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Topic (i): Web/on-line remote access

MONA – MICRODATA ON-LINE ACCESS AT STATISTICS SWEDEN

Invited paper

Submitted by Statistics Sweden¹

Abstract

Introduction

Statistics Sweden has a long tradition of providing microdata to the research community. Traditionally these data has been distributed as flat files on different types of magneto-optical media. To meet new demands on data security, connectivity and accessibility, Statistics Sweden have recently introduced a new system for remote access to microdata, aka MONA. With this system users are given secure access to databases at Statistics Sweden from practically any place that can provide Internet access. Data are processed and analyzed through a rich set of applications e.g. SAS, SPSS, STATA, Microsoft Office or Super Cross and result set are then automatically sent to the user's predefined mailbox.

The main goals for the MONA-system are:

- to increase accessibility to microdata for external users at the same time as security and secrecy is reinforced
- to keep all types of microdata for research on site at Statistics Sweden enforcing control of where, when, who and how data are used
- to have instantly upgraded data when needed without any requirements to produce new sets of disks or tapes for redistribution to external users
- to present an easy to use front end for the end users built on well-known standard techniques and components such as server-based computing
- to present a complete system with powerful servers and a rich set of applications with no requirements on expensive equipment and software costs for end users

¹ Prepared by Lars-Johan Söderberg

Technical description

The MONA-system is built around communication between a client and a terminal server usually called server-based computing. The main idea for this concept is when a client is connected to the server, the client's computer or terminal performs no application processing. It processes only keyboard input and screen output and functions like an input/output terminal. All application processing is done in the server. A non-expensive PC or specialized terminal can be used as a client computer, running any Windows 9x/NT/XP operating system as well as Linux or MAC.

All data are stored in MS SQL Server databases which provide a standardized format for data and no need for storing data files in proprietary formats.

When logged on to the system users are presented a Windows 2003 remote desktop with a start menu that contains the user's chosen applications e.g. SAS, SPSS, STATA, Office applications or Super Cross for tabulation. Every user have their own storage space, "My Documents", where they can put results from data processing or immediate working files, there are also possibilities for sharing folders among a group of users.

Proven RSA security tokens are used for enhanced authentication of remote users. Encryption of data sent between the client and the terminal server is handled by a SSL VPN tunnel which also acts as a reverse proxy. As a third level of security every user is also a member of a domain which imposes a standard logon procedure to the Windows server. The security setup has been evaluated by a security company, Sentor MSS AB, and on a scale from 1 to 5 the MONA-system was awarded the highest mark, 5.

Who could get access to MONA

Access to data is subject to normal routines of confidentiality and clearance for release.

Further development of the MONA system

Information system that involves external users should have Meta data system that describes all variables available for usage. Such a system is now being developed and can hopefully be implemented before 2006.

A Data Warehouse solution which covers most of Statistics Sweden's register based statistics is under development. When implemented much of the work with compiling datasets/databases for the researchers will more straightforward and faster.

A Web portal is going to be developed. Here users can get information about variables and statistical sources all fed from the Meta data system.

A Web based discussion forum has been developed but not yet released. Here users can discuss certain matters related with MONA and register based statistics. Statistics Sweden subject matter experts as well as experts on the MONA system will act as moderators for the forum.
