

Information Technology

General Information

Department Head: Michael Rowland
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Phone Numbers: Main Number: 318-6313
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Mission

To enhance the delivery of County governmental services through the effective use of technology.

Summary

Information Technology supports voice and data technology within Randolph County government. Services provided include help desk support, in-house programming, Web development, Geographic Information Systems (GIS), vendor negotiations, technology purchases, network management, telephone service/support, and project management. The department also serves as the Electronic Public Records Office as required by the State of North Carolina.

There are 13.5 allocated positions for this department. Also, 1.5 positions report within this department but are a part of the Telephone Surcharge Fund for managing GIS files for E-911.

Overview

Randolph County's Information Technology Department was created in 1977, with the hiring of Tom O'Neil, its sole employee. The County began the process of in-house automation by using the services of Acme-McCrary Corporation, a local manufacturing company, for computer and technology support. We used their computers and keypunch equipment to track Tax Collections and Voter Registration. In 1978, Annette Crotts was hired as a programmer through the CETA program. Annette became Director in 1981 when Tom O'Neil left the County's employ. Michael Rowland was selected as the current Director after Annette's retirement on 1 July 2009. He had previously worked in Randolph County Information Technology for 18 years, with his last position being the County Network Administrator.

In 1980 the County purchased its first computer for \$80,000. It was a McDonnell Douglas machine that ran the PICK operating system. The County had nowhere to put this computer; in the end, it was placed in the basement of the old Courthouse in an old vault room. The County purchased software applications for Tax Collections, Elections, Accounts Payable, General Ledger, and Payroll/ Personnel from Infocel, a software distributor from Raleigh, NC. We worked directly with this vendor to write a Tax Billing application. This venture created a spark of excitement among County employees. We realized we did not have to settle for

“canned” packages but could have the software look and function exactly as we wanted and needed. We began creating customized processes to complement the purchased applications. We added a Garnishment Process, Ambulance Billing/Collections, and other enhancements. We later implemented a Centralized Permitting Application that was highly integrated with our Tax records.

In 1981 a third position was added to do daily data backups at night. A year later a fourth position and a part-time backup employee were added. In the mid-eighties Information Technology moved to the second floor of the Courthouse into offices next to Courtroom B. This more than doubled their space.

In the late 1980’s Information Technology helped the Tax Department set up a GIS mapping database. The Tax employee handling GIS later moved to Information Technology, making their fifth employee.

In 1989 Information Technology moved to the Randolph County Office Building, where, for the first time, they had an environmentally controlled computer room. In 1990 the County purchased an IBM RISC 6000 computer, replacing the McDonnell Douglas, to run the PICK system, another IBM RISC 6000 to handle GIS applications, and an AS 400 for Tax Appraisal and Revaluation.

Also in 1989 Information Technology began working with Planning and Zoning on a new concept—centralized permitting. The County Commissioners wanted to make the development permit process more convenient and accessible to the public. The Information Technology staff wrote an integrated Central Permitting database system in-house and fully implemented it in 1991. That program won a N.C. Association of County Commissioners Outstanding County Program Award in 1992.

In 1991 the County began its countywide street addressing project in conjunction with the countywide road-naming project that was underway. Both these projects were prerequisites for Enhanced 911, which went live in 1993. Information Technology supervised several temporary employees hired to gather and verify addressing data for the E911 project. One permanent employee was hired to maintain the addressing database and the 911 database associated with it. This position was originally allocated to Planning and Zoning but was later moved to the Information Technology Department. In 1994, Information Technology staff (Linda Smith, Carroll Wolfe, and Lisa Beal) produced a public safety street addressing map book that won a Ralph W. Ketner Productivity Award, sponsored by the N.C. Association of County Commissioners. When Central Permitting moved to Academy Street, in 2007, the Addressing Coordinator was reassigned to Planning and Zoning to work directly with permitting. An additional GIS position was created to handle database management and GIS data entry for public safety issues. The position is currently assigned to Information Technology during the training period, which is expected to be at least two years.

In 1993 Information Technology brought the Spillman system on-line for the area of public safety, better known as the LIFE (Linked Information for Emergencies) system. This software enabled us to automate jail, sheriff, dispatch, ambulance, and fire records. It also gave

police, fire, and rescue agencies around the County access to emergency information and the ability to automate their own records. One position was added to Information Technology to support this system. The LIFE system was an innovative initiative that won a N.C. Association of County Commissioners Outstanding County Program Award in 1996.

