

Object Management Group Meeting (Amsterdam – June 2019)

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This report contains notes from sessions the author personally led or attended during the OMG® Technical Meeting held in Amsterdam on June 17-21, 2019, 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. Business Modeling & Integration Domain Task Force (BMI DTF)

Fred Cummins (Agile Enterprise Design) and **Claude Baudoin** (cébé IT & Knowledge Management) co-chaired the meeting and reviewed the agenda.



1.1. Business Architecture Core Metamodel

Fred Cummins reported that the merging of submissions between the initial teams is continuing. The August 2019 revised submission date, in view of a vote in Nashville, is optimistic. However, a date change was not requested at this meeting. There will be a status review, for which we scheduled 90 minutes (and a deadline change vote as needed) in Nashville.

1.2. Risk Management

Claude Baudoin said that a draft RFI was posted recently, but not four weeks in advance. Due to a schedule conflict, he was unable to fully present the RFI or obtain comments. The document is now posted as bmi/19-06-02 and comments will be solicited in view of revisions and a vote in September.

1.3. Standard Business Report Model RFP

The SBRM Working Group has been working since the end of 2018 to prepare an RFP for a standard that is much in demand by financial institutions, regulatory authorities, and California legislators among others. There is also growing interest outside of the U.S.

SBRM is a semantic metamodel at a higher level than XBRL (XAML Business Reporting Language) which is purely a format for reports – one that does not ensure internal consistency of the reports of that semantics are the same across reports submitted by similar entities.

A first draft was issued on May 20 (four-week deadline for this meeting) under number bmi/19-05-01. It was replaced on the first day of this meeting by bmi/19-06-01. Following Architecture Board feedback on June 17, a three-hour joint session between the BMI and Finance DTFs led to substantial clarifications and revisions during a joint session on June 19. The resulting product, bmi/19-06-04, was recommended for issuance by the BMI DTF (motion by Pete Rivett [Adaptive], seconded by Fred Cummins [Agile Enterprise Design], white ballot proposed by Bobbin Teegarden [OntoAge] and unopposed), approved by the AB on June 20, and issued by the Domain Technical Committee on June 21. There is a concern that the schedule (driven by regulatory needs) is too tight and might unfairly favor those submitters who were involved in writing the RFP. It was decided to “cross that bridge when we get to it.”

1.4. SXLM

Lars Toomre (Brass Rat Capital LLC), one of the SBRM authors, also presented the idea of a “semantic workbook standard” under the potential abbreviation of SXLM, as in “standard Excel macros” (based on the Windows .XLM file extension of Excel macros). A new working group is being formed to work on this.

Denis Gagné (Trisotech) mentioned the Friendly-Enough Expression Language (FEEL) contained in the DMN specification as an existing and viable alternative to a new language to specify calculations.

Fred Cummins raised the potential for overlap between some of the SXML scope with the Multiple Vocabulary Facility (MVF).

1.5. Requirements

Claude Baudoin said that he had started a draft on a Requirements RFI – with a broad scope that includes business as well as technical requirements, and the entire lifecycle of requirements. The DTF spent some time generating contents for the RFI, which is almost complete and will be posted for discussion and feedback as bmi/19-06-03. We started from the Risk Management RFI draft, since a number of the questions were the same or similar. We expect issuance in September.

Denis Gagné mentioned something written by Tim Weilkiens (oose) on “requirement requirements” for SysML (<https://mbse4u.com/2019/06/14/nextgensysml-part-9-requirements-requirements/>).

2. Data Residency Tutorial

Claude Baudoin repeated on June 18 the Data Residency Tutorial he gave several times in 2p18. The session was quite interactive, with new attendees from Europe as well as the US asking questions about the impact of GDPR, stating that some of the use cases were new to them, and generally being of the opinion that “things will get worse before they get better.”

The slides (slightly revised for this edition of the tutorial) are being made available as OMG document datares/19-06-01.

3. Cloud Working Group

The Cloud Working Group met on June 18 afternoon, mostly by teleconference. Claude Baudoin, co-chair, led the meeting in the absence of the other co-chairs (Karolyn Schalk of IBM and David Harris of Boeing).

