

## Introduction

Despite the overwhelming prevalence of computer networks in university and college residence halls, little scholarly research has been conducted analyzing the service groups who support them, the services offered through them, and the networks themselves. The term commonly used to refer to this service group, “ResNet,” is also and sometimes confusingly used to refer to the physical computer network in the residence halls as well. The services provided by ResNet service groups vary widely, perhaps as a reflection of the varied departments to which they report and the different missions of their institutions. The 2005 ResNet Survey, conducted in March 2005, is the first attempt by members of the ResNet community to gather and analyze comprehensive, timely, and strategic quantitative data describing ResNet service groups and networks at a large number of different colleges and universities.

## Methodology

The ResNet Applied Research Group (RARG) began developing the ResNet Survey in September 2004 by evaluating other surveys, particularly the [EDUCAUSE CORE Data Service](#) and the [Campus Computing Project](#). In addition, the RARG evaluated: (a) a general ResNet survey conducted in 2001 on the ResNet-L list by Thor Brickman, University of San Diego, (b) the ResNet Vulnerability Survey, (c) an unreleased survey developed and intended for Florida and select southeastern schools by the University of West Florida, and (d) a regional survey of Georgia and select southeastern schools by Georgia Southern University. The RARG also consulted survey and subject matter experts, including: (a) Kenneth Green, director of the Campus Computing Project, (b) Phil Rodrigues, Senior Network Security Analyst at New York University, (c) five (5) at-large members of the ResNet community, and (d) Cynthia Nelson and Eli Vasilopoulos, professional researchers at Northern Illinois University. The RARG gratefully

acknowledges all noted persons or entities and others who assisted in the survey development for their contribution.

### Organization and Administration

The survey instrument is organized into 10 sections: (a) Introduction, (b) Overall ResNet and IT Responsibilities, (c) Staffing, (d) Support and Services, (e) Network Infrastructure, (f) Fees and Budget, (g) Security and Policies, (h) Challenges, (i) Institutional Demographics and Characteristics, and (j) Conclusion, with 92 questions in total. However, respondents were not required to answer all questions due to branching logic in the survey instrument. Most questions are multiple-choice with the notable exception of the three open-ended questions in the Challenges section. For a respondent's answers to be considered valid and included in analysis, respondents are required to have answered three demographic questions concerning their name, institution, and e-mail address. The RARG verified the institution's [Carnegie Classification](#) added additional demographic information for each United States respondent from the [National Center for Education Statistics' \(NCES\) online database](#).

The ResNet Survey was administered using [SurveyMonkey](#), an online subscription survey service. Institutions were invited to participate through e-mail requests sent to the following listservs: (a) ResNet-L, a very active ResNet-specific listserv affiliated with the ResNet Organization, (b) the [Association of Computing Machinery \(ACM\) Special Interest Group on University and College Computing Services \(SIGUCCS\)](#), (c) the [ACUHO-I Information Technology \(ACUHO-I-IT\) committee](#), (d) the EDUCAUSE Chief Information Officer (CIO), and (e) housing-l, a listserv subscribed to by many housing and residence life professionals. In addition, e-mail invitations were sent to all 2004 ResNet Symposium attendees.

## Responses

The survey was fielded from March 7, 2005 until April 6, 2005. Of the 314 responses, 224 were valid after removing incomplete responses and resolving 9 duplicate responses. 10 non-US institutions responded: (a) Canada (8 responses), (b) Australia (1 response), and (c) New Zealand (1 response). In addition to varying in their geographic location, the respondents vary significantly in their job titles and departments in which they are employed.

The ResNet Survey is descriptive of the survey sample; the RARG did not intend to test any hypotheses or randomly sample the population to enable predictions about the entire population. However, the RARG did compare the survey sample with a known population to help determine how well the sample represented the population, if at all. The US respondents were compared to the US ACUHO-I membership. Although some key demographics of the US survey respondents closely align with those of the population, particularly geographic distribution and governance, other key demographics do not align. Importantly, larger universities (both by headcount and on-campus occupancy) were overrepresented.

## Data Analysis

Data for 314 responses were exported from the online survey tool. Respondents must have included their name, email address, and their institution's name for their response to be considered complete. Incomplete responses (85) were immediately removed. The survey tool did not allow the RARG to prohibit multiple responses from a single institution, 9 sets of respondents who submitted duplicate responses were contacted to identify or generate anew one set of answers representing their institution. There were 224 valid responses after removing incomplete responses and resolving duplicate responses.

Demographic data were added to each US respondent from the National Center for Educational Statistics (NCES). Governance, location, and enrollment data were obtained from NCES. The Carnegie Classification supplied by the respondents was verified and, in many cases, corrected, by comparing the survey answer to the 2000 Edition of The Carnegie Classification of Institutions of Higher Education. US respondents were grouped geographically based on the state in which they are located. Although enrollment data for international respondents were added (from the institutions' websites), governance, Carnegie Classification, and geographic information were not.

As noted previously, the survey had 92 questions. Many questions allowed for multiple responses (check all that apply), with branching occurring in some questions. Three questions were open-ended and qualitative in nature. Two of these questions, 77 and 79, lent themselves readily to coding and subsequent quantitative analysis. Question 78 has proven to be much more complex and has not yet been analyzed. Overall there were 299 survey variables, including those generated from coding the responses to questions 77 and 79. Conversion of those variables from the format output by the survey tool to a format suitable for analysis in SAS was a time-consuming and tedious process and a potential source for error.

#### Publication of Data and Results

As of July 27, 2005, the RARG has only released the aggregate data for each question. For each question, the number responses are plotted on a bar graph and a table of responses included. Questions for which each respondent could supply only one answer include the number of responses (frequency) and the percentage of responses (out of the total number of responses for that question). Questions for which each respondent could supply multiple answers include the number of responses (count) and the proportion of responses (out of the total

number of responses for that question). Additionally, the number of respondents who did not answer each question is provided.

The ResNet Applied Research Group plans further releases of data in the coming months. In particular, valuable data appears to have been gained in the cross-tabulation analysis and the RARG looks forward to making that data available.