Matlab Toolbox Licensing and New Toolbox Purchases

Background

Matlab, a product of The Mathworks, is a high-level technical computing language and interactive environment for algorithm development, data visualization, data analysis, and numerical computation. NC State owns 1000 concurrent licenses of Matlab along with a variety of plug-ins known as toolboxes. Toolboxes are licensed concurrently with a quantity large enough to support projected use campus-wide, typically from 10 to 150. The collection of concurrent Matlab and toolbox licenses are grouped together as a campus pool of licenses provided to the university community for educational use through a partnership between PAMS, Engineering and the Information Technology Division. Information Technology charges both PAMS and Engineering for annual maintenance that is paid by the respective colleges.

The Matlab and toolbox licenses are controlled by a license server to ensure the campus does not exceed the maximum number of licenses purchased. Since there is a limited quantity of licenses, a “first come, first serve” process occurs. The campus typically purchases an adequate volume of licenses to prevent users from receiving license denials, although this may occasionally occur.

The Challenge

On occasion, a faculty member may require an additional toolbox for research that is not included in the campus license and may request the toolbox be added to the campus license. This can create a challenge for reasons listed below:

- Since the campus license provides a “first come, first serve” scenario, Information Technology can not guarantee that the new toolbox license will always be available to the individual who purchased it.

- The faculty member would have to purchase the license from The Mathworks and then would have to be charged by Information Technology the annual maintenance of the toolbox (approximately $30 annually although this may vary). Information Technology is not equipped to identify and bill individuals for single toolbox licenses.

- When any changes to the campus license occur, a new license file is generated by The Mathworks that must be installed by Information Technology’s Systems department. There is no guarantee that this license file can be installed immediately. The normal process time for license file installation is typically three weeks.

- If the faculty member is requesting the toolbox be installed in the campus Unity lab environment, the faculty member will be required to follow the timeline established by Information Technology’s Microsystems department. Changes to
the Unity lab environment typically occur once per semester which can delay the faculty member’s time frame.

- The Mathworks does not provide a licensing solution that will allow the faculty member to purchase an individual license of a toolbox and use it in conjunction with the university’s campus license. Either the faculty member must add the toolbox license to the campus license pool or purchase his or her own separate license of Matlab and all other necessary toolboxes. This may cost significantly more than the cost of the toolbox license.

**Possible Solutions**

If a faculty member requires an additional toolbox for research, there are two possible solutions:

1. The faculty member can purchase his own license of Matlab as well as a license for all the necessary toolboxes required for the research. The faculty member will be responsible for paying the annual maintenance charges to The Mathworks. The faculty member would then have immediate access to the software and control over its use.

2. The faculty member’s department/college can purchase licenses for the required toolbox for use in the campus pool. The hosting college must approve the purchase. Following college and departmental approvals for toolbox purchases within the College of Engineering, ITECS will order the licenses and bill the requesting department.

A minimum of ten toolbox licenses are generally recommended when adding toolbox licenses to the campus pool. The toolbox would then be available to the entire campus with little likelihood the faculty member will receive a license denial. The faculty member’s department must agree to accept responsibility for payment of the toolbox maintenance. The hosting college must include the charge in their payment to Information Technology and would then be responsible for billing the faculty member’s department for the maintenance.

**Recommendations**

Based upon the needs of the faculty member, PAMS, Engineering and Information Technology have approved the following business practice for the scenarios below:

One New Toolbox License – If the faculty requires one new toolbox license, it is recommended that a license of Matlab and all the necessary toolbox licenses be purchased separate from the campus license, as indicated in option #1 above. New single licenses may not be added to the campus license. As well as receiving the licenses in a more timely manner, the faculty member would have guaranteed access. The faculty member would be responsible for yearly maintenance costs.
New Campus Pool of Toolbox Licenses – Option #2 above is recommended if a pool of new toolbox licenses is required and the faculty’s department is willing to purchase a pool of no less than 10 licenses to add to the campus license. The faculty member must first seek approval of the hosting college and/or department and follow the guidelines listed in option #2. It is important to understand that because of the approval, ordering and licensing server process, the timeframe to implement these licenses will take much longer. The faculty member’s department would be responsible for yearly maintenance costs to be paid to their college.

Matlab Pricing

The pricing of Matlab and toolbox licenses depend on whether new products are being purchased or whether maintenance is being renewed:

New Products or Adding Additional Licenses – When purchasing new products or adding additional licenses, there are volume discounts at various quantities (5, 10, 25, 50, 100, 150, 250, 500). The volume discount is based on the current purchase only and is not cumulative.

Maintenance – Volume discounts apply to maintenance costs based upon the cumulative quantity of the Matlab or toolbox licenses. When purchasing additional toolbox licenses, the additional licenses may provide a larger volume discount because the maintenance costs are determined by combining the original license quantity with the additional licenses.