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# Measuring IT Staff Time at Georgia State University

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## Overview

In 2005, Georgia State University's Information Systems and Technology (IS&T) division instituted a Project Management Office (PMO). The goal of the PMO was to manage the large, cross-divisional information technology (IT) projects on campus and to monitor and report on the portfolio of ongoing IS&T projects. In order to meet these objectives, IS&T deployed a hosted project portfolio management product called Virtual Project Management Office (vPMO) from Level 5 Partners.

Over the course of the rollout and deployment of the vPMO product, IS&T staff recorded time related to projects and operational functions of the organization. The purpose of the time accounting was to provide the university and senior leaders with a means to accurately demonstrate how the unit spends time for requests made of the organization.

The purpose of this research bulletin is to share the data-collection methodology and findings with institutions of higher education. The documentation contained within is a framework that is being used by Georgia State University (Georgia State) and can be adopted by other institutions and modeled to fit their needs. The bulletin is also a guide for other institutions to show them the benefits of the collection and how a similar program might be incorporated into their culture.

## Highlights of Time Reporting for IT Projects

Until the introduction of vPMO, IS&T had no formal means to prioritize projects they were asked to undertake. This caused a problem for the organization because it had no mechanism to differentiate routine or exploratory projects from high-profile projects. Scheduling and resource allocation were difficult, and there was no evidence that projects were aligned with the university's strategic initiatives.

Two prior attempts were made to resolve these issues. One involved a complex application for reporting time, and the other made use of individual spreadsheets. These proved inaccurate and difficult to use and report from, and they did not allow timely adjustments to the workforce to meet the changing demands of the university.

### Time Reporting through vPMO

Several changes were made to how time was reported using the vPMO system. The organization already had a standard definition of projects in the organization consisting of one or more of the following criteria:

- Project would take more than 80 person-hours to complete
- Project would require the efforts of cross-divisional resources
- Project had a high visibility for the university
- Project had a capital cost in addition to regular personnel cost (including equipment, software, or contractors)

Although projects were well-defined, no category or project title existed for recording operations and maintenance (O&M) tasks. O&M tasks consisted of infrastructure and ongoing operations for the university. To resolve this problem, O&M projects in the IS&T project portfolio system were given a leading “z” designation to denote that they were O&M projects during the 2007 fiscal year. This designation caused those projects to filter to the bottom of the portfolio list when running reports, and O&M tasks became known as “z projects.”

The vPMO system as implemented at Georgia State allows for different levels of access to be given to individuals for each project in the portfolio. While the CIO and directors have read-only access to all projects in the portfolio, staff were given access to only those projects they were working on or could record time against. This gave IS&T the ability to make sure that employees could not “hide” hours in projects on which they were not working. It is up to project managers to add additional team members to their projects and to verify that the hours recorded against their projects are correct.

All employees had access to a category called “admin time.” This field was used to capture administrative time not associated with an approved project or with an O&M project. This field included the ability for individuals to record time associated with internal meetings, general e-mail, vacation/sick time, and department functions (employee relations, budget management, and so forth).

The goal was for all full-time employees to record at least 40 hours a week in the system. Any overtime hours should also be recorded so that management could see the amount of work effort being recorded in the division and reports could be generated showing the extra work gained through overtime hours. The PMO monitors and reports on the hours recorded and ensures that time entries are updated by each individual.

Once employees began recording time entries, it was evident that the amount of data would soon grow to a size that made reporting through the web very burdensome. While the vPMO system is a hosted solution with some reporting capabilities, pulling the amount of time data in the system through the web posed several problems. With 160 employees recording an average of 5 entries a day for 5 days a week, the number of lines quickly grew to a size that created timeout limits with the web browser. To combat this problem and to automate some of the reporting capabilities, IS&T set up a local Oracle database and worked with Level 5 Partners to create an XML file transfer so that timesheet entries could be downloaded to a local cache on a nightly basis. This gave the organization the ability to then use Crystal Reports to build reports and extracts so that the data could be easily manipulated using Microsoft Excel or other data-mining tools.

### Setting Up a Reporting Structure for Time Accounting

To better align the data with the business structure of the university, a general reporting structure was developed to provide a hierarchy of data for customers. Existing fields were modified and added to the reporting table on campus.