This department took on a substantial additional duty in 1995 when they became responsible for the County's telephone system. At that time the County was on a Centrex system. Computer staff researched alternatives and took bids on a PBX system in 2002, saving the County approximately \$15,000 a month on our telephone bill. As an added bonus, we were able to install fiber cable between several County buildings, thereby increasing our network connectivity for data and voice. In 2006, Information Technology began an upgrade to the Mitel's SX-2000 controllers to the 3300 ICP's with Voice over Internet Protocol (VoIP). The DOS-based voice mail server was replaced in December 2007. Since both controllers are still in use, we can convert departments to VoIP as they move or need phone overhauls. This gradual approach reduces the financial impact to the conversions.

Information Technology implemented the County's first web page for the public in 1997. The focus of information provided was our GIS system, allowing parcel owner lookups and maps on-line. One position was added to support the web site. Information on the web site continues to expand into new areas and features weekly. An intranet site, *RANDNET*, was added in 2001 for County employees to access personnel or other administrative information. To-date the County has received three "Digital Counties Survey" awards, 2003, 2006, and 2007.

In 1998, in preparation for year 2000 (Y2K), the County Commissioners created the Information Services Policy Committee to guide technology and to begin unifying processes in the different departments to prepare for Y2K. Information Technology coordinated this two-year project to ensure compliance with Y2K. We found only minor issues that were easily resolved prior to the year 2000 rollover.

In 2003 Information Technology employee, Tom Wassack, won a Ralph W. Ketner Productivity Award for creating a computer-based law enforcement records inquiry and mug shot retrieval application. This system was initiated because of the need to provide law enforcement officers the ability to search for and display name and mug shot information while out in the field. The Mobile Mug Shot System allows the officers to perform queries through downloaded information on laptops in their vehicles. This system is not used just by the Sheriff's officers but is shared with all municipal law enforcement agencies in the County at no cost to them. The database is updated monthly, burned onto CDs, and distributed to all law enforcement agencies by the Information Technology staff.

The County began a technology needs assessment and strategic planning process in 2002 with assistance from the Center for Public Technology, an operating unit of the School of Government at UNC-Chapel Hill. The Information Technology Director initiated this project and has managed the project from its inception. The Technology Policy Team (all department heads) replaced the Information Services Policy Team, and they developed and implemented the first Information Technology Work Plan for 2004. This annual process continues today. It is the Technology Policy Team's goal to present a calendar year work plan each January to the County

Commissioners and to obtain funding prior to working on projects. The funding concept is to recognize savings or investments from the previous budget year and to allocate a portion of this fund balance to technology. In 2005, this “Thinking Outside the Box for Strategic Technology Funding” concept won a Outstanding County Program Award.

Document imaging and on-line forms with routing capabilities became a reality in Randolph County during 2004. By using money allocated in the Strategic Technology Work Plan(s), this project continues until 2009. In January 2008, the Commissioners approved an additional position in Information Technology to assist with the management of software, hardware, and end-user support for document management. The Food Stamps unit within Social Services received a NCACDSS “Best Practices” award for improving efficiency by utilizing the County’s document management solution in October 2006.

In 2007, Information Technology took on the task of replacing the aging software used by the Tax department for billing and collections. In July 2009, Information Technology working with the Tax department and the vendor, Intelligent Information Systems, brought the North Carolina Property Tax System (NCPTS) on-line. This is the first step in replacing the legacy applications still running on the aging Pick system.

In 2007, Information Technology renovated and expanded its office space. The department now has adequate work space for its staff and future expansion. It is conveniently located next to the environmentally controlled computer room on the first floor of the Randolph County Office Building, 725 McDowell Rd, Asheboro, NC 27205.

Service Area: Application Development and Support

Mission

To provide software application support for end-users through analysis, research, evaluation, development, and integration of applications.

Summary

This service area provides software support for end-user applications. Programmer/Analysts provide in-house programming services as well as negotiate with vendors for off-the-shelf packages to ensure the end-user's needs are addressed. At present more than half of the applications are developed and maintained in-house.

Database integrity, software upgrades, and end-user training is a large part of this service area. Employees also act as liaisons between vendors and end-users on problem solving. This unit touches all software products used by the County staff. There are 5.8 allocated positions for this service area.

Operations

The employees in this service area provide support for the following: Internet, Intranet, MS (Microsoft) Access databases, SQL (Sequel Query Language) databases, Geographic Information Systems, Public Safety applications, Tax applications, Finance, Payroll/Personnel, Document Imaging, on-line forms, Land Records, and mobile data terminal applications. Monitoring of server performance, storage capacity, access usage, and general hardware requirements for applications are also provided. This service area also acts as the primary contact for meeting the Electronic Public Records Index as specified in General Statutes and for providing customized data request information.