3.1. Attendees

- Claude Baudoin (cébé IT & Knowledge Management, co-chair)
- Swapnil Nagmoti (Cognizant)
- Jean-Claude Franchitti (Archemy)
- Eric Aquaronne (IBM)
- Prasad Siddabhatuni (Edifecs)
- Jyoti Chawla (IBM)
- Eric Euell (DC Water)
- Nya Murray (Trac-Car)

3.2. Status of Deliverables

The *Practical Guide to Cloud Service Agreements v3.0*, approved in February, was published in March 2019 and presented in a BrightTalk webinar in April.

The *Practical Guide to Cloud Deployment Technologies v1.0*, approved at the regular March meeting, was published in April 2019 and presented in a webinar in May.

The *Practical Guide to Cloud Governance v1.0* was on the verge of being approved at the time of the meeting. It had been discussed in the MARS Task Force the day before but required further edits. Claude Baudoin finalized the document later during the week, leading to its adoption by MARS on June 20 (this is now document mars/19-06-24). We will now communicate this adoption (press release, LinkedIn posts...) but wait for September to hold a webinar in order to maximize the live audience.

3.3. Roadmap

We reviewed the roadmap, which is posted on the CWG wiki at www.omgwiki.org/cloudwg.

- We will soon launch the update to the Discussion Paper on *Cloud Service Agreements: What to Expect and What to Negotiate* (from version 2 to version 3).
- We agreed that the *Catalog of Cloud-Related Standards* should be a living web page rather than a static document, and that a Wikipedia page would be a good solution – assuming one does not exist yet. This would allow other Wikipedians to add content.
- Prasad has not had a chance to start a paper on *Cyber Insurance for the Cloud*, but will do so. It was suggested that a “mini-RFI” to the Cloud WG mailing list (cloudwg@omg.org) would be useful to elicit information on what may already exist or on the risks that users may be willing to insure against. Jyoti Chawla volunteered to help.
- *Practical Guide to Cloud in Retail* – Claude mentioned his discussion at the March meeting of the Retail Domain Task Force with one of its co-leaders, Bart McGlothlin. There has been no progress, but the idea is still current. Jyoti is also interested in participating. Claude will inform Bart.

Eric Aquaronne asked whether “smart edges” (as an alternative to traditional cloud solutions) fall within our scope. Claude thought that the answer was yes, as we should help people decide on the most appropriate architecture to solve their needs. However, as this is related to the discussion about “fog computing” vs. cloud computing, we may possibly step onto the territory of the Open Fog Consortium, which was recently absorbed into the Industrial Internet Consortium (IIC), which is an OMG program. We should also look at the existing CWG paper on a “Cloud Reference Architecture for IoT.”

Jyoti mentioned that the recent nationwide Target store outage provides an example of how some mix of edge computing would have helped alleviate the problem.

Jean-Claude Franchitti reminded us that he has developed an approach for cloud customers to assess the security of cloud providers. This could be the object of a new paper, or perhaps an addition to the existing paper on “Security in the Cloud: Ten Keys to Success,” leading to its revision.

Claude reminded the participants of the next dates on which a draft must be issued for review by OMG members in order to be adopted at a regular meeting (“four-week rule”):

- 26 August 2019 for the Nashville meeting in September
- 11 November 2019 for the Long Beach meeting in December
- 25 February 2020 for the Reston meeting in March

3.4. Other Discussion and Actions

There was more discussion on “cloud vs. fog” between Eric, Jean-Claude and Claude. The problems and the solutions are often very sector-specific (healthcare, retail, industrial, etc.).

Cloud adoption for mobile health or for banking and financial services involves regulatory aspects in addition to business and technical ones. Jean-Claude can help cover this.

Someone asked for an update on the discussion about collaborating with ASC X9 (regarding the X9.141 standard in particular) initiated by Mick Talley of University Bank. Claude said that Karolyn and he did not expect much after the lukewarm reaction to the conference call we had in May.

