

CONFERENCE OF EUROPEAN STATISTICIANS

**UN/ECE Work Session on Methodological Issues Involving the Integration of Statistics and
Geography**

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Topic (ii): Spatial database management and (geo-)data warehousing

**DEVELOPING AN AUTOMATED UPDATE INSTRUMENT FOR FIELD STAFF AT THE
UNITED STATES CENSUS BUREAU**

Submitted by U.S. Bureau of the Census¹

ABSTRACT

1. The United States Census Bureau is conducting research to develop a means of achieving real-time integration between its geospatial data base, the TIGER file (Topologically Integrated Geographic Encoding and Referencing file) and its Master Address File (MAF). Both data bases must be maintained and updated on a regular basis. All addresses contained in the MAF must be spatially located on the ground for tabulation purposes. Because both data bases are large and detailed, they currently are updated independently. As a result, it is difficult to consistently and completely synchronize the MAF and TIGER.

2. The Geography Division has been testing a "field listing" instrument, a pen-based computer, that integrates these two data bases and their update tools; this allows Census Bureau field staff to more easily perform their update tasks. The instrument displays a map of the field assignment area and the individual dwelling structures (map spots with a coordinate) and addresses that exist within that assignment area. The software allows the field worker to add new features (streets and/or map spots representing housing units) using signals from the Global Positioning System satellites (GPS) and add attribute information, prompted by pop-up windows. The attribute fields in the windows ensure that the information captured in the field is complete. The information may be uploaded into the TIGER data base and the MAF through data file transfer, thus avoiding keying or digitizing errors and reducing the time to update the national data sets. This approach also allows on-the-spot edits for consistency between the address and feature information.

3. Census Bureau staff will demonstrate the instrument and software as it has evolved so far.

¹ Prepared by Randy Fusaro.