Services

- Procure or create and maintain applications; create and maintain interfaces to related applications (participate in the purchasing process for software).
- Respond to problems reported by department representative to determine the specific technical cause of the problem.
- Serve as vendor liaison. (The end users don't call the vendors directly; they go through Information Technology.)
- Create and maintain corrections and other changes to applications as approved and funded on a case-by-case basis of existing or in-house developed code.
- Maintain Information Technology-controlled tables as dictated by legislative, vendor, or local policy changes, and assist applications users with maintenance of similar user-controlled tables.
- Set up and maintain database and related objects per the user's requirements.
- Assist with importing or converting data to ensure capability in existing or new databases.
- Set up and administer security authorizations with the application; ensure data is accessible to those who need access and prohibit unauthorized access.
- Ensure the database is accessible during the predefined hours of operation. (Staff try to take equipment down after hours so that the end user is not affected by the downtime.)

- Design and maintain operational procedures per the customer's requirements; monitor database backups, error logs, disk allocation and data integrity, taking corrective actions as needed; perform database reorganizations and recoveries as needed; respond to database production problems according to their severity.
 - Provide assistance as requested to County Network or Help Desk staff.
 - Develop, revise, and continually review hardware and software standards, methodologies, etc., providing technical leadership and direction; manage hardware to support applications development and deployment.
 - Execute disaster recovery plans for enterprise data according to the Emergency Operations Plan.
 - Assist customers in finding technology solutions and integrating them into business processes.
 - Provide training and educational services to allow for the development of internal technicians.
 - Provide web usage reporting and statistics.
 - Assist in strategic planning and technology standards development for County services.
 - Design, maintain and manage the County's Internet and Intranet infrastructure.
 - Proactively monitor applications for performance and utilization trends, escalating problems that need other support groups or outside resources.
 - Process information requests from citizens or outside agencies as requested.

Service Scheduling and Notification

Notification of major changes should be provided to Application Development and Support at least three days in advance. Emergency system changes or changes not affecting all subsystems will be implemented on an as-needed basis by coordinating with affected users of the subsystem. Downtime will be scheduled outside the 8 am – 5 pm, Monday – Friday workweek whenever possible.

Application Development and Support staff are responsible for notifying designated individuals or the departmental technical liaison in each department that will be affected by changes, downtime, security notifications, etc. The departmental technical liaisons will be responsible for transmitting notifications within their department or area. Emergency maintenance will be limited, but, if necessary, will be coordinated with these individuals.

Performance Measurements

Application Development and Implementation

Goal: To develop and/or implement new applications or make modifications within the targeted timeframe

- **Total number of projects received during fiscal year** – All project requests require a work order request and must be approved by the department head. The number of projects received is calculated by counting the work order requests. Projects might be long-term (a year or more), short-term (one or two days), or anywhere in between. So the number of projects does not necessarily reflect the amount of time required to complete any given project. Information Technology has begun using SharePoint to

track projects or work order requests. Each employee can enter time spent on the project and reflect issues, solutions, milestones, completion dates, and general documentation.

- **Average number of projects for the quarter** – This number is counted at the end of the quarter and includes carryovers from previous quarters of projects not yet completed, plus new projects added during that quarter.
- **Number of projects completed on or before deadline; Percentage completed on or before deadline; Number of projects completed past deadline** – Some projects have specific deadlines attached to them, such as a date that a new fee schedule becomes effective. Most projects don't have a hard and fast deadline, and Information Technology staff struggle to find a balance between department requests/expectations and the time that must be committed to other projects they are working on. Some target deadlines are not met because of factors outside the control of employees working on those projects. One big issue is trying to control end user expectations. Information Technology is attempting to document user expectation through annual service level agreements (SLA).
- **Number of projects completed** – A project is considered completed when the requesting department head is satisfied and has signed off on the project.

Customer Satisfaction

Goal: To provide timely and effective technical assistance to County departments and related agencies

- **Percent of department evaluations that rate services as satisfactory or higher** – The best way to determine if customers are satisfied with service is to have them complete an anonymous survey. There are two methods by which Information Technology users can complete customer satisfaction surveys. There is always a survey available on Randnet that users can access at any time. Once a quarter the Information Technology Director goes through the requisitions for service for the preceding quarter and randomly sends surveys (electronically and hard copy) to users. These users include the public safety agencies that are on the County's LIFE system.

Service Area: Help Desk

Mission

To offer timely and efficient technical support to end-users through our technical support call center.

Summary

Technical support is provided to end-users for the County's computer resources and telephone system. The Help Desk staff also provides PC training, technology research, and implementation.

This service area is very beneficial in giving County employees a single point of contact for any technical problems or questions. By logging the calls and their associated categories, Information Technology can scale training to employee needs or identify common technical problems that need to be addressed by the department. The Help Desk staff has continued to enhance services since its establishment in 2001. There are 2.8 allocated positions for this service area.