Someone mentioned distributed ledgers, since by definition they live in the cloud. Claude said that these are being discussed in the Finance DTF, which has formed a Blockchain Working Group. Prasad is doing some research on blockchain in healthcare, and is willing to participate in an initiative in this area. Claude said that he attended a conference on Blockchain in Healthcare in San Francisco in February 2019, and would send Prasad the list of participants.

Jyoti said that we should try to “align” with related industry conferences in order to drive adoption. Looking at conference agendas could also help us find speakers for our own meetings. Nya Murray had the same idea about security conferences, such as the Cloud Security Alliance’s.

3.5. Agenda of the Nashville Meeting.

The meeting in Nashville is likely to be on the morning of September 24 or 25. In addition to the usual topics (introductions, progress review, roadmap discussion), Prasad said that he could initiate a conversation with people in healthcare in view of having a presentation of roundtable on their cloud needs and requirements.

Based in this idea, there was an interest in continuing with a “rotating focus” on one industry sector after another at successive meetings.

Nya will contact Shamun Mahmud (whom Claude also knows) about a collaboration with CSA. We can invite Shamun to participate, devoting to this collaboration a segment of the Nashville meeting (or if not convenient then, the one in Long Beach in December).

Claude will ask Richard Beatch, co-chair of the OMG Liaison Working Group, whether OMG already has a liaison with the CSA.

4. 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.

4.1. Architecture Board Subgroup Reports

The Business Architecture SIG (BASIG), the Liaison Working Group, and the Model Interchange Working Group (MIWG) did not meet this time.

Specification Management Subcommittee (SMSC)	<p>Jishnu Mukerji gave the list of formal publications released since the last meeting, and of those that are going to be published within a few days.</p> <p>There were 5 specifications in the edit queue already, and 6 were added at this meeting, including OPC-UA/DDS Gateway v1.0, DDS-XRCE v1.0, WS-POS v1.3, DDS-XTypes v1.3, and LCC v1.1. No specifications are “missing in action.”</p> <p>The new specification catalog, designed by Mariano Benitez, is now available on the OMG website. But the publication process is still not as smooth as desired, because the process resided in Andrew Watson’s head.</p> <p>Manfred Koethe reminded authors to submit figures in SVG formats so that they can scale without getting fuzzy. He mentioned Inkscape as a free conversion tool.</p>
Process Subcommittee	<p>Larry Johnson said that the issues in front of the PSC are now held in JIRA and that all members can see them and contribute.</p>

4.2. 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.

Artificial Intelligence PSIG	Larry Johnson said that this new Platform SIG would be chartered at this meeting. The charter was presented.
Architecture-Driven Modernization (ADM) Task Force	<p>Bill Ulrich (TSG Inc.) announced that the Automated Function Point (AFP) specification has been adopted by ISO as standard 19515:2019.</p> <p>The Automated Source Code Quality Metrics (ASCQM) are now consolidated and align with the Common Weakness Enumeration.</p> <p>Work was recently initiated on trustworthiness measures for model-based systems engineering (MBSE).</p> <p>The Automated Source Code Technical Debt (ASCTD) standard will need to be revised to align with work done over the last two years.</p> <p>In the longer term, the group plans to look at business/IT alignment using the Business Architecture Core Metamodel.</p>
Data Distribution Service (DDS™) SIG	<p>Fernando Garcia Arana (RTI) reported that the group:</p> <ul style="list-style-type: none"> • Agreed to continue addressing DDS-RPC issues within the RTF process • Reviewed and prioritize the work of the RTFs on the DDS C++ API, DDS-DCPS, DDSI-RTPS TCP, and DDS-Monitoring • Agreed to start work on an RFP for a DDS C# API specification • Supported MARS work on the initial submission to the IDL-to-C# mapping.
Agent PSIG	<p>Bobbin Teegarden (OntoAge) said that the meeting included four presentations:</p> <ul style="list-style-type: none"> • Bobbin on the scope of AI and a metamodel of AI, related to the charter of the AI PSIG • Andreas Vogel (AI expert and futurist on sabbatical) on a proposed framework for AI ethics (<i>editor's note: this work should be connected with that of the IEEE Society on the Social Implications of IT (SSIT), which recently formed a standards committee</i>) • Allan Beechinor (Altada Group) on "Ethics applied to AI" (same remark) • Nouredine Boustani (Attijariwafa Bank) on "machine learning for retail banking" <p>There was some confusion about the overlap between AI and Agents. It didn't help that Bobbin said that to view the new AI PSIG charter, one needed to go to the Agents wiki. Bobbin said that AI includes agents. Manfred Koethe, who had asked for clarification, said that the two are related but not the same.</p> <p>Someone needs to talk to Jim Odell about this scoping issue.</p> <p>The next meeting will continue to have "AI leading-edge presentations" and will explore whether Dr. Vogel's work can lead to an OMG standard.</p>

Middleware and Related Services (MARS) Task Force

Char Wales (MITRE) reported on the extensive (as usual) meeting:

- There is a draft RFP on REST for CORBA.
- An RFP for a Space Telecommunications Interface was recommended for issuance.
- The Cloud Working Group's new Practical Guide to Cloud Computing was approved for publication.
- There were joint meetings with Finance about blockchain, leading to two RFCs and a future RFP.
- There were several work items related to DDS: TCP/IP PSM for DDS, DDS-TSN integration, and DDS-to-JSON syntax mapping.
- The initial submission to the RFP on IDL4-to-# mapping was reviewed. For the IDL4-to-Java mapping, it was a revised submission and it was recommended for adoption.
- There were presentations on the UML Testing Profile (UTP2).
- The IDL SIG and the Secure Network Communications (SNC) SIG met, and a decision was made to form a CORBA SIG.

Analysis and Design Task Force (ADTF)

Jim Logan (No Magic) reported that:

- Sandy Friedenthal and Ed Seidewitz presented the status of the SysML v2 submission.
- Conrad Bock (NIST) gave part 2 of his "introduction to (onto)logical modeling."
- Marc-Florian Wendland gave an introduction to UTP2, followed by Markus Schacher giving a real-world example of UTP2 for "trading digital assets using distributed ledger technology."

The initial submission deadline for the Precise Semantics of Time was moved out by an entire year, from August 2019 to August 2020.

Ontology Platform SIG

Elisa Kendall (Thematrix) reported that as usual there were several presentations:

- Adrian Paschke (Free University of Berlin) talked about Qurator curation technologies, a "platform for intelligent content solutions." This work is about pipelining several document analysis tasks, combining various tools (such as natural language processing) using the draft API4KP specification.
- Olaf Hartig (Linköping University) discussed SPARQL* 1.2 and RDF*/Easier RDF, and the activities going on in the World Wide Web Consortium about them. This may lead to a submission to the W3C. as well as an RFP for rule syntax extensions to SPARQL.
- Fabian Neuhaus (U. of Magdeburg) is working on parameters for DOL, a useful addition to the standard.

Elisa also said that MVF, whose revised submission is due in August, will allow translation between languages used in models – not only between natural languages but also between dialects used by various industries.

The Languages, Countries and Codes standard is undergoing revision to track the changes in ISO codes, in particular the renaming of the Former Yugoslav Republic of Macedonia (FYROM) to North Macedonia.

Blockchain Platform SIG	<p>Mike Bennett (EDM Council) reported on three main topics covered at this meeting:</p> <ul style="list-style-type: none"> • Tangle technology and IOTA plans, with reviews of the IOTA Ternary Standards format (which is likely to lead to a joint RFP with MARS) and of a draft IOTA Node RFC. • Directions in distributed ledger technology ecosystems. An RFI will be discussed at the next meeting. • A joint discussion with the Finance DTF on identifiers for crypto assets, which may be an extension of the FIGI standard.
System Assurance PTF	Did not meet this time.
Methods and Tools PSIG	Did not meet this time.

Following the subgroup reports, the usual multiple types of motions were made.