## Core IT Functions

The first field added was used to represent the core functions for IS&T, each of which relates to the ability of the organization to meet the functions of the university. The core functions were defined as follows:

1. **General Administration:** This function is used to record the administrative and leave functions for IS&T. It includes vacation, holidays, jury duty, and sick leave. General administration also includes time spent by IS&T's finance and HR groups in their daily activities. These roles include activities such as voucher processing and financial and human resources reporting. The field is also used for staff to record time related to general department administration that cannot be attributed to any other defined project, such as reception, university administration meetings, external meetings, and so forth.
2. **Business Systems Support:** This function includes the activities related to maintaining business automation and enterprise-wide software application systems at the university. This grouping includes finance, HR, alumni/foundation, and the decision support systems.
3. **Research Systems Support:** This function includes the activities related to research systems at the university. Georgia State has a number of computing clusters that are used for research. Support for these systems is categorized under this umbrella.
4. **Academic Systems Support:** This function includes activities associated with the academic systems of the university such as support of the classrooms as well as the main student systems (SCT Banner, Blackboard Vista). It also includes instructional support and digital media services and IT support for all of the projectors, computers, Crestron control systems, and other technologies that are used in general-use classrooms and labs.
5. **General IT Services:** This function includes all of the infrastructure processes for the university, such as the network, e-mail systems, information security, project management office, the GSU website, and so forth. Systems that can be aligned with other, more specific core functions are recorded appropriately, while this category is used for the general maintenance and support of systems that span business, research, and academic systems. This category is also used for PC support outside of labs and classrooms.
6. **External Support Services:** This function includes work done by IS&T staff for users outside of Georgia State. This includes support for the Georgia Board of Regents, for the university system library applications (GIL/Galileo), and for GeorgiaView, the University System of Georgia's WebCT/Blackboard application.

Core functions are broken down into activities, each with a specific owner who is responsible for the work being accomplished for that activity. Activities are associated with one, and only one, of the higher core functions. Projects are linked with activities in the system for reporting. IS&T defined 30 activities:

### General Administration Activities

1. **Administration:** Time spent in meetings and other activities not related to defined projects. This includes general IS&T HR and finance functions. During FY2007 this also included time spent answering daily e-mails. For FY2008, employees have been directed to categorize their e-mail according to the related project.
2. **Leave:** Time that employees are out of the office due to vacation, holidays, sick time, jury duty, or family leave as defined by the Family and Medical Leave Act (FMLA). In FY2007, there was also a category used to record time away at conferences. For FY2008, this has been rolled into Administration for reporting purposes.

### Business Systems Support Activities

3. **Alumni/Foundation Systems Support:** Application development, maintenance, and support of applications and/or customers who are “alumni-facing.” The primary customer is the Development Office, and the primary application is Banner Advancement.
4. **Financial Systems Support:** Maintenance and support of the PeopleSoft financial system and supporting components. This includes maintenance and support of all of the existing interfaces from the PeopleSoft financial system to external systems.
5. **Human Resources Systems Support:** Maintenance and support of the PeopleSoft human resources system and supporting components. This includes routine maintenance and support of the system and the interface to external systems.
6. **Decision Support Systems Support:** Maintenance and support of decision support systems used by Georgia State. Currently the university uses a combination of custom-built and off-the-shelf applications. In 2006, the university launched an initiative to implement Oracle portal to support the reporting of data. The time related to the Oracle portal project is captured under this activity.

## Research Systems Support Activities

7. **Research Administrative Systems Support:** Maintenance and support of research administration supplementary systems. Many of these systems support research that is hosted on the grid computers hosted on campus. These systems also include systems to support research accounting and reporting to the appropriate authorities.
8. **Research Computing:** Support of the research computing infrastructure at Georgia State. This includes system administration, maintenance, and research applications support. Research computing includes development of research computing resources website, outreach, training, customer relationship, and communications.

## Academic Systems Support Activities

9. **Academic Workplace Technology Services:** Maintenance and support of technology used in classrooms and student computer labs. Included in this category are the support and building of the PC and Macintosh images used across campus, including the library.
10. **Library System Support:** Maintenance and support of systems used in conjunction with the libraries at Georgia State. This includes support of the electronic reserves and assisting with the building of course packs that are available for students to check out and use during the semester.
11. **Student Systems Support:** Application development, maintenance, and support of applications and/or customers who are "student-facing." The primary customer is Enrollment Services, and the primary application is SCT Banner. A large part of this activity also includes all of the many interfaces and bolt-on applications related to the SCT Banner application.
12. **Instructional Support:** Design and support of instructional courseware and delivery systems, technology training, and digital media productions for the campus. This includes administration of learning management software applications.