Operations

The Help Desk can be reached by dialing extension 6411. The Help Desk is the first line of technical support for County employees. MIS Specialists are available to assist with problems related to phones, computers, scanners, fax machines, cameras, voting equipment, polling places, imaging equipment, etc. Other Computer staff members may be used to assist with Help Desk problems when needed.

Help Desk personnel use a software package to record all Help Desk activity. Information on each call is entered—date opened, who called, who received the call, description of the problem, description of the problem resolution, when closed, and who closed. The end-user is notified by email when the problem is assigned and again when it has been resolved. The software keeps a count of the number of calls. Some calls need to be routed to an employee in a different service area, but regardless of who responds to a problem, it is included in the total count.

Help Desk technicians perform a myriad variety of technology-related tasks, including the following:

- maintain documentation of purchased software and do random audits for correct licensure for all software used by County employees;
- install computers and offer training classes to employees based on the kinds of calls received at the Help Desk;
- analyze needs for new PC's and configure PC's for purchasing;
- assist with Technology Purchasing as needed;
- attempts to perform data recovery on PC's that do not store critical data on network servers and therefore have no backup;
- performs data recovery on PC's from Ghost or network backups;
- maintain desktop security (virus protection, ensure that each employee's privileges are adequate and that PC's are protected from unauthorized personnel);

- destroy hard drive on surplus PC's; break down PC's for used parts or make them ready for sale;
- complete adds, moves, and changes for telephones;
- setup and install new phones;
- install new network connections, minor wiring, connectors, covers, etc.;
- troubleshoot PC and phone problems;
- maintain paperwork for in-house phone billing orders;
- maintain the PBX, backups, and replacement parts inventory;
- complete hardware, phone, or software work orders that require an on-site visit or special handling such as obtaining replacement parts.

The Help Desk Supervisor assigns priorities to the various requests or tasks and distributes work among the technicians. We try to keep one technician in the department at all times to handle phone calls. However, if all technicians are out, another Information Technology employee answers and logs the Help Desk calls. Usually, the technicians rotate the responsibility of answering the Help Desk calls, so that nearly equal time is spent providing on-site service and handling calls via a phone call.

Performance Measurements

Help Desk totals are generated from a software package that tracks when the call was received to when it was resolved. It excludes non-work hours. It is a Crystal report.

Call Center Resolution

Goal: To provide effective and timely technical support

- **Total number of calls** – This is a workload measure of the volume of calls that come into the Help Desk.
- **Average turnaround time per call** – The goal for resolving these calls is 8 hours. Staff attempts to resolve the problem the same day, or the next day, at the latest, if the call comes in late in the day. If a call involves ordering a part or some other delay out of their control, they will convert that call to a work order. (See next goal below.) The 8-hour goal was selected based on past experience with the Help Desk calls.
- **Total number of calls resolved outside of the call center** – The Director's goal is for Help Desk staff to resolve at least 80% of the calls without passing them on to other staff, which is why this number is tracked. If the percentage continues to fall below 80, the Director investigates to see if the problem is caused consistently by one employee or if the low percentage is caused consistently by the same kind of problem.
- **Total number of calls within the call center that are not resolved in 2 business days** – The goal is to resolve 90% of the Help Desk calls within 2 business days, so this number is needed in order to calculate the percentage of calls that are resolved within 2 business days.

- **Percent of all calls resolved within the call center within 2 business days or less** – The goal of 90% is intentionally set high by the Director to encourage the Help Desk staff to identify internal training needs (of the staff and/or County employees they serve).

Customer Satisfaction

Goal: To provide timely and effective technical assistance to County departments and related agencies

- **Percent of department evaluations that rate service as satisfactory or higher** – The best way to determine if customers are satisfied with service is to have them complete an anonymous survey. There are two methods by which Information Technology users can complete customer satisfaction surveys. There is always a survey available on Randnet that users can access at any time. Once a quarter the Information Technology Director goes through the requisitions for service for the preceding quarter and randomly sends surveys (electronically and hard copy) users. These users include the public safety agencies that are on the County's LIFE system.

Service Area: Network and Security Support

Mission

To provide an efficient, secure, and reliable network infrastructure that supports data and/or voice requirements for County service delivery initiatives.

Summary

Network-dependent applications, data sharing between departments, the Internet, phones, and email continue to make our network stability and security a high priority. The integrity, accountability, and availability of the County's network, data and servers are maintained using a three-layer anti-virus system, along with constant monitoring and upgrading to stay ahead of the hackers and business threats. Security attacks have continued to increase with a monthly average of at least 500 attempts.

