for an IDL4-to-C# mapping
- Recommending for issuance an RFP for DDS on Time-Sensitive Networks

The previously scheduled work on improving the presentation of DDS (portal, slide sets, etc.) was postponed to the next meeting.

The merged and revised submission for a DDS PSM for TCP/IP is scheduled for the December meeting.

Initial submissions for the DDS-to-JSON syntax mapping are due at the December meeting.

Methods and Tools SIG

Sumeet Malhotra (Tata Consulting Services) reported that the meeting had a record 43 attendees.

The meeting discussed how to expand the marketplace for Essence Packages. One of the approaches is through educational institutions. This implies a potential collaboration with the Academic Working Group. The companies involved in publishing packages are usually willing to grant cheap or free licenses to academic universities.

SEMAT is creating several “Essence practice packages” and putting them in Eclipse. One such practice is Scott Ambler’s Disciplined Agile Delivery (DAD), which he has “essentialized.” Another one is a Mergers & Acquisition, practice, and a third area is CRM consulting, where Salesforce and other companies are interested in building an Essence package.

Ontology Platform SIG

Elisa Kendall (Thematrix) reported on behalf of SIG chair Evan Wallace.

There were two external presentations:

- “Positional-Slotted Object-Applicative RuleML” (PSOA RuleML) by Prof. Harold Boley from the University of New Brunswick
- “What’s New with Oracle Spatial and Graph” by Matthew Perry of Oracle

The SIG discussed a potential submission to the W3C of extensions to OWL (for integrity constraints and data validation support) and SPARQL (rule syntax extensions). Both could be developed through a single RFP.

Peter Rivett (Adaptive) gave a demonstration of visualization techniques for ontologies.

Manfred Koethe (88solutions) gave a demonstration and update on MOF2RDF, for which a revised submission is scheduled at the December meeting.

Elisa mentioned that ODM 2.0 is not backward-compatible with ODM 1.0.

Middleware and Related Services (MARS) Task Force	<p>Char Wales (MITRE) reported on the extensive (as usual) meeting, which reviewed and advanced many items, including those already mentioned in the above notes about the DDS PSIG.</p> <p>The Information Exchange Packaging and Processing Service (IEPPS) schedule was revised.</p> <p>NASA’s Space Telecommunications Radio System (STRS) was already discussed at the last meeting. An RFC will probably be issued for an STRS Architecture Standard.</p> <p>There was a presentation and demonstration on “REST for CORBA.” This and other items may result in initiating new adoption processes.</p> <p>The agenda for the December meeting is extremely busy, with four submission reviews, two RFP/RFC issuances, discussion of three new potential work items, a follow-up discussion on the DIDO papers, presentations by MANTIS and by the Cloud Working Group, a joint meeting with the Finance DTF, and three subgroup meetings.</p>
System Assurance (SysA) Platform Task Force	<p>Djenana Campara (KDM Analytics) reported, co-chair, reported on the meeting.</p> <p>The Tool Output Interchange Format (TOIF) 1.3 finalization report was approved, leading to the formation of an RTF for TOIF 1.4.</p> <p>SysA another “meet-and-greet” session on cybersecurity; it received a lot of attention from Canadian government representatives.</p> <p>There were two presentations from outsiders:</p> <ul style="list-style-type: none"> • “Risk Analytics in IT Systems” by Nabil Seddigh, Solana Systems. • “Enhancing Security and Resilience through AI/ML-Driven Big Data Analytics” by Dr. Rami Abielmona, Larus Technologies. <p>The Task Force will not meet in December.</p>
Architecture-Driven Modernization (ADM) Task Force	<p>Jason Smith (Elemental Reasoning) said that this meeting consisted of two presentations and a continued discussion of its 15-year roadmap.</p> <p>The first presentation, by Philip Newcomb (TSRI) was on “Introducing the Cyber-Modernization Security and Maturity Model.” Frederick Hirsch (Fujitsu) questioned the need for another security maturity model, since several already exist. Djenana Campara asked "what does cyber-modernization security mean?" She pointed out that this topic overlaps with what the System Assurance PTF is doing. Cybersecurity work has been led, and should continue to be led, by SysA. Generally, there was a reaction to the perception that Bill Ulrich (ADM co-chair) is prone to launching initiatives without coordinating with other OMG groups.</p> <p>The second presentation was by Jason Smith on “EDP Based Code Generation,” where EDP means “elemental design patterns” – Jason’s longstanding methodological approach to software patterns.</p>

Following the subgroup reports, the DTC considered, and passed by white ballot, a joint motion to issue:

- The DDS for Time Sensitive Networks (DDS-TSN) RFP
- The MARTE 2.0 RFI

An initial poll was taken on the adoption of the FTF reports on TOIF 1.3, MARTE 1.2, and PSCS 1.2, as well as the RTF report on DDSI-RTPS 2.3. This preloads the voting process, which will be completed by e-mail.

