



13th Judicial Circuit Court

Technology Services 2015 Annual Report

Steve Smith
Technology Services Supervisor

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STAFF AND RESPONSIBILITIES

The Technology Services unit of the 13th Circuit is staffed by 3 people:

Steve Smith, Supervisor

- Staff Supervision
- Technical Project Management
- Hardware, Software and Network Management
- Applications Development
- Technology Bid & Contract Preparation and Review
- Training & User Manuals

Michelle Wheeler

- Hardware, Software and Network Management
- Help Desk & End-User Support

Nicholas Stultz

- Applications Development

Staff Changes in 2015

- None

TECHNOLOGY AREAS SUPPORTED

Summary of the technology-related area managed and activities routinely performed by the unit:

NETWORK

Network Management

- User & computer network account management
- Work with patch panels / patch cables / switches / hubs
- Collaborate with Office of State Courts Administrator staff to resolve network-related issues

Workstations

- Install/configure operating system
- Install/configure numerous software products
- Locate and eradicate viruses and other mal-ware
- Manage workstations and resolve user issues over the phone & in person

Servers & Storage Devices

- Install/configure operating system
- Manage RAID devices (servers and Network Attached Storage)

Printers & Multi-Function Devices

- Configure network printers & multi-function devices
- Program printers for scanning & email
- Perform minor printer repairs & routine maintenance
- Manage printer maintenance vendors

Video Conferencing Technologies

- Configure video conferencing devices
- Work with multi-media bridge to schedule & manage video conferences

AUDIO/VISUAL

Courtroom Technology

- Work with and train staff on courtroom evidence presentation systems
- Work with microphones, speakers, amplifiers & XLR cabling
- Manage vendors troubleshooting and resolving issues

Video

- Work with projectors & document cameras
- Convert media files

TELEPHONE

Telephones

- Set up & retrieval of portable conference phones
- Work with phone company regarding programming changes and issue resolution
- Work with patch panels to route internal phone lines

GENERAL SUPPORT

Support

- Manage Help Desk requests
- Collaborate with local and state government technical entities

Technology Training

- Train users in office products
- Train users in use of video conferencing and courtroom evidence presentation
- Develop & manage technology-related training materials

Security

- Extract video recordings of incidents to DVD
- Configure software managing courthouse door locks
- Ensure appropriate user access for applications and network files

Other

- Develop & update technical documentation
- Manage technical inventory

APPLICATIONS MANAGEMENT

Development

- Create new local applications as needs are identified
- Collaborate with court staff to enhance locally-developed applications

Reporting

- Create and manage ad-hoc reports using COGNOS
- Extract court case data to spreadsheets as needs are identified

CONFIGURATION OVERVIEW

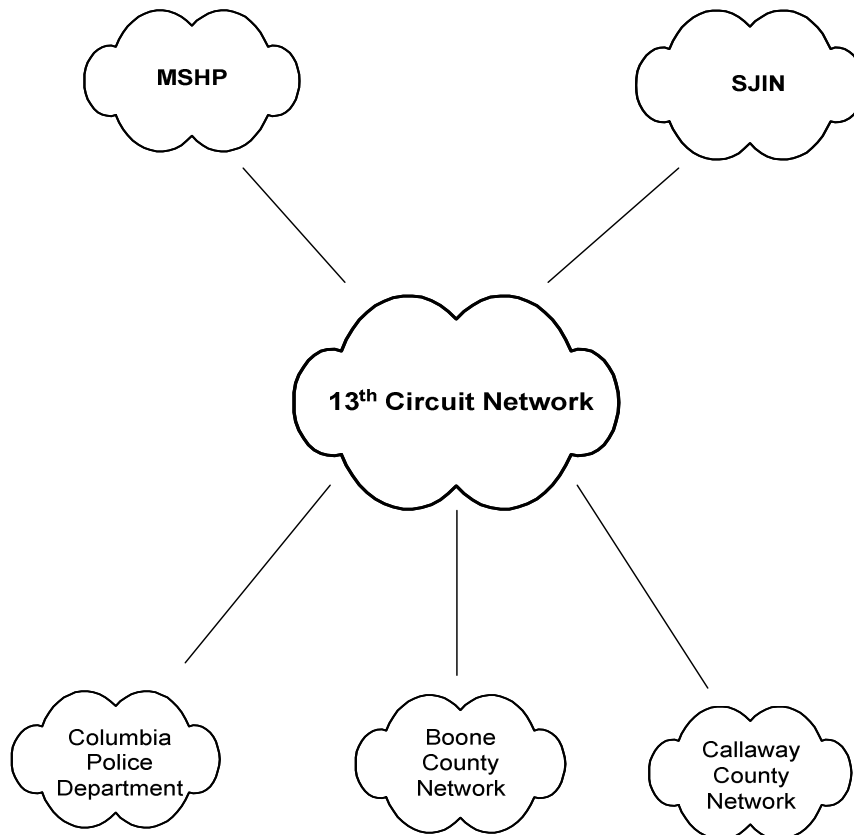
The computer network utilized by the 13th Circuit is part of the larger Statewide Judicial Information Network (SJIN) managed by OSCA. The SJIN is the backbone that interconnects all trial and appellate courts in Missouri.