Spam filtering has also been a big concern as we have experienced nearly 300,000 unsolicited emails a month. These emails contain sales promotions, such as mortgage refinancing, insurance, or medications, that can be annoying. However, we are seeing even more SPAM that contains pornography. SPAM filtering software has been installed in an attempt to further reduce SPAM. While we have seen some success, we will continue to research and implement safeguards as options become available. A big factor in this service unit is to keep the data flowing quickly, efficiently, and securely. There are 1.9 positions allocated to this service area.

Operations

Services Provided

The employees in this service area provide the following services:

- Provide strategic planning and standards development/enforcement for network infrastructure and enterprise services. Provide consulting including review of network designs, hardware configurations and vendor specifications, and capacity planning and technology refresh recommendations.
- Design, maintain and manage the enterprise network, including preventative maintenance and technology updates as necessary, and the installation, configuration and maintenance of enterprise service products.
- Data backups and recovery services. Regular backups include daily backups with a retention cycle of 4 weeks, plus fiscal and calendar year-end backups kept for 3 years.
- Proactively monitor the network for performance, utilization trends, and anomalies. Document and escalate problem priority internally or with outside resources as needed.
- Provide Level 2 and Level 3 support for problems assigned by the Help Desk.
- Configure, maintain, and manage the enterprise E-Mail infrastructure
- Install and configure relational database management system (RDMS) on servers as needed. Keep database management system current and apply service patches, as needed, including database version migrations as necessary.
- Administer all organization-wide security and monitoring software products.
- Administer system-level user IDs and passwords.
- Research, evaluate and test proposed products, product versions, and system solutions.

- Coordinate and perform appropriate Operating System installation, upgrades, and maintenance.
- Perform preventative hardware maintenance for test and production environments.
- Manage and control changes for the enterprise servers and networking equipment.
- Plan and test disaster recovery for the servers as indicated in the Emergency Operations Plan.
- Provide strategic planning and standards development/enforcement for the enterprise network, servers, and security systems.
- Provide, maintain, and manage Internet services to include E-Mail, WEB access, or NC State connectivity.
- Promote security policy and awareness by developing, maintaining and interpreting enterprise security policies and standards, and providing security review of new projects and applications.
- Provide network security via configuration and management of firewall and other security devices.
- Configure, maintain, and manage remote access (VPN, dial-in)
- Protect electronic resources through anti-virus email scanning, desktop scanning, and web content filtering.
- Provide assistance in data recovery strategies as part of the countywide business continuity plan for data not stored on the enterprise network.
- Provide security incident response and analysis in the event of security breaches, including forensic analysis of computer resources in cases of suspected policy infractions.
- Provide Network file storage for critical County data.

Service Scheduling and Notification

Notification of major changes will be provided by the Network Administrator at least 3 days in advance. Emergency system changes or changes not affecting all subsystems will be implemented on an as-needed basis by coordinating with the affected users of the subsystem. Downtime will be scheduled outside of the normal workday (8 a.m. – 5 p.m., Monday through Friday) whenever possible.

Network and Security Team members will be responsible for notifying designated individuals, or Departmental Technical Liaisons, in each department that will be affected by changes, downtime, security notifications, etc. These Departmental Technical Liaisons will be responsible for notifying and transmitting information within their department or area. Emergency maintenance will be limited but, if necessary, will be coordinated with these individuals.

Performance Measurements

Network Operations

Goal: To maintain network infrastructure accessibility and integrity within our local area network

- **Average percent of uptime for network infrastructure; Total number of hours network backbone (TI-Fiber) outages; Total number of hours of equipment outages** – The tracking of these numbers is very important because it tells us the extent of

problems we are having with networking system functionality. Increased downtime could indicate serious problems and possible need for replacement of infrastructure/equipment.

- **Total number of hours of scheduled downtime** – Downtime is scheduled for doing upgrades, replacing equipment, trouble-shooting, reconfiguring equipment to accommodate a departmental move, etc.
- **Total number of work hours per quarter** – This figure is needed to calculate percentage of uptime for the network infrastructure.
- **Total number of hours Internet Server Provider (ISP) not available per quarter** – The ISP is through the State ITS and Time Warner Cable’s Road Runner. This number is tracked because departments depend on it, as does the public that comes through the County web site. By tracking downtime, we can show that when the State ITS is down that it is not the County’s infrastructure at fault. The system alternates the Internet path for every other caller.

All of the measures above can be calculated and retrieved from a computer-generated report. The two measures below are calculated by reviewing the paper copy of each new user request.