Next, various motions were made and approved to charter, extend, and update the membership or leadership of various RTFs, FTFs and voting lists.

7. Next Meetings

The next OMG Technical Meetings are scheduled as follows:

- Seattle, Wash., USA, 10-14 Dec. 2018
- Reston, VA, 18-22 March 2019
- Dublin, Ireland or Amsterdam, Netherlands (t.b.d.), 17-21 June 2019
- Nashville, Tenn., USA, 23-27 Sep. 2019
- Long Beach, Calif., USA, 9-13 Dec. 2019

Appendix: Glossary of Abbreviations

Below are initialisms (abbreviations or acronyms) that are likely to appear in these reports and OMG documents. It is not an exhaustive list of all terms and abbreviations used by OMG, nor is it limited to the names of OMG specifications. The *official* OMG glossary is at www.omg.org/gettingstarted/terms_and_acronyms.htm.

ADM	Architecture-Driven Modernization	CMMN	Case Management Modeling Notation
ADTF	Analysis and Design Task Force	CPP11	C++11 Language Mapping
AEP	Automated Enhancement Points	CSCC	Cloud Standards Customer Council (replaced by the Cloud Working Group)
AFP	Automated Function Points	CSRM	CubeSat System Reference Model
AgEnt	Agent and Event	CTS2	Common Terminology Services version 2
Alf	Action Language for fUML	CUDL	C2 (Command & Control) User Display Language
ALM	Automated Lifecycle Management	CWM™	Common Warehouse Metamodel
ALMAS	Alert Management Service	DAF	Dependability Assurance Framework
AML	Archetype Modeling Language	DAIS	Data Acquisition from Industrial Systems
AMP	Agent Metamodel and Profile	DDS™	Data Distribution Service
API4KB	Application Programming Interface for Knowledge Bases (now API4KP)	DDS-DLRL	DDS Data Local Reconstruction Layer
API4KP	Application Programming Interface for Knowledge Platforms (formerly API4KB)	DDSI	DDS Interoperability
APP-INST	Application Instrumentation	DDSI-RTPS ...	DDS Interoperability for Real-Time Publish-Subscribe
ASCMM	Automated Source Code Maintainability Measure	DDS-TSN	DDS Time-Sensitive Networking
ASCPM	Automated Source Code Performance Efficiency Measure	DIDO	Distributed Immutable Data Objects
ASCRM	Automated Source Code Reliability Measure	DMN	Decision Modeling Notation
ASCSM	Automated Source Code Security Measure	DoDAF	Department of Defense Architecture Framework
BACM	Business Architecture Core Metamodel	DOL	Distributed Ontology modeling and specification Language (ex-OntoIOP)
BIAN	Banking Industry Architecture Network	DRE	Distributed, Real-time and Embedded Systems
BMI	Business Modeling and Integration	DSIG	Domain Special Interest Group
BMM	Business Motivation Model	DSS	Distributed Simulation System
BPMN™	Business Process Model and Notation	DTF	Domain Task Force
C2INav	Command and Control Interface for Navigation	DTV	Date and Time Vocabulary
C2MS	Command & Control Message Specification	EMP	Event Metamodel and Profile
C4I	Consultation, Command, Control, Communications, and Intelligence	FACE™	Future Airborne Capability Environment
CCS	Coordination of Care Services	FEEL	Friendly Enough Expression Language
CIEM	Contract Information Exchange Model	FHIR	Fast Healthcare Interoperability Resources
CISQ	Consortium for IT Software Quality	FIBO	Financial Industry Business Ontology
		FIBO-BE	FIBO Business Entities