OSCA provides to the courts certain hardware components and software products utilized by all judiciary sites including file, print and database servers, communication devices and other myriad technical devices that allow components to work seamlessly. Over the years many services were consolidated into centralized judicial data centers located in different geographical locations within Missouri.

OSCA provides and manages enterprise-wide software products such as the court case management software (JIS), juror software (JMS), email, office automation products, Case.Net and the judiciary's "Your Missouri Courts" website among others.

Technical components unique to the 13th Circuit are located within the Boone and Callaway county locations and managed by Technology Services staff. The unit develops and manages software applications used solely by the 13th Circuit. It also installs and manages "off-the-shelf" software not provided by OSCA such as accounting and other office automation products.

Additionally the 13th Circuit network interacts with the networks of Boone County, Callaway County, the City of Columbia and the Missouri State Highway Patrol. The result is a blended responsibility and cooperation among circuit, state and local government entities.



ASSETS

Asset Tracking

The unit uses an internally-developed application to track the various technology assets of the circuit. This includes both hardware and software assets. Some assets are owned by Boone County, some by Callaway County and others by OSCA. However, the Technology Services unit tracks and manages technology components regardless of their ownership.

At the end of 2015 the unit tracked the following technical assets:

Hardware

- Boone-owned: 681
- Callaway-owned: 168
- State-owned: 207

The majority of these hardware assets are workstations, monitors and printers.

Licensed Software

- Boone-owned: 60 licenses
- Callaway-owned: 4 licenses

Licensed Software refers to software that is purchased under a software licensing agreement. Examples include Case Catalyst used by the court reporters, FTR for sound recording, and QuickBooks utilized by the Boone Circuit Clerk's office and both Juvenile offices. Such products can be installed on workstations only as defined in the licensing agreements. There is usually a cost associated with each workstation license.

Non-Licensed Software

- Boone workstations: 115
- Callaway workstations: 4
- State workstations: 150

Non-Licensed Software products are provided free-of-charge to the 13th Circuit by a vendor or by the state. Examples include the MULES software provided by the Missouri State Highway Patrol, MACSS provided by Missouri Department of Social Services, and the AS/400 terminal emulation product provided by Boone County IT.

Workstations

The 13th Circuit utilizes approximately:

- 199 workstations (98 provided by the state),
- 20 tablet computers (14 provided by the state), and
- 27 notebook computers (1 provided by the state).

Printers

The 13th Circuit utilizes approximately 99 network and local printers, 7 of which are provided by the state.

Video Conferencing

The 13th Circuit utilizes video conferencing equipment to help reduce overall costs for staff travel for meetings and prisoner transport. There are five mobile units and also units built into the Ground Floor, 2 South, 3 West and Ceremonial courtrooms of the Boone County Courthouse. Additionally, two units are located in the Boone County Jail. In 2014 Callaway County borrowed a court-owned unit to install in the Callaway County Jail. The Callaway Commission plans to purchase a unit for the jail in the future.