- **Total number of new user requests** – This number reflects the number of new employees that are being added as users of the network, which can take a lot of time. Among other things, they are assigned an ID, a password, email address, security level, and a license for software they will be using. This measure is also a workload issue. Information Technology staff needs one week’s notice before the new employee comes to work because of all work that must be done to set up each one as a network user. Knowing approximately how many new users there will be each quarter helps Information Technology realize the amount of schedule shuffling required to keep current on other projects.
- **Total number of new user requests not completed within one workweek** – It is Network staff’s goal to complete new user requests in one workweek, which is why they ask the requesting department to give them at least one week’s notice before the new employee begins. If it starts taking longer than one week for Network staff to complete these requests, that would be a signal for the Information Technology Director to investigate and address the cause.

Server Operations

Goal: *To maintain servers’ accessibility and integrity*

- **Average percent of uptime for production servers** – Servers include such things as email, GIS, PICK, and Spillman. These servers are critical to the County’s operations; therefore, these numbers are very important to keep up with because they tell us the extent of problems we are having with functionality of the servers. Increased downtime

could indicate a need for server replacement. If any one server is down, that counts as downtime. The estimate of 95% uptime for the year was chosen because of the age and condition of some of the servers.

- **Total number of work hours per quarter** – This figure is needed to calculate percentage of uptime for servers.
- **Total scheduled downtime hours per production server** – These downtimes are scheduled for upgrades, maintenance, reboots, etc. and are necessary from time to time.
- **Total nonscheduled downtime hours per production server** – These downtimes are generally for lost power, hardware problems, or software problems. The nonscheduled downtime hours, together with scheduled downtime hours, account for the percentage of time that production servers are not up.

All measures for this goal are calculated from a computer report.

Security Operations

Goal: To maintain security procedures and applications that minimizes the risk of corruptions

- **Total number of security breaches** – A breach is a virus that reaches a desktop. It could come from an email, web page, or from any removable media such as diskette. These numbers are going up because there are more viruses circulating and more media usage between machines off the County's network. The count continues to grow as our software becomes more intelligent in detecting more viruses or threats. It is important to keep up with this number so we can determine if our security procedures and applications are adequate.
- **Total number of outbreaks resolved within four hours; Percent of outbreaks resolved within four hours** – When a virus reaches a desktop, it is imperative to eliminate it as quickly as possible before it infects other users. Therefore, we want to track how successful we are in cleaning up viruses.
- **Total number of security incidents prevented** – This number puts the number of breaches in perspective and gives us a clear picture of how adequate our security procedures and applications are in relationship to the number of breaches that have occurred.
- **Percentage of breaches versus attempts** – This number has remained at less than 1%, much better than the goal of 2%.
- **Total number of SPAM emails blocked** – This measure helps us know that SPAM is a high priority item because of the large volume that is entering the system.

All measures for this goal are calculated from a computer report.

Customer Satisfaction

Goal: To provide timely and effective technical assistance to County departments and related agencies

- **Percent of department evaluations that rate service as satisfactory or higher** – The best way to determine if customers are satisfied with service is to have them complete an anonymous survey. There are two methods by which Information Technology users can complete customer satisfaction surveys. There is always a survey available on Randnet that users can access at any time. Once a quarter the Information Technology Director goes through the requisitions for service for the preceding quarter and randomly sends surveys (electronically and hard copy) to users. These users include the public safety agencies that are on the County's LIFE system.

Service Area: Technology Planning and Management

Mission

To provide effective management of the County’s technical resources through resource tracking, project management, clerical assistance, and managerial support.

Summary

Personnel supervision, project management, management of database files, technology procurement, telephone service management, departmental finance and resource support are provided within this area. Other duties include technology planning and vendor negotiations. There are 3 full-time allocated positions in this service area, with additional employees spending only a small percentage of a workday performing these duties.

Operations

Database Management

Countywide addressing is an integral part of the County’s E-911 system. Because the County had numerous telephone companies whose exchange (first 3 digits of a 7 digit phone number) districts crossed over into another county’s response jurisdictions, Randolph County was required to name all county roads and assign structure addresses to more clearly indicate which county should respond to a 911 call. The County’s addressing project was completed in 2 ½ years through collaborative efforts between Information Technology, Planning and Zoning, Emergency Services, and the Maintenance department. Planning and Zoning spearheaded the road-naming project and developed the ordinances needed to implement and maintain addresses in the County. Information Technology provided technical support in developing programs to issue and convert addresses from rural routes and boxes. Information Technology also supervised the temporary employees used to gather and input addressing data in the County’s GIS system. The Maintenance department provided manpower in coordinating building of road signs and installing them at the intersections. Emergency Services assisted in developing addressing schemes and coordinated with telephone companies in building databases from the addresses for routing the appropriate emergency vehicles to the proper location. Emergency Services also was a key force in community awareness in communicating the need to use the newly assigned addresses.

