HLC Finding and Question from the Provost to the CIO, 2009

“In meetings with team members, students stated that there are not nearly enough computers available on (main) campus for their use (500 for 18,000 students), and that this problem is magnified because many students are financially challenged and do not have access to computers in their homes.”

The Provost asked the CIO to affirm this finding and make recommendations.

Process

In the Fall Semester, the CIO presented his approach to the Student Affairs Sub-Committee of the Board of Regents. At the beginning of Spring Semester, the CIO convened a steering committee comprised of Wyn Goering, Vice Provost, Martha Bedard, Dean of University Libraries, Moira Gerety, Deputy CIO, Melissa Vargas, Strategic Planner and Jane McGuire, Strategic Planner to oversee the data collection.

A sub-committee\(^1\) from the IT Agents group was convened to collaboratively execute the tasks below. The IT Agents group consists of representation from all Level 3 UNM divisions. Instruments for the following work were designed.

1. Student survey and discussion forums of student computing practices, Spring Semester, 2010
2. Inventory of student-facing computers across all campuses, Spring 2010
3. External scan of industry and peer institution practices

At the March, 2010, IT Agents meeting, preliminary inventory results were shared and criteria to replace equipment with central funds were outlined. The results in this document were presented to the Agents and to the Steering Committee in April, 2010.

Findings

Student-facing Computer Inventory

Almost 3,500 student-facing computers were reported UNM-wide. This number is quite probably under-reported by up to 15%. The data is reported here as it was recorded in the inventory by student computing facility managers across campus. The data has not been confirmed or verified by a third party.

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\(^1\) Sub-committee participants from the IT Agents included Dale Hendrickson, University Libraries; Richard Adcock, Health Sciences Library and Informatics Center; Jonathan Feldstein, College of Fine Arts; Robert Christner, Accessibility Resource Center; Mark Harty, Information Technologies; Jane McGuire, Office of the CIO.
The IT Pods provide over 500 computers, the number used in the question asked of students by the HLC apparently, as this is the number published online. Large numbers are also found in the following facilities, some of which are accessible only by student subsets:

- 300+ University Libraries
- 190+ Language Learning Center
- 70+ Health Sciences Library
- 90+ College Of Ed
- 60+ Accessibility Resource Center

<table>
<thead>
<tr>
<th>Location</th>
<th>Students</th>
<th>Computers</th>
<th>Pct</th>
<th>Printers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Campus</td>
<td>25,444</td>
<td>2082</td>
<td>60%</td>
<td>143</td>
</tr>
<tr>
<td>HSC</td>
<td>1,860</td>
<td>288</td>
<td>8%</td>
<td>28</td>
</tr>
<tr>
<td>Branches</td>
<td>7,370</td>
<td>1110</td>
<td>32%</td>
<td>49</td>
</tr>
<tr>
<td>Total</td>
<td>34,674</td>
<td>3480</td>
<td></td>
<td>220</td>
</tr>
</tbody>
</table>

Of these, 76% are available for all UNM use, 23% are for some restricted or departmental use. It is assumed that the HLC obtained the “500 computers” number from the published IT Pod number – locations and offerings of other computers are not published. Over 80% are PCs, 17% are Apples.

It is apparent that the buying and equipment recycling practices have followed opportunities rather than standard practices. Although almost one third of student-facing computers were replaced since the spring 2009, over 20% are over 3-years old, which is longer than the industry-standard 3-year refresh cycle for lab computers.

<table>
<thead>
<tr>
<th>AGE</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,109 are &lt; 1yr old</td>
<td>43% in Labs</td>
</tr>
<tr>
<td>492 are 1-2 yrs old</td>
<td>29% in Commons</td>
</tr>
<tr>
<td>1,087 are 2-3 yrs old</td>
<td>28% in Classrooms/COW</td>
</tr>
<tr>
<td>376 are 3-4 yrs old</td>
<td></td>
</tr>
<tr>
<td>416 are &gt;4 yrs old</td>
<td></td>
</tr>
</tbody>
</table>
**Student Survey**

Students were surveyed in February and March 2010. 1,989 students responded from all campuses. 87% were undergraduates, 13% graduate and professional students. 4% were from the HSC.

79% or respondent are required by their UNM academic program to use a computer for class work. 19% use UNM computers primarily, although this may be a high figure as IT Pod users were prompted for their input.

**Are students using UNM’s or their own computers?** Of survey respondents, 19% report using UNM computers primarily for their UNM work. 71% wait less than 5 minutes to use a UNM computer, indicating adequacy of availability.

