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**ORGANISATION FOR ECONOMIC COOPERATION
AND DEVELOPMENT (OECD)
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Topic (ii): Software sharing and shared maintenance

PC-Axis Community

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I. Introduction

1. This paper describes the direction in which work is being done for the future management of PC-Axis. The work is carried out by a Nordic working group and is approved by the Director Generals (DGs) of the NSIs in Sweden, Norway, Denmark and Finland. Currently, the DGs have agreed to an outline of the way forward, which includes the design of a consortium agreement to drive a community model for software sharing and maintenance. No contracts have yet been drafted or agreed upon. The aim is to establish an agreed cooperative model from 1 January 2011. This paper has been derived from the preliminary report made by the working group.

II. Background

A. The PC-Axis Family

2. The PC-Axis family is a software suite that consists of three parts:

- Programs
- Common components
- The PC-Axis file format and the SQL data model

3. The main *PC-Axis* program is designed for tabulation, and simple analysis and presentation of statistical data. For publishing statistics on the Internet or Intranet, *PX-Web* can be used. These programs have been

developed by Statistics Sweden. Several additional programs have been developed, forming a comprehensive software suite for presentation and dissemination of statistics. Some examples are listed below

- PX-Publ - adds tables to Word and Excel (developed by Statistics Denmark)
- PX-Edit - creates and edits PC-Axis files (developed by Statistics Finland)
- PX-Map - creates and displays statistics on maps (developed by Statistics Norway)
- PX-iGraph - creates and displays graphs (developed by Statistics Denmark)

4. The different programs make use of common components. The greater part of the functionality and particularly the more complex editing and calculations are found in these. Today Statistics Sweden is principally responsible for all of these components.

5. Also included in the PC-Axis family are the px file format designed to store and exchange both data and metadata and the SQL data model which allows PC-Axis to directly manipulate data in relational databases. The px file format and the SQL data model are closely connected to each other. When changes are made in the SQL data model it often leads to additions in the px format. Today, changes in the data model and format are made in agreement between the Nordic contributors to the software family. However, all software is licensed as one suite by Statistics Sweden.

B. The future of PC-Axis

6. Statistics Sweden has since 2008 conducted an analysis of the future of the PC-Axis family. A starting point of the work has been to secure the maintenance and development of software in the PC-Axis family. During this process a solution was discussed which involved granting sub-licensing of the software to a commercial software provider.

7. Statistics Sweden has decided not to enter into an agreement with any commercial software provider. This decision is based on PC-Axis being a key part of Statistics Sweden's toolbox, and that the technical platform and web components, developed for the .net version of PC-Axis, also will be used by the presentation layer of Statistics Sweden's website. It was regarded as a risk that future efficient maintenance of the components could be jeopardized by the out licensing of PC-Axis. Other users and countries have also pointed out the risks in delegating maintenance and development of PC-Axis to an external supplier of software. However, Statistics Sweden would still like to broaden the responsibility for maintenance and development of the PC-Axis family.

8. This has led to the proposal of a community model to share software development and maintenance that aims to give the actors involved the opportunity to influence and contribute to the maintenance and development of the PC-Axis family, and to share the responsibility for the software programs and components used.

9. A working group with members from the Nordic countries was set up to elaborate further on these conditions. The target effect of the working group was to establish a sustainable model for the long term maintenance and development of the PC-Axis family.

C. Alternatives

10. Three options for solutions to the future of PC-Axis have been considered and the result of the working group is based on these options. The solutions were:

- a. To continue with the current solution
- b. To establish a common Open Source solution
- c. To establish a Community Source solution

11. The working group has suggested that further work should be done to establish a Community Source solution for PC-Axis. The reason for this proposal is partly because it is difficult to continue with the current solution, since one of the goals is to spread the responsibility for development of the PC-Axis family. The current solution will probably develop into something similar to a Community Source solution, but without the necessary regulation of cooperation. To proceed with an Open Source solution at this stage is considered taking a greater risk than necessary to achieve the objectives of shared responsibility. If there is a desire to enter into an Open Source solution in the future, the Community Source solution is a step in that direction. It is also possible to revert back to the current solution from a Community Source solution, which would be difficult to do from an Open Source solution.

III. Community Source

A. Definition of Community source

12. The definition of *Community Source* is not as exact and restricted as *Open Source*. In short it can be defined as a hybrid between traditional *Closed Source* and *Open Source* software. There may be various reasons why a consortium of institutions signs an agreement, by which they decide to contribute a certain amount of financial and/or human resources. In return, they obtain exclusivity in influencing the development of the project.