The County’s addressing project required the hiring of several temporary employees. These temporary employees identified structures to be addressed from aerial photography; field verified structures to be addressed, entered these structures into the County’s GIS system and assigned addresses. Two retired Postmasters were hired as part of this project to help with the development of an addressing scheme and be liaisons between the County, its Municipalities, and the twenty-three post offices which served the County. The County’s addressing scheme was accepted as the mailing address for all the local and regional post offices. The County also established addressing schemes for three small municipalities at their request.

Randolph County’s addressing scheme is based on the axis of US Highway 64 and US Highway 220 Business. Each road is given a starting address based on its direction and distance from this axis. North-South roads would be given a starting address based on its distance from Highway 64 and East-West would be given a starting address based on its distance from 220 Business. Along each road, addresses were generated every 10 feet and all addressing would

increase as you moved away from the axis. This scheme allowed for an even or odd address every 20 feet along each side of the road. Structure addresses were assigned to each structure based on its drive location along the road. Even numbers were assigned to structures along the right side of the road and odd were assigned to structures on the left side as you travel away from the axis.

After structures were identified and new addresses assigned, existing residences were notified of the conversion required from their rural box to a street address. The County's GIS system overlaid property boundaries to identify ownership information. Utility and postal data records were also used to match up old and new addresses. Notifications of the newly assigned addresses were mailed by each postal district. Regional Post Offices and many utilities were given digital files to aid in the address conversion. Addresses in County databases, including tax, elections and central permitting were converted to match new addresses.

After the County addressing conversion, it was necessary to use the addressing databases in the actual E-911 implementation. One important table was a Master Street Address Guide (MSAG), which is used by phone companies to forward calls to Randolph County's 911 center when "911" is dialed from within our boundaries. Randolph County is serviced by several phone companies and its primary carrier is Embarq (Sprint). The County contracts with Sprint to manage all phone databases and to coordinate addressing information with other phone companies. The MSAG also provides information on which Emergency Response Number (ESN) or agency should respond based upon each address range along a road. For example, when an individual dials "911", Sprint captures the caller ID and relates that ID to a physical address assigned by Randolph County. Then by searching for the specific address within the MSAG, Sprint can determine that the call must be routed to Randolph County's 911-center instead of Guilford County's center. When forwarding the call to the correct 911-center, Sprint can also forward which agencies have been assigned to respond to this specific address for fires, law enforcement, emergency services, etc. This key information allows Randolph County to provide geobase type files to be used by the telecommunicators to notify the correct agency and route the vehicle to the specified address.

After the initial addressing conversion, an Addressing Coordinator position was added to the Planning and Development Department. This position was responsible for maintaining addresses and roads in the County's GIS system, notifying phone companies and post offices of new and modified addresses as well as the maintenance of all street geobase files (MSAG and 911 street files). Since this position worked with many different databases, it was later moved to Information Technology. In 2007, the Addressing Coordinator was moved back into Planning and Development with the physical relocation of Central Permitting. The Coordinator's job was then split. Duties associated with directly addressing were absorbed by Planning and Development while the database duties remained with Information Technology. A new position was established to work with Information Technology and Emergency Services in the maintenance of the 911 databases and specifically the geographic data.

It was determined that new addresses would be assigned at the time a building permit is issued. When a building permit is issued, the developer of the property identifies the new building and drive locations on a plat of the property. The Addressing Coordinator uses this information to identify the new structure and drive in the County's GIS system and a new address is generated. The new address is attached to the building permit and an addressing

notification letter is printed. This address is used to identify this building location and must be posted and verified through the permitting and inspections process before it can be occupied.

The Public Safety GIS Coordinator is constantly updating the GIS and E-911 geobase files due to development and modifications of roads or response districts. Changes in municipal boundaries and changes in response districts including fire, law, emergency services/rescue districts must also be updated within GIS and in geobase files. All changes are then integrated with the Phone Company and E-911 systems' databases. Addressing duties include solving daily problems that arise involving Sprint, the postal system, adjoining jurisdictions, citizens, 911 telecommunicators or other County departments that rely on the County's addressing system. For example, a telecommunicator reports that incorrect address information was displayed when a 911 call was received. The Addressing Coordinator must research the problem and notify the phone company of any corrections needed. This problem may involve contacting the citizen or actually going on-site to determine the appropriate action required. The Addressing Coordinator also filters complaints from phone company representatives trying to verify an address provided by one of their customers that is not within the MSAG. Special care is taken to ensure that the citizen and telephone company know the correct address to use in identifying a structure.

Additional responsibilities of the Addressing Coordinator include approving and reserving new road names associated with new development, providing addressing and road update information to various agencies for the maintenance of external databases including Tax Department, Elections, local Post Offices, Emergency Services, phone companies, schools, delivery companies, and other utility companies.