Conference Telephones

The Boone County Circuit Court routinely sees case participants who either do not speak English fluently or do not speak English at all. The court sometimes uses telephonic interpreters to accommodate non-English speakers through Language Line TM whereby interpreters are available on short notice to provide language interpreting services over the conference telephone.

Other Courtroom Technology

In Boone County the 2 South courtroom has both teleconferencing and video conferencing abilities. Additionally, the 3 West and Ceremonial courtrooms in the Boone County Courthouse have technology components for evidence presentation, teleconferencing and video conferencing.

NOTE: This lists the major products in use and is not an exhaustive list of all software items.

Enterprise Software Provided by OSCA

Product	Primary Use
Windows 7	Operating system
Office 2010	Office automation (word processing, spreadsheet)
JIS	Court case management
OSCA Reports	Court case reporting
COGNOS	Ad-hoc reporting
JMS/JUROR	Jury management
Lotus Notes	Email, calendaring, instant messaging, & applications
Case.net	Court case viewing online
MACSS	Mo Automated Child Support System
MULES	Mo Uniform Law Enforcement System
eFiling	Allows attorneys to file case documents electronically
eBench	Allows judges to electronically manage the court docket

Local Software Provided by Technology Services

Product	Primary Use
CCTS	Modules for: • Focus on Kids • JJC Case Management • Case Scheduler • Court Services
Technology Assets	Manage technology inventory
Contracts Repository	Manage local procurement / management contracts
Training Repository	Records staff training
Court Admin Personnel	Records personnel info for staff under Court Admin authority
Attorney Conflict Calendar	Reporting calendar conflicts for attorneys
Budget	In-house budgets for Court Administration, Circuit Clerk, and JJC
BIRS	Booking and Incident Reporting System

Other Third-Party Software

Case Catalyst	Court reporter transcription
Quickbooks	Juvenile office accounting & Boone Circuit Clerk's office accounting
Nutrikids	Track nutritional information at JJC
Dreamweaver	Web site management
Cookin' with Pillsbury	Recipe management for JJC
Proxiguard	Detention checks at JJC
Jail View	Allows select court staff access to Boone County jail records
Justice Web View	Allows select court staff to access City of Columbia municipal case data
wIntegrate	Allows select Juvenile staff access to City of Columbia records
FTR	Courtroom sound recording

2015 ACCOMPLISHMENTS

Boone Courtroom 3 West Configuration Changes

The technology in the 3 West courtroom was deployed during renovations in 2008. As part of that configuration wireless microphones were added and used primarily at attorney tables.

During the past few years problems developed with these microphones. Examples:

- After numerous uses the batteries would not hold a charge for long.
- The on/off/mute switch for each microphone was positioned in a way that found attorneys accidentally muting their microphones frequently.
- Snapping, popping and hissing noises were periodically heard from overhead speakers which were traced to these microphones.

Due to the numerous problems and on-going complaints from court staff and attorneys, the 13th Circuit decided to replace the existing wireless microphones in favor of wired microphones at the attorney tables. The Circuit believed that in limited instances wireless microphones may still be needed so replacement wireless microphones were also desired.

In 2015 a Request for Proposals process was initiated for vendors to propose replacement of the existing wireless microphones. Vendor TSI from St. Charles was the successful bidder. In late 2015 the work was completed. Each attorney table now has a wired microphone. There are also a handheld wireless and a lavalier wireless microphone for use should the need arise.

Budget Program Update

In 2012 an electronic interface was developed between the 3 court budget applications and the Boone County budget program. That interface worked well in the years that followed.

In late 2014 a request was made by the Auditor's office to add an additional data element to the interface – specifically, an indicator denoting whether the item was to be paid via check or through an Automated Clearing House (ACH). In 2015 that change was implemented.

