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Topic (iii): Open source and software consortia in statistics

FREE AND OPEN SOURCE SOFTWARE AT THE US CENSUS BUREAU: BUILDING SHARED STATISTICAL DISSEMINATION SYSTEMS

Supporting Paper

Submitted by the U.S. Census Bureau, United States[1]

Summary

1.   In order to fully maximize the return on software investments, the Census Bureau is exploring technologies including Free and Open Source software (FOSS). An exploratory group of IT professionals has been formed within the Census Bureau and charged with the task of documenting current use of FOSS, exploring functional activities where FOSS can be utilized, developing best practices for selecting and using FOSS, and examining potential costs and benefits.

2.   The results of an initial assessment in December 2003 showed significant use of FOSS in such areas as communication, data collection, office and data management, and systems. More than 125 software packages were identified as being in use and essential to operations. Respondents to a survey expressed functionality, security, usability, and stability as being the most important reasons for using FOSS. However, the group also found that there is a perception that migrating to FOSS in some instances could negatively impact ongoing agency legacy operations.

3.   Building upon the advantages obtained from using FOSS, applications have been developed to achieve the robustness and stability similar to that found in selected commercial products.

4.   The QuickFacts/MapStats cooperative software project is a case study in low-cost, rapid, and collaborative application development. It has resulted in award-winning E-government solutions for data dissemination and demonstrates many of the advantages of development with FOSS.

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[1] Prepared by Lisa Wolfisch and Rachael LaPorte Taylor (lisa.wolfisch; rachael.laporte.taylor@census.gov).

5.   Using FOSS, the Census Bureau developed State & County QuickFacts, a Web site providing access to statistical profiles for states and counties. Prior to the State & County QuickFacts program, no single web site offered timely, cross-program data items by geographic area. With QuickFacts, the most commonly requested statistics became available in a simple, usable application that satisfied both novice and advanced users.

6.   The State & County QuickFacts has become the most heavily used single-purpose application on the Census website. In addition to reduced costs, using FOSS provided benefits including shortened development time and application portability. Portability allowed for a cooperative development effort between the Census Bureau and FedStats, the portal to US Federal statistical agencies, developed by the Interagency Council for Statistical Programs. The QuickFacts application components are used to produce statistical profiles for the FedStats' MapStats site. MapStats combines data from many federal statistical agencies into profiles for states, counties, and cities.

7.   The MapStats/QuickFacts application was developed in the Perl programming language and uses MySQL database software to manage a shared database. The system architecture is highly portable and configurable. This is crucial since the two Web sites use different operating systems and hardware platforms.

8.   The return on investment of MapStats and QuickFacts includes intangible assets beyond financial benefits, among them are cooperation, a culture of innovation, and reputation that comes from improved citizen access to data.   Because they are an easy and inviting starting point, both MapStats and QuickFacts are bringing thousands of new users to their respective websites, introducing many to the usefulness of Federal statistics for the first time.

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