FIBO-FBC	FIBO Financial Business and Commerce	MARTE	Modeling and Analysis of Real-time Embedded Systems
FIBO-FND	FIBO Foundation	MBSE	Model-Based Systems Engineering
FIBO-IND	FIBO Indices and Indicators	MDMI	Model Driven Message Interoperability
FIGI	Financial Instrument Global Identifier	MEF	Metamodel Extension Facility
FIRO	Financial Industry Regulatory Ontology	MODAF	Ministry of Defence Architecture Framework
FSM4RTC	Finite State Machine for Robotic Technology Component	MOF™	Meta Object Facility
FTF	Finalization Task Force	MRC	Management of Regulatory Compliance
fUML™	Foundational Subset for Executable UML Models	MVF	Multiple Vocabulary Facility
GEMS	Ground Equipment Monitoring Service	NIEM	National Information Exchange Model
GLEIF	Global Legal Identifier Foundation	ORARIS	Open Architecture Radar Interface Standard
GRA	Global Reference Architecture	OCL	Object Constraint Language
HAL4RT	Hardware Abstraction Layer for Robotic Technology	ODM	Ontology Definition Metamodel
HL7	Health Level 7	OntoIop	Ontology Model and Specification Integration and Interoperability (now DOL).
HPEC	High Performance Embedded Computing	OTRM	Operational Threat and Risk Metamodel
IDL	Interface Definition Language (IDL™)	ORMSC	Object Reference Model Subcommittee
IEF	Information Exchange Framework	OSLC	Open Services for Lifecycle Collaboration
IEPPS	Information Exchange Packaging and Processing Service	OWL	Web Ontology Language
IEPPV	Information Exchange Packaging Policy Vocabulary	PDME	Product Data Management Enablers
IIC	Industrial Internet Consortium	PIM	Platform-Independent Model
IIoT	Industrial Internet of Things	PLM	Product Lifecycle Management
IMM®	Information Management Metamodel	PSCS	Precise Semantics of UML Composite Structures
INCOSE	International Council on Systems Engineering	PSIG	Platform Special Interest Group
IPMSS	Implementation Patterns Metamodel for Software Systems (now SPMS)	PSM	Platform-Specific Model
IPR	Intellectual Property Rights	PSoT	Precise Semantics of Time
ISO	International Organization for Standards	PSSM	Precise Semantics of State Machines
JSON	JavaScript Object Notation	PTF	Platform Task Force
KDM	Knowledge Discovery Metamodel	QVT	Query/View/Transformation
LCC	Languages, Countries and Codes	RAML	RESTful API Modeling Language
LOI	Letter of Intent	RDCM	RIA Dynamic Component Model
MACL	Machine-checkable Assurance Case Language	RDTF	Retail Domain Task Force
ManTIS	Manufacturing Technology and Industrial Systems	ReqIF	Requirements Interchange Format
MARS	Middleware and Related Services	RFC	Request for Comments
		RFI	Request for Information
		RFP	Request for Proposals

RIA	Rich Internet Applications	TacSit	Tactical Situation Display
RMS	Records Management Services	TestIF	Test Information Interchange Format
RoIS	Robotic Interaction Service Framework	TEX	TacSit Data Exchange
ROSETTA	Relational-Oriented Systems Engineering and Technology Tradeoff Analysis	TOIF	Tool Output Integration Framework
RoSO	Robotic Service Ontology	UAF	UML-Based Architecture Framework (formerly UPDM)
RTC	Robotic Technology Components	UCM	Unified Component Model
RTF	Revision Task Force	UML ®	Unified Modeling Language
RTPS	Real-Time Publish-Subscribe	UML4DDS	Unified Modeling Language Profile for Data Distribution Services
SACM	Structured Assurance Case Metamodel	UPDM ™	Unified Profile for DoDAF and MODAF (now UAF)
SBC	Software-Based Communications (term used in combination with SDR and replaced in OMG parlance with SNC, see below)	UPOS	Unified Point of Sale
SBVR ™	Semantics of Business Vocabulary and Business Rules	VDML	Value Delivery Modeling Language
SDN	Software-Defined Networking	VTW	Vocabulary for Terminology Work
SDR	Software-Defined Radio (term used in combination with SBC and replaced in OMG parlance with SNC, see below)	XBRL	eXtensible Business Reporting Language
SEAM	Software Assurance Evidence Metamodel	XMI ®	XML Metadata Interchange
SENSR	Simple Electronic Notation for Sensor Reporting	XML	eXtensible Markup Language
SIMF	Semantic Information Modeling for Federation (now SMIF)	XRCE	Extreme Resource Constraint Environment
SMIF	Semantic Modeling for Information Federation (formerly SIMF)	XTCE	XML Telemetric and Command Exchange
SMM	Structured Metrics Metamodel	XUSP	XTCE US Government Satellite Conformance Profile
SNC	Secure Network Communications		
SoaML ®	Service-Oriented Architecture Modeling Language		
SPMS	Structured Patterns Metamodel Standard (formerly IPMSS)		
SSCD	Safety-Sensitive Consumer Devices		
STIX ™	Structured Threat Information eXpression		
STRS	Space Telecommunications Radio System		
SysA	System Assurance		
SysML ™	Systems Modeling Language		
SysPhS	SysML extension for Physical Interaction and Signal Flow simulation		