CNS /Update Newsletter Feature

/Update Feature: Tuning PeopleSoft

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Tuning PeopleSoft

By Dr. Michael Conlon, UF Director of Data Infrastructure and PeopleSoft Implementation Officer

Four months have elapsed since PeopleSoft went live on July 1, 2004. Many people have experienced many problems with various "modules" of the system. Payroll, benefits, recruiting, grants, hiring, job actions, purchasing, travel and expense, budget, reporting, portal, assets, projects, billing, ledger and password management have created unprecedented change in UF business practices. Staff and faculty have sometimes struggled with new procedures, new methods and new systems. And in many cases, there have been concerns that the systems are “slow.”

The expectation of the university in creating its new systems is that "page turns” – that is pressing “Save” or “Next” or pressing a link to get to a new page – could be accomplished in 2-3 seconds under normal conditions. The new systems have sometimes met that goal. Many page turns are accomplished in 2-3 seconds or less. And many times we have faced less than normal conditions. People have created unusual load on the system in many cases in order to correct errors, check results or otherwise deal with the uncertainty and uneven results produced by the systems in the first few months of use. Large scale corrections and adjustments have been applied to the system during normal business hours creating unusual load, less than normal conditions and longer than desirable response times. Much of this unusual activity has subsided and the systems are now approaching a routine level of use. We now see that many page turns take an excessive amount of time, slowing work and adding to the frustration of new and different ways of working.

The system has been actively tuned since it was first put into production. Tuning involves studying poor performance, determining its cause and making adjustments to system and database settings, as well as software to improve performance. This work can be thought of as detective or diagnostic in nature. Highly trained specialists must examine the running system and determine the root cause of the poor performance. In many cases, the performance is “off” by a factor of more than 10 and sometimes more than 100 – processes that should take 2-3 seconds take several minutes. When the diagnostic work is successful, adjustments are made to the software, to the database or to the system settings to improve performance.

Some people have asked if we have enough hardware. If things are slow, can’t we get a bigger computer and have things go faster? The answer is that adding hardware would not make things go faster. Our hardware is not completely busy now. We have additional capacity during almost all but the most unusual circumstances. Adding hardware would cause more hardware to sit idle. In some cases adding hardware might improve performance slightly – many dollars would be spent to get a 10 or 20% improvement. We would not get 2 minute process to run in 2 seconds.

The most common cause for our processes to be slow is the presence of unusually large amounts of data. Database administrators add indexes to tables to improve the performance of processes. The results of adding indexes can be dramatic – improvements of 100 times are not uncommon. By studying the tables used in particularly slow processes, changes can be made which can reduce run times from minutes to seconds.

One might ask why all the indexes and other database settings aren’t provided by PeopleSoft, and why after 4 months haven’t all these cases been identified and corrected? The answer is that PeopleSoft can not anticipate how the university’s data will be loaded into over 55,000
tables that make up the running system. That knowledge lies with the university. University people must determine the points of slow performance and make the necessary changes. Given the huge number of tables, the huge number of processes and the unusual usage patterns of the first few months, this work has been difficult.

Tuning work is progressing. More processes run faster each week. Of course, if the process you use most often is not one that has yet been tuned, you will see the system running poorly.

Tuning is never finished. As data is added to the system, parts of the system that ran satisfactorily may slow down. Continuous tuning is needed for the system to meet its performance goals.

For additional information regarding PeopleSoft, performance and on-going work to improve the performance of the system, please see the Bridges web site at www.bridges.ufl.edu [http://www.bridges.ufl.edu]

Your Comments are Welcome

We welcome your comments and suggestions on this and all UFIT documentation. Please send your comments to:

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