## General IT Services Activities

13. **Administrative Workplace Technology Services:** Maintenance and support of PCs and Macintoshes being used by faculty, staff, and administration. This includes building images and packages for machines and maintaining a desktop asset inventory database for the university. It also includes maintenance and support of computers used in administrative offices and system updates to all computers supported by IS&T.

14. **E-Mail Systems Support:** Maintenance and support of the Georgia State student and faculty e-mail systems. This includes monitoring of system performance as well as backups and spam filtering.
15. **Project Management Office:** Support of the Project Management efforts for Georgia State including the support of the vPMO application and project documentation. The PMO also handles administration of the technology fee process.
16. **GSU Web Support:** Strategy, development, maintenance, and support related to the GSU.edu website and the content management system.
17. **Help Center:** The provision of Tier 1 support for incident management. This activity also includes the maintenance and support of the incident management application used by IS&T and other departments at the university. This includes administration of services such as report generation, maintenance of the Category/Type/Item (CTI) help desk classification system, and so forth.
18. **Identity Management Support:** Maintenance and support of user digital IDs at Georgia State. This includes new-user activation and user ID decommissions during the employee hiring and separation processes. Applications that require integration into the digital IDs are usually captured as a part of the respective project, although continuing maintenance is recorded under this activity.
19. **Information Security:** Maintenance and support of information security systems that monitor the university's network for evidence of unauthorized access and data breaches, which may result in the disruption of network services as a result of system compromises. Included in this activity are security reviews and assessments of systems located across campus.
20. **Network Services Support:** Support of the switching and distribution components of the Georgia State network infrastructure. Included in this activity are routine network maintenance and support for each building and for the central network switching core. Also included is the support for the wireless network deployed throughout the downtown campus.
21. **Technology Operations Center (TOC):** The 24-hour monitoring of all network and system equipment, all cable and port connections in the TOC, racking of TOC equipment, and management of backup tape storage.
22. **Performance Measurement:** Collect and analyze data concerning the organization's performance in serving its customers, and generate web-based reports on results in order to provide managers and directors with decision-making tools.

23. **Systems Hosting:** Maintenance and support of system equipment located in the Network Operations Center, including the execution of all backups, operating system upgrades, and storage management.
24. **Portal Systems Support:** Application development, maintenance, and support of portals. (Note that for FY2007 and FY2008, IS&T is working on implementing Luminis portal. This time is being captured in Student Systems, and the Campus EAI Portal is being captured in Decision Support Systems Support, until the systems are in production. At that time the maintenance and changes to the system will be captured using this activity.)
25. **Database Administration Services:** General support and maintenance of Oracle database systems deployed with applications on campus. Database activities related to specific applications should be reported against that application. This activity is for general maintenance and upgrades related to the database application.
26. **Institutional Software Licensing:** Management and administration of software licenses and distribution for Georgia State. This includes maintaining a software library for the university and working with vendors for campus contracts and pricing.
27. **Print Services:** Print jobs produced by a small, IS&T-maintained print center for campus clients. Time related to production of print jobs and duplication of electronic files is recorded in this activity.
28. **GSU Campus Communication Infrastructure:** Support of the IP telephony system. Includes contracted services for IP telephony maintenance and network port installations, resolution of telephone incidents, and preparation of the telephone bill.

#### **External Support Services Activities**

29. **USG Library Systems:** Maintenance and support of the library systems at Georgia State and other colleges of the University System of Georgia. This includes maintenance and support of the library catalogs and interlibrary loan system.
30. **GeorgiaView (WebCT course management system):** Maintenance and support of the GeorgiaView learning management system hosted by the Board of Regents for the University System of Georgia.