Larry Johnson reported that there were no platform RFP issuances at this meeting. There were five technology adoptions, for which a poll of “Yes” voters was taken, with the vote to complete electronically:

- DDS Consolidated JASON Syntax
- Interface Definition Language v4 (IDL \S) to Java Language Mapping
- UML Profile for ROSETTA (UPR) 1.0 FTF Report
- IEF Reference Architecture 1.0 FTF2 Report – Mike Abramson had pushed for this to be adopted, in spite of a number of issues he encountered with JIRA, and deferred some minor issues to the Revision Task Force, because NATO is already implementing the standard and needs a stable version of the specification.
- Automated Source Code Quality Measures (ASCQM)

The AI Platform SIG was chartered. It is co-chaired by Bobbin Teegarden and Lars Toomre.

Various motions were made and approved to charter, extend, and update the membership or leadership of various RTFs, FTFs and voting lists. Laura Hart’s move from MITRE to Lockheed Martin caused some confusion regarding MITRE’s representation on Task Forces on which she sat.

4.3. 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	<p>Claude Baudoin (cébé IT & Knowledge Management) reported on this meeting. See details in Section 1 of this report.</p> <p>Christian Muggeo asked how the Requirements Management effort is related to the existing ReqIF specification.</p> <p>In relation with the intent to issue a Risk Management RFI, Lars Toomre mentioned the potential creation of the Risk Management Working Group.</p>
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Command, Control, Communication, Computers and Intelligence (C4I) DTF	<p>Syl Jenkins presented (very clearly!) in place of Mike Abramson.</p> <p>The C2INav revised submission was reviewed and recommended for adoption.</p> <p>IEF has been tested by NATO and Mike Abramson gave an information briefing about the results.</p> <p>The FACE™ Profile for UAF effort was reviewed. The initial submissions date was pushed back to September.</p> <p>The direction of the Data Tagging and Labeling RFP, which has been dormant for a while, will also be reviewed at the next meeting.</p> <p>The group generated a total of 15 documents at this meeting.</p>
Finance DTF	<p>Mike Bennett (EDM Council) reported that some joint activities with MARS, the Blockchain PSIG, and BMI DTF were already reported in earlier presentations.</p> <p>FIBO v2 is undergoing finalization, and a discussion paper on FIBO directions is being considered.</p> <p>Pete Rivett (Adaptive) presented an ontology visualization applied to FIBO.</p> <p>The newly formed FERM (Federal Enterprise Risk Management) Working Group created a set of definitions for U.S. regulators, which the Finance DTF approved for publication. The WG is planning a day-long event at the September meeting.</p>
Government Information Sharing DTF	<p>Did not meet this time.</p>
Healthcare DTF	<p>Did not meet this time.</p>
Manufacturing Technology and Industrial Systems (MantIS)	<p>Uwe Kaufmann (ModelAlchemy) said that there were 5 presentations this week:</p> <ul style="list-style-type: none"> • A proposed RFI on a Product Knowledge Framework (PKF), driven by Boeing. • A talk on “why model management matters” by Christian Muggeo. • A talk on a research project on called GENIAL, at the University of Kaiserslautern, using SysML in the automotive microelectronics domain. • A presentation on the initial submission to the SENSR RFP. • A status review from the prostep.ivip SysML Workflow Forum. <p>The Task Force identified the need to consider the automotive industry’s CAN-Open work (vehicle-to-vehicle communication) as related to the SENSR specification.</p> <p>The next meeting will consider an RFI or RFP on Production Logistics Modeling.</p>
Mathematical Formalisms SIG	<p>Did not meet this time.</p>

