

from iMail to Google's Gmail. This new service not only provided students with increased storage (from 5 megabytes to 1 terabyte), it also introduced integrated cloud based services such as Google Drive (file storage), Docs, Spreadsheets, Forms, etc.

With 35,000 students SMC is challenged to provide technology resources and services that meet students' needs. Since its implementation, 245,000 Google accounts have processed over 40 million emails and supported the creation of over 200,000 files and documents. The list below provides an overview of the Google service use over the past five years.

- 245,838 Active Student Google Accounts

- 245 Petabytes or 245,000 terabytes of available cloud storage capacity--up 2 million percent from 2009.

- 31,000 Average Daily Emails Sent and Received (43,000,000 emails sent and received since 2010)

- 52,176 Google Documents Created

- 202,949 Files Stored in Google including: General File Uploads, Documents, Spreadsheets, Slides, Forms

SMC Central Storage Upgrade:

In 2013 IT implemented a new central storage solution for students, staff and faculty to meet demands for increases in both capacity and performance. The total storage capacity increased from 32 to 96 terabytes (TB) of logical storage, up 300 percent since 2009. This increased the size of faculty and staff Exchange mailboxes to 1.2 GB - up 200 percent from 2009. However, as pointed out in a later section of this document, this is just a short-term measure, as plans are finalized to transition the staff and faculty to Microsoft Office 365 cloud services.

The modern storage solution also provides fault-tolerance, high-availability, thin provisioning efficiency, deduplication, and tiered performance features that meet both modern application demands and cost effectiveness needs. The average performance Input/Output Operations Per Second (IOPS) increased from 4,500 to 30,200, up 470 percent since 2009.

SMC Network wired nodes and WiFi Coverage and Performance:

The total wired connection end points increased from 3,100 in 2009 to 5,900 in 2014, up 190 percent. After the implementation of the planned campus safety technology project, with several hundred electronic surveillance cameras and entry access devices, the anticipated total network wired nodes will increase to over 7,000.

Core network increased building-to-building connectivity and campus-to-campus bandwidth from 1 to 10 gigabit(GB) connection speeds, and set the stage for future expansion 40 GB as required.

Another project is in progress to upgrade network equipment to increase hard wired devices (computer workstations or printers, for example) from 100 megabyte (MB) to 1 GB.

College wireless access controllers were upgraded to handle 1,000 total access point capacity, a 1,000% increase. The number of deployed WiFi access points increased from 40 to 220, up 550 percent from 2009. The number of supported endpoint connections rose from 600 to 4,400, up 750 percent since 2009

The coverage of WiFi at designated campus spots increased to 95 percent throughout all campuses.

WiFi endpoint maximum bandwidth went from 56 MB to 600 MB, up 1,700 percent since 2009. User WiFi bandwidth average was upgraded from 0.86 MB to 15-20 MB, up approximately 2,000 percent since 2009.

C.1.1.3 Mobile/Cloud Service Enablement

Under the guidance of the strategic plan for technology, IT closely monitored WiFi client usage, behavior and activities. A sample summary report of SMC WiFi usage and device type (approximately 51 percent Apple vs. 49 percent Android and others devices) is shown below in figure 3.0: