
The Statistical Data and Metadata Exchange (SDMX) Initiative: A Progress Report

I. Introduction

1. Over the past months, the Statistical Data and Metadata Exchange (SDMX) initiative has continued its efforts to foster the development of standards and guidelines to facilitate greater efficiencies in the exchange of statistical information using modern technology.
2. At the Sixth Session of the Committee for the Coordination of Statistical Activities (CCSA) in Rome, SDMX was discussed in the context of a paper presented by the OECD on "The Role of SDMX in Building the International Statistical System". Annexes to the paper offered a brief non-technical introduction to SDMX and a note about the adoption and use of SDMX standards by the seven sponsoring institutions.¹ A brochure about SDMX was also circulated as a room document.
3. The current report on progress to the Seventh Session of CCSA focuses on recent developments and practical next steps. In particular, the CCSA is asked to adopt SDMX standards for data and metadata exchange both among international/supranational organisations, and between the latter and national data and metadata providers.

II. Technical Standards

4. In November 2006, the SDMX Sponsors Committee approved the release of SDMX Technical Standards (Version 2.0). The upgrade is backward compatible with the earlier Version 1.0 and extends the information model to cover a broader range of metadata features and a more fully articulated architecture for the exchange of statistical information, especially in the context of web technology.
5. With this development, SDMX has completed its initial efforts in the three pillars of its technical standards: a formal information model that is needed for recognition by information technology experts in the international standards community, derived formats (SDMX-EDI and SDMX-ML) that build on standards for electronic data interchange (EDI) and the eXtensible Markup Language (XML) - the *lingua franca* of web technology - and a modern architecture framework suitable for use in emerging web-related services.

¹ The SDMX Sponsoring Institutions are the BIS, ECB, Eurostat, IMF, OECD, UN and World Bank. For more details, please see the SDMX website (www.sdmx.org).

6. Efforts are now in progress for Version 2.0 to be reviewed for approval within the International Organization for Standardization (ISO), which approved Version 1.0 as ISO Technical Specification 17369 in April 2005.

7. Input and guidance from international and national statistical agencies have been considered an important part of these standards-setting efforts. The sponsoring institutions welcome further suggestions on how to strengthen the technical framework, ensuring their relevancy in statistical exchange activities such as compilation and dissemination within agencies and in their data-sharing efforts with others.

III. Draft Content-Oriented Guidelines

8. The SDMX Technical Standards only make sense when there is particular content (data and metadata) being exchanged. As the essence of the SDMX technical framework specifies formal rules for formatting data and metadata, so that they can be exchanged in a way that allows computers to "read" and process them without manual intervention, there is a critical need to precisely identify and define what is being exchanged. In particular, both cross-domain concepts (e.g. data frequency and observation status) and concepts specific to a particular statistical subject-matter domain (e.g. financial instrument in the case of external debt statistics) are necessary.

9. Whatever the technical solution found to exchange and disseminate data and metadata, the development of content-oriented guidelines requires that one (or more) organisation(s) takes on the role of "maintenance agency" for ensuring continuity and consistency in what it is creating to be used. The concepts (and code lists and text) that identify and define these exchanges of statistical information can be established by a single institution for itself, by a group of institutions working together (for example, those managing the forthcoming "joint external debt hub") or by a particular statistical domain (for example, national accounts).

10. As far as content-oriented guidelines, the seven sponsor institutions are developing guidelines concerning cross-domain concepts and a metadata common vocabulary. The latter will provide a glossary resource on nomenclature, ensuring consistency of terminology used in support of other SDMX content-oriented pillars as well as in SDMX technical standards.

Moreover, in order to facilitate work on domain-specific concepts, SDMX is focusing its attention on a list of statistical subject-matter domains developed by the UNECE Conference of European Statisticians. Such a list is envisaged to be:

- the cornerstone of the classification scheme for registries that store information about available data and metadata sets and where they can be found;
- an organisational focal point for joint activities of experts in methodologies in subject-matter domains (for example, inter-secretariat working groups) that are interested in working on domain concepts (code lists and text) and their representations within the SDMX framework.

11. As with the technical standards, the content-oriented guidelines will be prepared and updated through an open process, where draft documents are published on the SDMX website for a

public comment period and efforts will be made to encourage input from international and national statistical agencies.

12. The development of standards for specific statistical subject-matter domains (national accounts, prices, international trade, etc.) needs to be carried out by international/supranational organisations and by international groups who are the “guardians” of methodological standards (for example, intersecretariat working groups). For example, the development of subject-matter statistical standards could be carried out as part of the preparation of new manuals and handbooks, such as the System of National Accounts. Domain experts can then publish recommended domain content-oriented guidelines (both as annex to the related manual/handbook and on the SDMX website) that can be used (hopefully in combination with cross-domain concepts) to specify domain-specific data and metadata structure definitions.

IV. Tools

13. The SDMX website will be pointing to suppliers of freely available technical tools that can help facilitate the implementation of the SDMX framework. Institutions or companies interested in releasing such tools on a freely available basis should go to the Tools section of the SDMX website for further information.

14. Initial tools cover the formal creation and use of concepts (coded and textual), integration of concepts into data structure definitions, translation into SDMX-EDI and SDMX-ML formats, interchanges between formats, and registry services.

V. Implementations

15. As was noted at the Sixth CCSA meeting in Rome, several SDMX implementation projects are in progress. For the most part these developments highlight work in domains involving economic and financial statistics. More recently, growing interest in possible implementations involving other subject-matter domains has come to our attention, in some cases involving CCSA participants which play a leadership role in these statistical domains.

16. Annex 1 provides an update on six important SDMX implementations:

- Dissemination of euro area statistics - ECB and euro area national central banks
- Joint External Debt Hub (JEDH) - BIS, IMF, OECD, World Bank
- SDMX Open Data Interchange (SODI) - Eurostat
- ComTrade - UN and OECD
- Metadata Repositories - IMF
- National Accounts World Wide Exchange (NAWWE) - OECD

VI. Outreach

17. One of the important challenges for SDMX is the fostering of a collaborative community of users and contributors to its standards-setting efforts. Steps to more fully utilise the possibilities

of website communication are envisaged as an integral part of an outreach strategy. More active participation in meetings of already existing groups of national and international statistical agencies is also seen as a significant opportunity to create a better understanding of what SDMX efforts are trying to facilitate.

18. In addition, an SDMX conference is being planned for year-end 2006 in order to encourage input on its technical standards and content-oriented guidelines, to provide an opportunity to demonstrate implementations and also to assist in capacity-building. An announcement about the conference is attached as Annex 2.

VII. Topics for Discussion

19. The CCSA is encouraged to give consideration to the following topics for discussion:

- comments on progress, including practical implementations, since the last CCSA meeting and the role that SDMX technical standards and content-oriented guidelines might play in helping to strengthen the international statistical system;
- projects that might be initiated over the coming months involving SDMX standards and guidelines in various subject-matter domains, including possible capacity-building initiatives;
- guidance on steps to foster greater awareness about SDMX developments among national and international statistical agencies and steps to encourage their input to SDMX standards-setting;
- the envisaged year-end SDMX conference, in particular topics that might be taken up, an indication of possible participation and the prospects for contributed papers that might be developed in the coming months.