SPSS (Statistical Software) Access Expansion & Performance Improvement

I. Background

Washburn provides University-wide access to the SPSS statistical software from any lab or personal computer on the campus network. A limit of 16 individuals can concurrently use SPSS which runs on a central, shared Windows-based computer (terminal server). The University’s SPSS license (administered through ISS) provides access to three SPSS modules: Statistics Base (includes linear regression), Advanced Statistics, and Regression. Most students only require the features in the Statistics Base module, while faculty, especially those conducting research studies, may use all three statistical modules.

This 16-concurrent SPSS user limitation and centralized computing model is inadequate because 1) more than 16 students/faculty members need simultaneous access during each semester; 2) there is a slow response from the server when all licenses are in use or there is considerable advanced statistical processing; and 3) heavy network traffic during peak periods of the day affects the response time between a person’s computer and the processing server. The use of course-related statistical analysis software continues to grow and the recent consultant IT assessment study identified SPSS limitations as a significant educational constrain. VPAA and class scheduling personnel have had to monitor the size of statistics course enrollment and when classes are taught to minimize SPSS access and performance problems. In addition, some faculty have selected textbooks that include SPSS software or have recommended commercial providers of SPSS software so student can buy their own single-user copy. Students who own laptops can use the standalone textbook disks in class. However, most universities do not expect require students to buy personal copies of SPSS or expect them to use their own computers.

There are other statistical packages used within Washburn, including SAS, Systat, NVivo, and open source software. These analysis programs are used for discipline-specific, professional, and joint-project reasons. However, SPSS is the most used due to usage within specific disciplines and professions and in textbooks.

II. SPSS Access and Computational Options

IBM offers educational discounts for SPSS licenses for an annual per-computer (user) or a fixed volume-related fee. They also offer a perpetual license that covers the Base or optionally all modules; this license is a one-time expenditure. Concurrent licenses are available in various quantities to extend the University’s current 16-user limit. Standalone SPSS software can be purchased for individual or lab computers; or a “site” license can be purchased for unlimited or a maximum number of concurrent users. An unlimited user license is quite expensive.

Computational/software speed is important to individual users and for in-class exercises, which are time constrained. SPSS can be installed and run: 1) as standalone software on individual personal computers; 2) by running it on a shared, central University computer; or 3) as a hybrid solution where individual copies of the software are loaded on computers in labs or offices and “activated” by access a central license server (that controls the number of concurrent users). This latter option is preferred when networked lab or personal computers have the power to run SPSS efficiently; the license limit checking means we do not have to purchase software rights for all the computers, only the number of concurrent use desired.
III. Proposed Solution

It is important to a) increase the number of SPSS licenses to meet increased demand, and b) to improve computational efficiency. Therefore, it is proposed that Washburn should purchase 30-50 additional perpetual licenses for the SPSS Statistics Base module. The license controller (key server) would be configured to reserve some uses of the advanced SPSS modules for those faculty or students who need highly specialized statistical functions. Funds are available in the FY10 ISS computer software budget.

In addition, ISS is proposing a dual computational platform solution within an expanded and integrated SPSS license environment:

1. Install “license-controlled” SPSS software on personal computers in labs and classrooms that are used for statistics education and demonstrations; optionally install the software on faculty computers who request it. This solution utilizes a central “key” server that tracks concurrent SPSS users, but the software is run on the personal computer.

2. Retain the centrally hosted “terminal server” solution for shared remote access to and occasional uses of SPSS or for those who do not have sufficient personal computer processing capacity to efficiently run SPSS. The SPSS host would check with the key server to ensure license limit compliance. An ISS server more powerful than the current shared computer will be used for SPSS hosting.

Costs: The one-time cost to increase the number of concurrent users beyond the existing 16-user SPSS license is: Add 16 perpetual licenses for a total of 32 users = $17,800; increase to 40 users = $19,688; or increase to 50 users = $21,517. Funding is available in the ISS FY10 computer software budget. (For comparison purposes, an unlimited SPSS license costs $26,054 per year.)

SPSS is, and shall be considered, the University’s basic general-purpose statistical package and licensing and shared computing resources shall be provided by ISS. Other statistical analysis software may be used by departments, faculty, or students, but license for these discipline or course-specific packages must be acquired from University, departmental, grant, or personal funds; as open source solutions; or as part of textbooks or course-related web services. ISS will assist departments and faculty to evaluate options and to arrive at an acceptable hosting, computational, or shared license solutions.

IV. Implementation

The following project steps are planned (and completed during Summer 2010):

1. Share this proposal with the Faculty IT Advisory Council for feedback.

2. Present the proposed SPSS solution to the VPAA for approval to proceed.

3. Order (by ISS) 34 additional perpetual SPSS licenses (maximum concurrent users = 50), at a cost of $21,517.

4. Install “key-linked” SPSS software in appropriate labs and classrooms, as determined by VPAA/Deans (summer 2010). Install SPSS software on computers of faculty who request it (summer/fall 2010). Setup a license server to distribute the pool of on-demand licenses from Washburn’s networked computers.