Object Management Group  
109 Highland Ave  
Needham, MA 02494

Office of Management & Budget  
Attn:  
CAP Goal 2 leaders: Mr. Droegemeier, Ms. Kent, Ms. Potok, Ms. Kelley, Ms. Roat, and William Hawk  
725 17th St., NW 
Washington, DC 20503


Dear CAP Goal 2 leaders: Mr. Droegemeier, Ms. Kent, Ms. Potok, Ms. Kelley, and Ms. Roat:

The appropriate group(s) within the OMG Object Management Group® (OMG®) have considered the Plan and offer the following general comments to the Draft 2019 – 2020 Federal Data Action Plan, with specific comments in the attachment.

Overall the plan begins to address the right topics. OMG agrees the government has to start by inventorying and better understanding its data resources. One of the primary inventory items should be to assess the 2014 Data Act as well as the GAO’s comments, and build a plan to address by Nov 2019 and correct those comments by Sep 2020. Secondly, to effectively leverage data and develop state of the art data science applications, it is essential to go much further by standardizing data mappings, definitions, and develop comprehensive taxonomies and ontologies. These areas can deliver enormous benefits and productivity gains once completed. There is no indication in the Data Strategy or Action Plan that this is an end goal in either area.

To get there will require far more than “existing resources”, supplemented by roughly $11 million a year. Determining the metrics of savings from existing resources and applying those savings to this strategy, will help. Therefore, OMG would recommend one of the Actions identify the appropriate resources needed for this effort.

Additionally, the timelines are aggressive at best and based upon OMG’s experience will not be met. It may be worthwhile to set aggressive targets, but timelines less than reasonable only frustrate leaders and those that have to deliver. OMG believes the strategy should establish short, medium and long-term goals that align with the Budget Estimate Submissions (BES) as done in DoD (i.e., 1, 3, 5, 8 and year plans).

As a data point, OMG’s experience in delivering cloud policies and procedures, data policies, models, and standards averages 17 months through our process, once the RFP has been developed. Note, we keep metrics on these areas and have obtained a Fast Track Agreement with the International Standards Organization (ISO) that reduces their average time of acceptance 7 – 8 years to 4 years, should someone desire OMG’s standard to become an ISO Standard.

With respect to the proposed plan, it is not clear to OMG who are the parties specifically responsible for standards and modeling engagement. In the past, OMG has approached various agencies to discuss how voluntary standards groups can help and influence government requirements but without
much success. Encouraging by participation and funding the use of voluntary standards bodies would lead to “tapping into” and leveraging a broader base of providers and ensuring Government and industry use the best and brightest in developing the desired path.

OMG (www.omg.org) and OMG managed programs (Industrial Internet Consortium (IIC) (www.iiconsortium.org) and The Consortium of Information Software Quality (CISQ)) (www.cisq-it.org) bring together Government, industry and academia experts to deliver some of the world’s most transformational capabilities throughout the spectrum of Data Management. Some examples of these include:

- Common Weakness Enumerations (CWEs);
- Cloud Standards Policy & Procedures;
- Internet CyberSecurity Frameworks;
- Artificial Intelligence;
- Ontologies;
- Logical Modeling Standards (i.e, BPMN, SysML, UML, etc);
- Security Frameworks; and
- A number of vertical domains to include business, finance, health, manufacturing, robotics, space, telecommunications, etc.;

Finally, OMG believes, to enable interoperability, with identifiers, models and associated data should utilize voluntary consensus-based open data standards that are free of consumer licensing terms that would restrict public use, access, transparency, or otherwise prevent interoperability, data mapping and communication. To do that, Government needs to participate in those type of consensus bodies along with industry and academia.

A summary list of specific Federal Strategy Action Plan comments is attached. If you need to contact me, feel free to call me at (703)231-6335 or email me at: maclaird@omg.org.