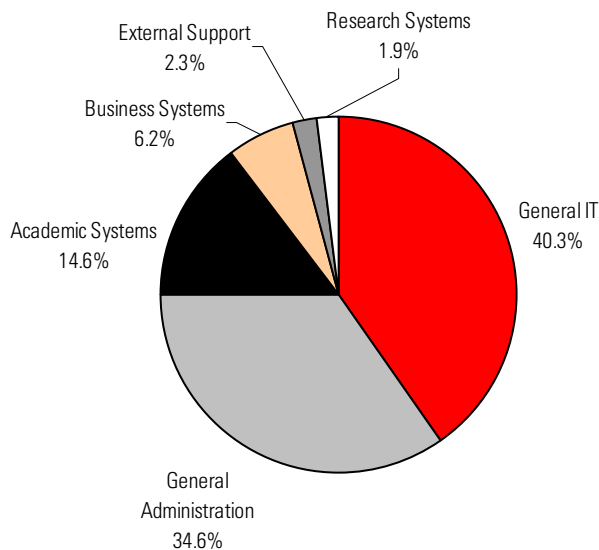
## Reporting of IS&T Hours

On July 1, 2006, at the start of the fiscal year, IS&T began capturing time spent by all members of the staff, from the CIO to the student assistants. All employees recorded their time to show a minimum of the standard 40 weekly hours and any overtime so that reports would accurately reflect the number of hours worked.

IS&T employees were encouraged to record data as accurately as possible at a minimum of half-hour intervals. These increments proved suitable because the data were examined at a higher level to determine where time was spent for the division. However, time reporting for specific departments and individuals is used with a little more caution and is available for further analysis by the directors and managers.

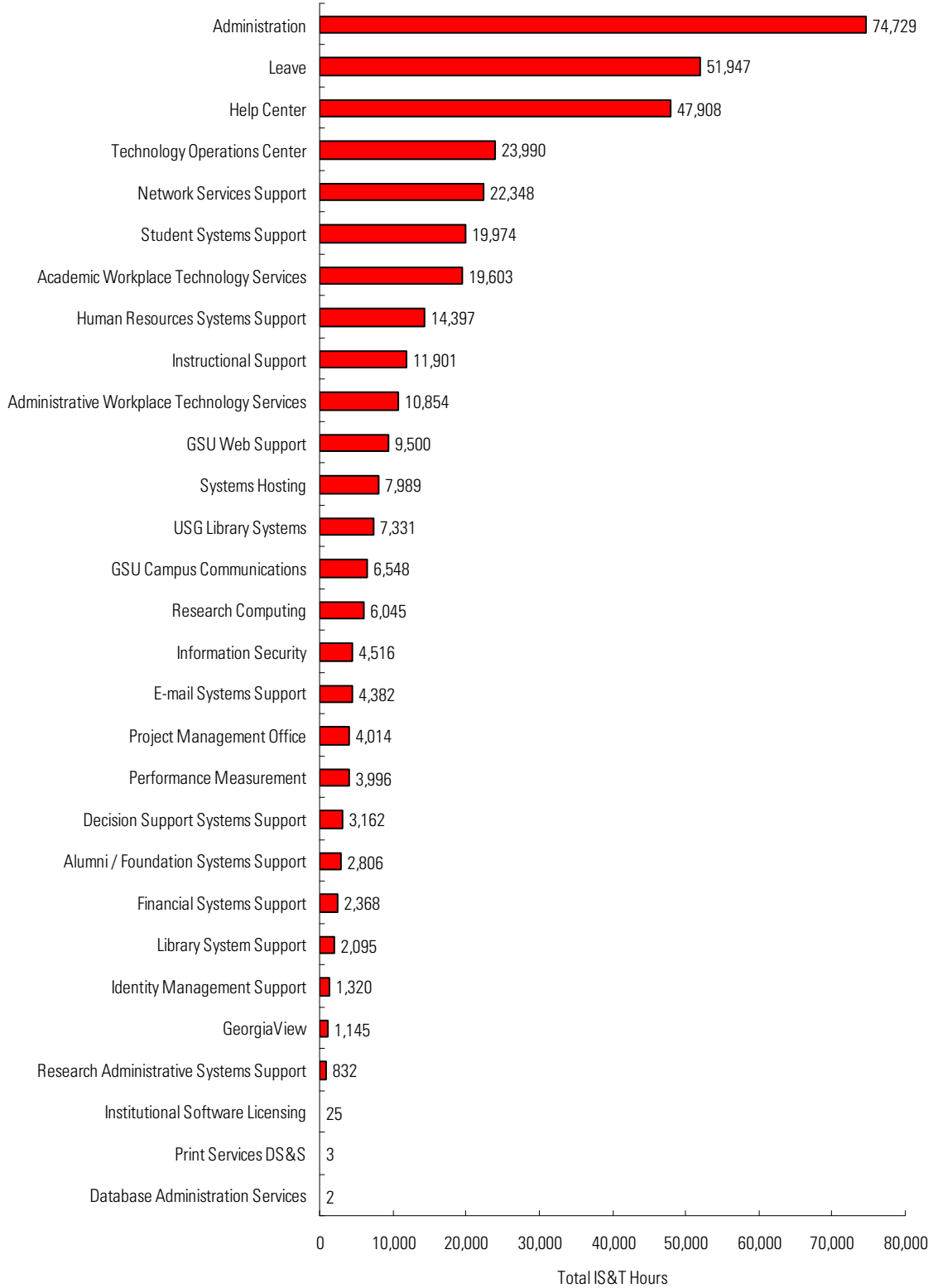
Figure 1 illustrates FY 2007 hours by core function. During FY 2007, IS&T logged 365,728 hours in the vPMO system, which is the equivalent of 176 FTEs. This includes non-working time such as vacations, sick days, holidays, and time away for training and conferences.