Retail Domain Task Force (RDTF)	<p>Bart McGlothlin (Cisco) reported that Andy Mattice and Leonid Rubakhin will serve as co-chairs for the next two years.</p> <p>The Retail Communication Service Device (UPOS 1.16) submission from VINX was recommended for adoption.</p> <p>There were status reviews and discussions of:</p> <ul style="list-style-type: none"> • the Retail IIoT Security Maturity Model • the Fiscal API RFP • the Location standard, for which a V3 will be proposed through an RFC. • the adoption of AI and machine learning in retail. <p>John Glaubitz led a session on a retail ontology, leading to clarification of the definitions of services, transactions, orders and tenders. There is also an interest in writing an “AI in retail” position paper. Finally, two communications initiatives were announced:</p> <ul style="list-style-type: none"> • a webinar on June 27 by the people who created the Association for Retail Technology Standards (ARTS), the precursor to the RDTF • a self-paced course entitled “Retail Technology Architecture.”
Robotics DTF	<p>Koji Kamei said that there was a report on the IEEE RAS standards strategy meeting, and a report from the Robotic Functional Services Working Group.</p> <p>The timetable for the Robotic Service Ontology (RoSO) submissions was extended.</p> <p>The Robotics DTF will skip the September meeting and meet December.</p>
Space DTF	<p>Brad Kizzort (Peraton) reported that the C2MS (Command & Control Messaging Specification (originated by NASA but more broadly applicable) was finalized, and that the Task Force is working on two RFPs: GEMS 2.0 and a Telemetry Display Page Exchange.</p>
System Engineering Domain SIG	<p>Ed Seidewitz reported that the meeting was popular, with 34+ attendees. As usual, there were quite a number of presentations:</p> <ul style="list-style-type: none"> • Eric Burgers on “Integrating BIM (Building Information Management) and MBSE.” Regarding this, Claude Baudoin mentioned the work of the Continental Automated Building Association (CABA). • Harald Eisenmann pm “Managing the Digital Twin Across the System Life Cycle” • Hans-Peter deKoning on “Highly Interactive MBSE for Multi-Disciplinary Project Teams” • Hedley Apperly on “Integrated PLE (Product Lifecycle Engineering)” • Bob Malone on “Incorporating Variability and Reuse into System Architecture Models” • Ivan Gomes and Robert Karban on “Model-Based Engineering Environments” <p>Sandy Friedenthal, Manas Bajaj and Ed Seidewitz gave an update to the SIG on the SysML v2 status and a demonstration.</p>

Following the subgroup reports, the following were issued by white ballot:

- The Standard Business Report Model (SBRM) RFP, proposed by BMI,
- The Product Knowledge Framework RFI, proposed by ManTIS.

Several motions were made and adopted to charter, extend or change the membership of RTFs, FTFs and voting lists.

There were five technology adoptions, for which a poll of “Yes” voters was taken, with the vote to complete electronically:

- Command and Control Interface for Navigation (C2INav)
- UPOS v1.16 Retail Communication Service Device
- Command and Control Message Specification 1.0 FTF Report
- Unified Architecture Framework 1.1 RTF Report
- SBVR 1.5 FTF Report

5. Next Meetings

The next OMG Technical Meetings are scheduled as follows:

- Nashville, Tenn., USA, 23-27 Sep. 2019
- Long Beach, Calif., USA, 9-13 Dec. 2019
- Reston, Va., USA, 23-27 March 2020

Appendix: Glossary of Abbreviations

Below are initialisms that are likely to appear in these reports. 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	CTS2	Common Terminology Services version 2
AgEnt	Agent and Event	CWE	Common Weakness Enumeration
Alf	Action Language for fUML	CWM™	Common Warehouse Metamodel
ALM	Automated Lifecycle Management	DAF	Dependability Assurance Framework
ALMAS	Alert Management Service	DAIS	Data Acquisition from Industrial Systems
AML	Archetype Modeling Language	DDS™	Data Distribution Service
AMP	Agent Metamodel and Profile	DDS-DLRL	DDS Data Local Reconstruction Layer
API4KB	Application Programming Interface for Knowledge Bases (now API4KP)	DDSI	DDS Interoperability
API4KP	Application Programming Interface for Knowledge Platforms (formerly API4KB)	DDSI-RTPS ...	DDS Interoperability for Real-Time Publish-Subscribe
APP-INST	Application Instrumentation	DDS-TSN	DDS Time-Sensitive Networking
ASCMM	Automated Source Code Maintainability Measure	DIDO	Distributed Immutable Data Objects
ASCPM	Automated Source Code Performance Efficiency Measure	DMN	Decision Modeling Notation
ASCQM	Automated Source Code Quality Metrics	DoDAF	Department of Defense Architecture Framework
ASCRM	Automated Source Code Reliability Measure	DOL	Distributed Ontology modeling and specification Language (ex-OntoIOP)
ASCSM	Automated Source Code Security Measure	DRE	Distributed, Real-time and Embedded Systems
ASCTD	Automated Source Code Technical Debt	DSIG	Domain Special Interest Group
BACM	Business Architecture Core Metamodel	DSS	Distributed Simulation System
BMI	Business Modeling and Integration	DTF	Domain Task Force
BMM	Business Motivation Model	DTV	Date and Time Vocabulary
BPMN™	Business Process Model and Notation	EMP	Event Metamodel and Profile
C2INav	Command and Control Interface for Navigation	FACE™	Future Airborne Capability Environment
C2MS	Command & Control Message Specification	FEEL	Friendly Enough Expression Language
C4I	Consultation, Command, Control, Communications, and Intelligence	FERM	Financial Enterprise Risk Management
CIEM	Contract Information Exchange Model	FIBO	Financial Industry Business Ontology
CISQ	Consortium for IT Software Quality	FIGI	Financial Instrument Global Identifier
		FIRO	Financial Industry Regulatory Ontology
		FSM4RTC	Finite State Machine for Robotic Technology Component