13. It has often been stated that the strength of PC-Axis has been that it is “*developed by statistical organisations for statistical organisations*”. Thus, while having a native interest in the development and functionality, these non commercial organisations at the same time wish to offer the final software to all users for free (e.g. PC-Axis, PX-Map etc.). In this sense, a Community Source model might be the appropriate solution for the future development of the PC-Axis software family.

B. Setting up the community

14. Since Statistics Sweden, due to Swedish regulation, is prohibited from forming or owning part of any legal entity, the proposal is that the cooperation in respect of PC-Axis is regulated in a cooperation agreement between the initial members, Sweden, Denmark, Norway and Finland (the “Cooperation Agreement”).

15. The Cooperation Agreement has the purpose of regulating the set up and structure of the PC-Axis Community. Additionally, it will contain provisions necessary to form and mandate a Steering Group which may be given the right to decide on several of the practical aspects of the parties’ cooperation.

16. Due to the fact that the PC-Axis Community will not have any formal legal capacity, each member of the community shall remain the owner of the copyright with respect to any contributions made to the PC-Axis Community. As a result, Statistics Sweden shall remain the owner of the original code, but any member that develops and contributes code to the PC-Axis Community shall own the rights to such additional code.

17. A member shall contribute code by granting all the other members a license to its code. Such a license should include a perpetual and irrevocable right to use and sub-license the contributed code. Furthermore, the license should include a right to modify or add to such code and to sub-license the result of any modifications. The members shall also be provided access to the source code in respect of all contributed code. The grant of licenses between members should be regulated in the Cooperation Agreement. However, specific matters in respect of license grants may be decided by the Steering Group.

C. Organisation of PC-Axis community

18. The community consists of those NSIs or international organizations paying for a new license agreement. The community members can choose to be either a contributing member or not.

19. The community is governed by a steering group (or board). For organising the work within the community an architectural group will be set up and there will be an organisation working as a service provider within the community.

20. It will still be possible for other organisations to buy a sub-license to use the PC-Axis software as they do today. It will however be without services provided by the community and the sub-licensees will not have access to the source code.

The steering group

21. The steering group is the body responsible for the PC-Axis family. The group makes decisions on what to include in the PC-Axis family, the strategic planning (e.g. architecture) for PC-Axis, and governs the community. The right to make decisions should not be spread between different parts of the community organisation. All decisions will be taken by the steering group.

22. From the start, the steering group will be set up with the initial members i.e. the NSIs of Sweden, Finland, Norway and Denmark. These NSIs are the main developers of the PC-Axis family today and are also the initial members. Statistics Sweden will chair the steering group for the first years, due to the fact that Sweden is today the main owner and developer of the core of PC-Axis. The chair makes the final decision if there are equal votes in the group. The steering group can unanimously decide to include other countries/organisations in the group. Including other members in the steering group will be decided by the steering group e.g. based on the contributions the country/organisation has made and is willing to do, or if the country/organisation can be considered as being a spokesman for a large number of users/members.

The architectural/developers group

23. The architectural group works as a core team guiding the direction of development, maintaining a reliable architecture as well as ensuring the quality of new software included in the core of PC-Axis or the PC-Axis family. "Change management" could also be a task for the group. The group will be responsible for drawing up guidelines and establishing templates for documentation of software and components.

24. The work of the group should be planned by the board and the group reports to the board. The group works as a team, but will probably have only about one physical meeting a year besides meetings on other occasions like reference meetings.

25. The group should be established on merits and skills. It should consist of a lead developer, a test manager, an architect and a release manager. Any internal disagreements in the group could be handled by the steering group.

Service Provider

26. The service provider will be appointed among the members of the Community. The service provider will most likely be an organisation within the steering group or a contributing member of the community.

Contributors

27. Contribution to the software in the PC-Axis family, development of existing or new software, can be done by any community member. The contribution can also consist of translation, testing, documentation, debugging, graphics etc. Contribution is promoted within the community such as at the annual PC-Axis meetings. The contributions should be driven by individual interests and needs, but when there are several community members expressing the same need, development of different components must be divided between countries. The contributions can be passed to the developers group, who will decide whether it suits the final software package or not.

Community members

28. Any statistical organisation (NSIs or international organization) paying a new license fee is entitled to become a community member. Membership should be approved by the steering group.

29. The annual reference meetings should continue. Community members will have free access to the reference meetings.

Commercial collaborators

30. Commercial collaborators are commercial companies or other non-statistical organisations that wish to use software for commercial purposes. Price and conditions should be determined by the steering group.

Users

31. The users refer to all members of the community and end users of the final software (e.g. using PC-Axis, PX-Map etc.).