Sincerely,

Steven A. MacLaird

Steven A. MacLaird, Col (Ret), USAF
Senior Vice President, Gov’t & Industry Strategy
Object Management Group

Atch – Action Plan Comments
Comments to the Federal Strategy Action Plan
July 8, 2019

Discussion: The Object Management Group® (OMG®) has reviewed the Draft 2019 – 2020 Federal Data Strategy Action Plan (FDSAP) and has the following specific comments to the 16 Actions. Please note, ALL of OMG’s standards are available for free and have a number of vendors who can provide implementations of those standards to requestors. We have provided recommendations where appropriate and provided information to be researched or considered later in the Government process.

Background: Object Management Group® (OMG®) – www.omg.org/ The OMG is an international, open membership, not-for-profit technology standards consortium. Founded in 1989, its mission is to develop technology standards and a wide range of industries (from Automotive to Business to Finance to Healthcare to Insurance to Security to Space and the Industrial Internet of Things (IIoT), as well as others). OMG is dedicated to bringing together its international membership of end-users, vendors, government agencies, universities and research institutions to develop and revise standards as technologies change throughout the years.

OMG is most well-known for its suite of modeling standards such as MOF, NIEM, UML, SysML as well as middleware such as Common Object Request Broker Architecture (CORBA) and Data Distribution Service (DDS). OMG has a number of models and standards for business, case, and decision management (https://www.omg.org/intro/TripleCrown.pdf) and a Records Management Service Specification standard (https://www.omg.org/spec/RMS/About-RMS/) that was done for the USG Archives that all could be useful for this area. Some areas for research: https://www.omg.org/data-residency/index.htm; https://www.omg.org/hot-topics/distributed-immutable-data-object.htm

Membership cost based upon client’s entity and size.

OMG Managed Programs - Finally, OMG provides the support infrastructure for the Industrial Internet Consortium® (IIC®), and the Consortium Information Software Quality® (CISQ®). More can be found on these two managed programs at the end of the attachment.

Specific comments to the Federal Strategic Action Plan

Introduction:
- Recommendation: The introduction provides comment to a vision and mission statement. Highlight Vision & Mission Statement here in this document, between the first and second paragraph. versus referring to them. At minimum provide a direct website. Rationale: Provides new participants complete, succinct information.
- Recommendation: Stating up front the need for a schedule to align with the Department of Defense (DoD) Budget Estimate Submissions (BES) type process and modify the FDSAP to include 1, 3, 5, 8-year actions. Recommended Words: Add after the second paragraph, creating a new third paragraph – “An overarching strategy that creates a short, medium and long term strategy, with assessments of progress will be made after 6 months, approved by 9 months and reviewed at the following intervals: Years 2, 3, 5 8 and 10 for and by each agency for submission to OMB by November of each year so OMB can make the appropriate re-direction of follow on course of actions.” Rationale: Provides known follow up assessments, re-assessment guidance and re-direction decision points.
- Recommendation: Paragraph 3, now paragraph 4. Add a new first bullet: Immediately following the publishing of the FDASP, OMB will assess all GAO reports on the Digital Accountability and Transparency act of 2014 to ensure proper actions are taken to address
concerns raised and are completed by Sept 2020. Additionally, OMB will determine if any adjustments are necessary to redirect efforts for years 2 – 5 follow on actions/strategies.

**Rationale:** Correcting deficiencies in the Digital Accountability and Transparency Act of 2014 will be a significant milestone for the government’s Data Strategy. Additionally, through its work on this task over the past 3.5 years the government has been educating itself about a myriad of data issues. Focusing resources on completing it will build a foundation of knowledge and experience that will be critical for future success of the Data Strategy.

- **Recommendation:** Add to paragraph four, at the end – “Government agencies, industry and academia should seek out voluntary standards and modeling groups/forums that advocate business processes, models and standards that are non-proprietary. Non-proprietary is defined as enabling interoperability, identifiers and associated data should utilize voluntary consensus based open data standards that are free of consumer licensing terms that would restrict public use, access, transparency, or otherwise prevent interoperability, data mapping and communication.

**Action 1: Create an OMB Data Council** – Add to sentence end of lead in paragraph “As a first order of business, the OMG Data Council will:

- Review GAO audits of the Digital Accountability and Transparency Act of 2014 and responses to date, and;
- Determine as required, best practices to address concerns and share with the Government Community.