**Figure 1. Fiscal Year 2007 Hours, by Core Function**



In reporting to the customer, IS&T wanted to show where working time was being spent. A second set of data was developed that included meetings and general administration of the department but excluded non-working time. By excluding non-working time from the hours available during FY 2007, 313,781 hours remained, or the equivalent of 151 FTEs, as seen in Figure 2. This is important in that the numbers show that at any given time it is as if 15 (of the 160 employees) are away and unavailable for work.

**Figure 2. Fiscal Year 2007 IS&T Hours, by Activity**



## What It Means to Higher Education

Higher education has seen phenomenal growth in IT over the past decade for administrative, research, and instructional purposes. With that growth comes increased cost for infrastructure and support, resulting in a greater demand for accountability of projects and staff resources.

To better explain how much time is spent on projects, Georgia State has moved to a web-based system of recording individual staff work times for IT projects. This system has provided us with

- a means to inform senior management of allocation of resources, that is, time spent on projects, on administrative duties, and on O&M;
- the ability to move resources quickly and easily from one IT project to another;
- a clearer picture of the time spent on O&M, an area that is often excluded in project analysis;
- a forecasting tool to estimate the time needed to complete future IT projects; and
- staff members who are more cognizant of how their work time impacts projects and where their time is applied.

Almost every aspect of university processes depends on some type of IT and its respective support staff. As more technology is used across campus, the demands on the IT staff increase. Knowing the amount of time the IT organization spends on projects helps forecast where additional resources will be needed in the future. It also helps senior management develop a portfolio of projects that best benefits the organization.

As the need for accountability grows, IT departments in higher education will be called on to account for how and where staff resources are allocated. This includes time spent in support of the campus infrastructure. Being able to account for staff members' time will be a shift in culture for the organization. This shift may be difficult in the short term but will pay dividends in the long run.

## Key Questions to Ask

- What are the needs of our customer base for reporting time-worked data by project?
- To what degree is our organization set up or ready to deliver statistics to our customers on what we support and provide?
- As an IT organization, can we provide senior management with the time spent on labor for individual projects and for O&M?
- Do we have a viable, easy-to-use system to collect and report on time worked by our IT staff?

- What is our IT unit's methodology and categorization process for completing projects? Is this methodology working for us?

## Where to Learn More

- *A Guide to the Project Management Body of Knowledge: Third Edition*. Project Management Institute, Inc., 2004.
- Georgia State University vPMO Training.  
[http://hollywood.gsu.edu/ist/istrea/vpmo\\_training/index.html](http://hollywood.gsu.edu/ist/istrea/vpmo_training/index.html).
- Kerzner, Harold. *In Search of Excellence in Project Management: Successful Practices in High Performing Organizations*. International Thomson Publishing Company, 1998.
- Level 5 Partners. <http://www.level5partners.com>.
- Whitten, Neal, *Let's Talk! More No-Nonsense Advice for Project Success*. Management Concepts, Inc., 2007.

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