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**Joint UNECE/Eurostat Seminar on Integrated Statistical
Information Systems and Related Matters (ISIS 2002)**
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Topic I: Application of web technology to integrate statistics

USE OF A WEB PORTAL TO ACCESS COMMON REFERENCE DATABASES

Invited paper

Submitted by Statistics Canada¹

Summary

1. National Statistical Offices (NSOs) have understood for some years that they have to integrate their information systems, particularly those that reference common administrative databases or common infrastructures such as geography. More recently, the introduction of web-based technology has provided a means whereby this integration can be achieved. This paper will present an architectural framework for integrating reference databases under a common web portal.
2. The architecture focuses on *coherence* rather than function. It assumes that basic functions of existing components need to be preserved while new processes and services must be provided across the enterprise. The proposed framework deals with removing definitional inconsistencies and providing a seamless service interface to several groups of users.
3. Some choices have been made from a technology perspective; they reflect a widespread trend within the industry and demand from users to employ a web-based approach. The assumption is that most services will be delivered to the desktop using the Intranet, and accessed with a common browser. The framework also uses a commercial technology known as *Enterprise Application Integration* (EAI), which is described in the paper.
4. The framework also deals with the use of *metadata* and *registration* processes that ensure a single integrated view is provided to users, even where there are inconsistencies in the underlying databases. The combination of registers and other metadata provide the conceptual integration or harmonisation of data held separately by the other components.
5. The final integration component in the architecture is the *Information Warehouse*. This is a

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replacement for the myriad of reporting modules that characterise the existing systems. These must be replaced because they expose to the user the incompatibilities and inconsistencies of the underlying systems. A warehouse is a specially designed database of microdata drawn on a regular basis from the existing, separate data stores. However the data it contains must be fully rationalised with the user-visible metadata and the contents of the registers. In other words, the consistency often has to be engineered by reformatting and mapping the underlying data into a common form.

6. The architecture presented provides an approach to managing the key reference sources within a statistical organization.