Technology Purchasing

The Information Technology staff is capable of handling technology purchasing for all departments. Currently, technology purchasing via Information Technology is not a mandate but rather a service. County departments submit an electronic Technology Purchase Request which we use to determine exactly what is needed. Information Technology then researches vendors and products, gets quotes, and makes recommendations. We also work with vendors on pricing and send purchase requisitions to the Purchasing Office. When the product arrives, a Help Desk employee delivers and installs it, unless prior agreements are in place with the installing vendor or the product is too large to move in an employee's vehicle. Information Technology tracks all orders and payments and makes sure that departments get exactly what they ordered and that they are not billed for something they did not receive. Information Technology documents and tracks all licensing information associated with purchases. It is estimated that Information Technology assists with 378 purchases per quarter. These include PC's, software/hardware, printers, scanners, digital cameras, wiring, networking, and other technology related items.

Some departments have their own information technology employee; however, those employees must work with Information Technology personnel to make sure that what is being done out in the departments is not affecting another department's data or accessibility to critical data.

Telephone System Billing

This service area includes the handling of all aspects of the County's telephone system, including desk phones, cell phones, data circuits, and alarm lines, as well as billing and directory

listings for all departments. At present, directory listings are only available via the County's Intranet site.

Each department has a telephone budget allocation. All telephone-related usage beyond basic service, such as adds, moves, changes, and long-distance, are billed back to each department. A monthly spreadsheet of department phone expenses is sent to Finance for journal entries to charge these expenses back to the individual departments.

Employees in this service area deal with procurement, repair and replacement of cell phones and track cell phone agreements. Cell phones are tracked as employees leave County employment and the phones are either reassigned to other employees or turned back in to be placed in the County's spare phone pool. Requests are made through our cell phone providers in order that these changes are reflected on the County's monthly departmental billing and so that voice mail pass codes can be reset for the new user. County departments are provided with a monthly detail of their cell phone and long distance usage; whereby they can audit individual usage. This also provides a way for employees to reimburse the County for any personal calls that may have been made. Reimbursement for personal calls is based on the County's Cell Phone Policy reimbursement minute rate. Information Technology maintains control sheets that track requests for programming changes. All vendor contact is done within Information Technology.

ID Cards

ID cards for identification and/or building access are produced and maintained in this service area. Door locks are programmed for who has access and for what time periods. Presently, Information Technology supports Randolph County Office Building, Emergency Services, Department of Social Services and the Archdale Community Services Building and assists in the maintenance of Health Department, Jail and Courthouse access systems.

Project Management

For major technology projects, such as the upcoming Imaging Project or Financial Project, Information Technology writes or assists in writing requests for proposals, coordinates meetings, works with vendors, and coordinates time schedules and budgets. If purchases are in the formal bid range, the Purchasing Office handles the bid process.

Technology Records

This service area handles maintenance contracts on hardware and relicensing of software and manages service contracts (cell phones, phone system, etc.). Information Technology tracks Internet agreements for all users. User action forms are used to show each employee's and outside public safety agencies' level of access and any changes made to access levels. An additional record that is maintained by Information Technology is the Electronic Public Records Index as required by general statutes.

Staff Administration & Management

Services within this category include general managerial duties and support services for the Information Technology staff. Employee appraisals, payroll, budgeting, policies/procedures establishment, and general operations within the Information Technology department are a selected list of support services provided under this area.

Performance Measurements

Technology Purchasing

Goal: To research, compare prices, and order new technology

- **Total number of requests for purchase** – A log is maintained for technology purchasing to track quantities, average turnaround time on an order, and details associated with each order. When a request is received from a user department (which can include cities and other agencies connected to our LIFE system), Phyllis Bostick, who handles all technology purchasing, verifies all the technical information and configurations and deals with vendors to negotiate the best price. She then sends a purchase order to the Purchasing Office. (Since Phyllis has taken over technology purchasing, she has saved the County an average of 11% on each item ordered.)
- **Percentage of requests executed within 1 week** – The goal is have orders completed within one week. Based on past experience, one week is a reasonable goal, especially since the number of items requested has continued to increase in the past few years.

Customer Satisfaction

Goal: To provide timely and effective technical assistance to County departments and related agencies

- **Percent of department evaluations that rate services as satisfactory or higher** – Customer service surveys are done quarterly. The Director randomly selects names of users of this service area from the last 3 months. She keeps a list of those sent a survey so that the names aren't repeated. She emails the surveys in a format that allows the responder to submit responses anonymously. A software program compiles electronic responses by question. Surveys are also available through the Intranet for any County employee to complete.