PAPER TITLE

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ABSTRACT

(500 words max)

An environmental database may include an integration of terrain, ocean, weather/atmosphere, space, sub-surface, and all related data required for Modeling and Simulation (M&S) of phenomena and/or entities. Production of environmental databases is a significant part of the overall M&S development and deployment cost. Capitalizing on approaches that reduce the overall cost is an important topic of interest to the broader M&S community.

Various practices exist that deal with the data production process and/or the subsequent sharing of environmental data, and they address different aspects of the end-to-end problem. The practices are at various levels of formalization, ranging from international standards to ad hoc methods. On-going projects in a number of international government programs, as well as separate initiatives and innovative approaches from industry, continue to contribute to solutions in this area.

However, activities within and across similar communities, projects, or nations are often fragmented or disjoint, and sometimes do not or cannot leverage existing capabilities, standards, or lessons-learned. These activities often vary in scope, breadth, or depth. In some cases, the results that are produced are driven by the special requirements of specific projects or activities. However, in general, this fragmented approach reduces the reuse of data and the interoperability of the systems that use them, because it generates multiple incompatible solutions.

A survey by the Reuse and Interoperation of Environmental Data and Processes (RIEDP) Study Group (SG) established within the Simulation Interoperability Standard Organization (SISO) showed that many of these initiatives, a large subset of which are mainly focused on producing data for aviation-related training applications, use the same geospatial source data formats and a very similar high level data generation process. Therefore, the RIEDP SG compared several initiatives against an initial concept version of a process model and a data model to identify areas of convergence and divergence. Based on these results, the objectives of a next-step Product Development Group (PDG) were defined.

The RIEDP PDG provides two complementary products to address this.

The first product is the RIEDP Data Model Foundations, which is a SISO Guidance product. It is composed of two (tightly coupled) parts, the RIEDP Reference Process Model (RPM) and the RIEDP Reference Abstract Data Model (RADM). These form the foundations for existing and/or emerging database generation projects to compare, contrast, and map their database generation process and data model capabilities to these models. In this regard, use of the RIEDP Data Model Foundations serves as a guide in establishing database generation process models and their corresponding data models within the community.

The second product is the RIEDP Detailed Features Description. It is a SISO Standard product and its concepts complement the RIEDP Data Model Foundations. It provides the required information for identifying and describing specific instances and/or abstracted types of environmental features that, along with their specific attributes, value ranges, and metadata, will be utilized in environmental data products. The use of the RIEDP Detailed Features Description as a standard product improves data interoperability through the identification of features, their definitions (by using standardized dictionaries), their corresponding attributes, and any associated metadata.

This paper provides an update on the situation of RIEDP.

BIO

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(250 words max)

Jean-Louis GOUGEAT holds a Master's degree in Electronics and Communications and an Engineering degree in Telecommunications (1987). He has been a senior project manager at SOGITEC since 2001. He has 25 years of experience with R&D projects for the French MoD, and more specifically 20 years in simulation projects for training of military personnel, including company level training with Live simulation, Flight training with Virtual simulation and Command & Staff training with Constructive simulation.

He is in charge of the development of Distributed Mission Operation (DMO) activities at Sogitec. In this area, he was project manager of the AXED project aiming at developing the DMO in the French Air Force. He has been involved in various international efforts within NATO, from the genesis of the NATO PATHFINDER programme to the on going MSG-128 on Mission Training via Distributed Simulation among Alliance Air Forces.

He is the Chairman of the Simulation Interoperability Standard Organisation (SISO) Product Development Group (PDG) on the Reuse and Interoperation of Environmental Data and Process (RIEDP).