FTF	Finalization Task Force	NIEM	National Information Exchange Model
fUML™	Foundational Subset for Executable UML Models	OARIS	Open Architecture Radar Interface Standard
GEMS	Ground Equipment Monitoring Service	OCL	Object Constraint Language
GRA	Global Reference Architecture	ODM	Ontology Definition Metamodel
HAL4RT	Hardware Abstraction Layer for Robotic Technology	OntoIOp	Ontology Model and Specification Integration and Interoperability (now DOL).
HL7	Health Level 7	OTRM	Operational Threat and Risk Metamodel
HPEC	High Performance Embedded Computing	ORMSC	Object Reference Model Subcommittee
IDL	Interface Definition Language (IDL™)	OSLC	Open Services for Lifecycle Collaboration
IEF	Information Exchange Framework	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
MARTE	Modeling and Analysis of Real-time Embedded Systems	RFI	Request for Information
MBSE	Model-Based Systems Engineering	RFP	Request for Proposals
MDMI	Model Driven Message Interoperability	RIA	Rich Internet Applications
MEF	Metamodel Extension Facility	RMS	Records Management Services
MODAF	Ministry of Defence Architecture Framework	RoIS	Robotic Interaction Service Framework
MOF™	Meta Object Facility	ROSETTA	Relational-Oriented Systems Engineering and Technology Tradeoff Analysis
MRC	Management of Regulatory Compliance	RTC	Robotic Technology Components
MVF	Multiple Vocabulary Facility	RTF	Revision Task Force
		RTPS	Real-Time Publish-Subscribe
		SACM	Structured Assurance Case Metamodel

SBC	Software-Based Communications (term used in combination with SDR and replaced in OMG parlance with SNC, see below)	VDML	Value Delivery Modeling Language
SBRM	Standard Business Report Model	VTW	Vocabulary for Terminology Work
SBVR™	Semantics of Business Vocabulary and Business Rules	XMI®	XML Metadata Interchange
SDN	Software-Defined Networking	XML	eXtensible Markup Language
SDR	Software-Defined Radio (term used in combination with SBC and replaced in OMG parlance with SNC, see below)	XRCE	Extreme Resource Constraint Environment
SEAM	Software Assurance Evidence Metamodel	XTCE	XML Telemetric and Command Exchange
SIMF	Semantic Information Modeling for Federation (now SMIF)	XUSP	XTCE US Government Satellite Conformance Profile
SMIF	Semantic Modeling for Information Federation (formerly SIMF)		
SMM	Structured Metrics Metamodel		
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		
SysA	System Assurance		
SysML™	Systems Modeling Language		
SysPhS	SysML extension for Physical Interaction and Signal Flow simulation		
TacSit	Tactical Situation Display		
TestIF	Test Information Interchange Format		
TEX	TacSit Data Exchange		
TOIF	Tool Output Integration Framework		
UAF	UML-Based Architecture Framework (formerly UPDM)		
UCM	Unified Component Model		
UML®	Unified Modeling Language		
UML4DDS ...	Unified Modeling Language Profile for Data Distribution Services		
UPDM™	Unified Profile for DoDAF and MODAF (now UAF)		