63% of survey respondents reported primarily using their own computers for UNM work. This is considered lower than the actual number of students owning their own machines since Pod users were the primary source of respondents and since respondents in the 2009 ECAR survey, 81% own their own laptops and 57% own their own desktops, figures which are comparable to national 88% and 44% respective percentages, with the expected regional lag.

**What is the satisfaction of students using UNM computing environments?** 70% or greater of students were satisfied or very satisfied with computing environments, pod/lab hours, security and safety and software availability. 51% or less of students were satisfied with printing, power availability in common areas and classrooms. Only 31% were satisfied with printing limitations. Both in survey verbatim comments and in student forums students indicated that the following are important to the student computing experience:

- Robust wireless
- Printing from laptops, including color printing options
- Common areas with computers and printers
- Collaborative spaces to use laptops with tables, power, printing and wireless coverage
- Power in the classrooms
- On-demand, authenticated access to academic software
- Standard software set on all student computers

**Are students willing to pay a fee for campus computing?** 33% of the 2,000 student respondents were willing to pay a fee! Verbatim comments often qualified that: the fee should be small, departments should not levy fees since computers are required for coursework, color printing is desirable, academic software should be available on UNM computers, such as in the Libraries.

**Peer Institutions**

Comparative data is difficult to acquire on these topics. The following was gathered from national and regional peers: U of Utah, U of Colorado – Boulder, U of Texas – Austin, U of Iowa, U of Washington.

<table>
<thead>
<tr>
<th>Peer School</th>
<th>Computers in classrooms/Labs</th>
<th>Computers in Commons</th>
<th>Wireless on Campus</th>
<th>Students own Laptops</th>
<th>Students own Desktops</th>
<th>Cloud* for academic work?</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNM</td>
<td>2480</td>
<td>1000</td>
<td>85%</td>
<td>~80%</td>
<td>~60%</td>
<td>N</td>
</tr>
<tr>
<td>Utah</td>
<td>1600</td>
<td>25</td>
<td>95%</td>
<td>88%</td>
<td>70%</td>
<td>N</td>
</tr>
<tr>
<td>UC Boulder</td>
<td>1079</td>
<td>787</td>
<td>75%</td>
<td>80%</td>
<td>60%</td>
<td>N</td>
</tr>
<tr>
<td>UT Austin</td>
<td>400</td>
<td>200</td>
<td>98.8%</td>
<td>-</td>
<td>-</td>
<td>Y</td>
</tr>
<tr>
<td>U Iowa</td>
<td>153</td>
<td>736</td>
<td>80%</td>
<td>-</td>
<td>-</td>
<td>N</td>
</tr>
<tr>
<td>U</td>
<td>315</td>
<td>250</td>
<td>70%</td>
<td>-</td>
<td>-</td>
<td>N</td>
</tr>
<tr>
<td>Washington</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Cloud, here, refers to local, regional private or public, authenticated, on-demand access to computing environments, software or shared data for academic work.

There is no standard ratio of institution-provided computers to the number of students on campus. The need for computer classrooms and commons can vary with the percentage of student-owned laptops and accessibility to mobile-computing services, as well as with curricular needs. Nationally, the trends of student-owned computers indicate the owning desktops is decreasing and owning laptops is increasing. Wireless availability varies with the size and nature of the campus.

The University of Texas at Austin data may demonstrate a future trend if we were to revisit the numbers on these same campuses in several years: **An increase of cloud or network delivered access to computing services will reduce need for institution-provided desktop computers on the campus.**

**Criteria for Replacing Student Computers**

In March 2010, the IT Agents identified the following priorities and requirements for using UNM central-IT funding to replace student-facing computers:

**Priorities**
- **Age**: > 4 yrs old
- **Access**: to all students or available to the public
- **Funding**: Not already funded by fees
- **Support**: Where students can get technical or academic support
- **Location**: Equitable geographic distribution
- **ADA**: accessibility geographically distributed
- **Recycle**: Willing to donate old CPUs to the Center for Advanced Research Computing (CARC).

**Requirements**
- **Standard Hardware**: Use UNM contracts to replace them, where available (Dell)
- **Standard Software**: Use the standards-based image, including for Citrix for remote hosting. Thin client is still down the road.
- **Security**: Meet security & patch schedules.
- **Management**: Be willing to have the clients managed by Directory Services (not necessarily by IT), such as available in departments like ASM or the Library.
- **Access**: Should be available for public UNM use.