**Responsible:** Office of Management and Budget

**Supported practice(s):** Governing, Managing, and Protecting Data & Promoting Efficient and Appropriate Data Use

**Measurement:** By Agency Assessment (Y/N)
- Analysis Accomplished (Y/N)
- Consistent governance approach determined and developed (Y/N)
- Brief GAO and obtain Feedback (Y/N)

**Timeline:** Completed within 6 months”

**Action 2: Develop a Curated Data Science Training and Credentialing Catalog** – **Recommendation:**

This and Action 14 appear to be the similar. Believe this title should be “Develop a curated Data Science Training Program and Credentialing Catalog”. Increasing staff data skills should fall within this. This timeline is 6 months, yet Action 14 is 1 month. Any training program and catalog should reflect the needs of government personnel, so Action 2 should reflect the outcome of Action 14.

**Action 3: Develop a Data Ethics Framework** – **Recommendation:** Add to paragraph 2 under this subheading: GSA will work with academia, professional associations, voluntary consensus-based open data standards bodies, and federal data stake holders. **Rationale:** Adding this type of groups provides additional capabilities that exist and provides synergistic effects.

**Action 4: Develop a Data Protection Toolkit** – OMG and OMG-managed programs provide a number of CyberSecurity papers/frameworks, standards, Common Weakness Enumerations (CWEs), Security process actions, etc. **Recommendation:** Draw on outside expertise to develop a secure Data Protection Toolkit. **Rationale:** Much work has been done in this area – don’t “reinvent the wheel” unless absolutely necessary.

**Action 5: Develop a Repository of Federal Data Strategy Resources and Tools** – No Comment

**Action 6: Pilot a One-stop Standard Research Application** – Although OMG has no substantive comment for this one, we would like to make this group aware of OMG’s Standard Based Report Model

Action 7: Pilot an Automated Inventory Tool for Data.gov – OMG currently has a number of available tool standards with associated tool vendors. If appropriate, OMG can meet with the National Center for Education Statistics, Department of Education to understand the requirements and determine if existing data models will work or if a new modeling standard is needed.

Action 8: Pilot Standard Data Catalogs for Data.gov – No Commit

Action 9: Improve Data Resources for AI Research and Development – Ontology work is key to meeting AI goals and moving to actionable intelligence This is difficult work at best. OMG has been involved in ontology and precise semantics for over 2 years to support Machine to Machine (M2M) recognition and AI creates OMG believes that 6 months is half to one third the time needed to accomplish this task. Some areas for research:  https://www.omg.org/hot-topics/semantics-ontologies.htm ;  https://www.omg.org/hot-topics/cybersecurity-initiatives.htm ;  https://www.omg.org/hot-topics/trustworthy-systems.htm

Action 10: Improve Financial Management Data Standards – The Financial Data Act of 2014 should be the starting point of standards by enhancing and responding correctly to the GAO comments. As stated previously, OMG has a number of financial data standards available to implement for free and implementing vendors can be provided upon request. Some starting points:  https://www.omg.org/fdtf/ ;  https://www.omg.org/bmi/ . Additionally, the new Standard Based Report Model addresses the enhancements to DAIMS  https://www.omg.org/cgi-bin/doc?bmi/2019-06-04


Action 12: Constitute a Diverse Data Governance Body – No Comment

Action 13: Assess Data and Related Infrastructure Maturity – OMG has observed other government groups try to define Maturity Model Schemas and struggle. There are many to choose from including DMBOK, DCAM, CMU

Very tough to define: 1) “What is mature? 20 “How is maturity defined as?”, and 3) “How to measure?”

Action 14: Identify Opportunities to Increase Staff Data Skills – This should be combined with Action 2.

Action 15: Identify Data Needs to Answer Key Agency Questions – OMG believes this baseline should be established early on three months after start) with the re-assessment 11 months later.

Action 16: Identify Priority Datasets for Agency Open Data Plans – OMG believes this baseline should be established early on (three months after start) with the re-assessment 11 months later.

Conclusion: There is no conclusion. Recommendation: Add a conclusion that explains what happens at the end of the year and the next steps. Rationale: Reader is left hanging as to what will happen for action plans in the out years (years 3, 5, 8 and 10).