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Using ModernStats standards to facilitate the sharing of statistical services

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Abstract

In the last years, the National Statistical Institutes (NSIs) have faced many challenges resulting from the considerable changes of the external and internal context. One of the main goals of official statistical standards is to support the modernisation process and enhance information and experiences sharing among countries. Within the ESS Vision 2020 programme, "Implementing Shared Statistical Services" (I3S) is one of the projects launched for developing and sharing generic software solutions, and increasing the statistical services available in the CSPA (Common Statistical Production Architecture) catalogue.

More specifically, one of the main goals of the project is to develop (either from scratch or from existing components) new statistical services to support the statistical process. One of the work packages of the ESSnet consists in developing concrete reuse cases of statistical services between NSIs. Such an operation covers several steps.

The service provider (or DO: Developing Organization) must first create a shareable service, or improve and package an existing service, in order to make it shareable. This implies in particular to work on documentation, internationalisation, modularization, abstraction of dependencies, etc. In the I3S context, it also means open-sourcing the code, which is viewed as a way to strengthen the trust relationship between the DO and reusing organizations (ROs).

The RO must then define the reuse case, which is a project involving the implementation of the service in a local business context. It is crucial that subject-matter experts and methodologists be associated to the definition and management of the project, because experience shows that service reuse is more about strategy and organization then about IT.

The actual reuse project should then be conducted in collaboration between the RO and the DO. Implementing the service in a new context requires methodological and technical support. It can also reveal opportunities of improvements or optimizations that can greatly benefit to the service. Thus, the DO should be ready to upgrade the code, or to review contributions from the RO. This type of collaboration has been set up between Istat and Insee as part of the I3S ESSnet. Insee was looking at enhancing the production process of its Permanent Database of Facilities[1], by reusing Istat's tool for record linkage (RELAIS - REcord Linkage At IStat), and in return Istat proposed to define a reuse scenario for Insee's data acquisition software (ARC - Accueil Réception Contrôle).

[1] https://www.insee.fr/en/metadonnees/source/serie/s1161

This double operation is still going on, but both partners already view it as a great success. Thanks to close cooperation between the teams, ARC and RELAIS have reached a much higher level of quality and functionality. They are actually now associated in a common framework that could prefigure a future "statistician workbench" with shared user interface, process parameter definition, data access methods, etc. Istat and Insee are now convinced that common work has to go on after the ESSnet, and the question is now to define how that can be achieved.

During the ESSnet, the statistical standards have guided the architectural layers design (mostly the business and the information and application layers) and the application components refactoring. While GSBPM has been the starting point for the process chain analysis, GSIM has been the reference standard for modelling data structures. Particularly, GSIM concepts have been relevant to standardize input and output data of each process step, thus enhancing service reuse and shareability. The development of the application components has been driven by CSPA principles. In order to prioritize the development activities, the analysis of the service core logic and additional features has facilitated the iterative implementation. Considering the overall experience, one of the lessons learnt is that the alignment to statistical standards improves efficacy and effectiveness of a statistical process, and enhances the cooperation between NSIs.

Keywords

Statistical standards statistical service reuse service shareability