Criminal Charge Code Format Change

For many years the criminal charge codes followed a 9-character format. In 2014 the Legislature overhauled the criminal charge codes converting them to a 23-character format to become effective January 1, 2016. During 2015 Technology Services staff reviewed in-house applications – chiefly the modules of CCTS and the Booking & Incident Reporting System – to identify any modifications required to accommodate the new length and format.

Applications were reviewed and modifications made where necessary.

Drug Court Commissioner – Division 12

Prior to 2015 the 13th Circuit Court consisted of 11 divisions. During 2015 the Legislature approved funding for a Drug Court Commissioner for the circuit.

In preparation for this additional commissioner Technology Services staff performed a number of technology-related activities including acquiring and configuring a tablet computer, telephone programming, updating the web site and working with the new commissioner to train in technology-related topics.

Printer Maintenance

In years past several county-owned printers in the 13th Circuit were under a maintenance contract. In April of 2014 that contract expired and Boone County IT (non-court) began using a new printer maintenance vendor. During 2014 the 13th Circuit Technology Services staff

researched and made plans to utilize this same contract beginning in early 2015.

During that time Boone IT staff grew dissatisfied with that vendor's performance and ultimately allowed the contract to lapse then re-bid a new contract with Image Technologies. During 2015 Technology Services staff collaborated with the new vendor, the juvenile office, the judges office and the juvenile detention center to identify specific printers desired for maintenance. In September 2015 a contract amendment was concluded with a start date of January 2016.

Second Video Conferencing Unit at Boone County Jail

Due to the increase in video conference-based proceedings at the Boone County jail, in December 2014 a second video conferencing unit was purchased and installed in early 2015. This particular unit is designed for use in correctional settings and was installed in an attorney/client conference room.

This additional unit allows simultaneous video conferences to be conducted at the jail, particularly on Friday mornings when both municipal arraignments and circuit-level video dockets are conducted simultaneously.

SecureMail

Court Operating Rules define *confidential information* and *personal information* and require that such information transmitted electronically outside of the judicial network be done in an encrypted manner. To that end the judiciary provides **SecureMail** as that method.

Users of SecureMail, including Sheriff's department and Prosecuting Attorney's office staff, began using SecureMail in earnest in 2015. SecureMail requires the email recipient to register once and then may initiate or receive a secure transmission through the SecureMail site. A recipient of a SecureMail message simply clicks a link and enters a password to retrieve the message.

During 2015 13th Circuit staff were briefed on the requirements and how to initiate SecureMail.

Security Guidelines Training

Effective January 2015 all users of the judicial network must comply with the judiciary's **Security Guidelines**. The overall purpose of the Security Guidelines is to ensure the security and integrity of the judicial network.

The topics in the guidelines cover areas such as password controls, appropriate use of judicial network resources and proper handling of confidential information electronically.

The Security Guidelines are available electronically to all users of the judicial network and are linked from the home page of the Court Information Center. Additional information is available to 13th Circuit staff through articles published in the CT13 Technology Help wiki - an internal web site that provides technical self-help information to all circuit staff.

Once each year most Circuit 13 staff are required to attend training in the areas of diversity and the prevention of sexual harassment. Beginning in 2015 an additional topic was included discussing the Security Guidelines. An overview of the Guidelines was discussed along with key points of the guidelines including:

- unauthorized use is prohibited;
- network activity may be monitored and there is no expectation of privacy;
- users are responsible for all activity performed with their credentials and must not share credentials with anyone;
- confidential & personal information leaving the judicial network must be secured and encrypted;

Six training sessions were conducted over a period of three days at various locations including the Boone Courthouse, the Callaway Courthouse, and JJC.

Server Replacement

Several years ago numerous servers were housed in the server room of the Boone courthouse. Most servers were provided by the state and included a database server, a file server and a print server. Additionally, Technology Services staff utilized those servers for locally-developed applications.

Over time the state consolidated many of these services into centralized data centers reducing the need for servers to be housed in the Circuit's server facility. Due to technical reasons the Technology Services staff had no management control over the consolidation servers since that activity was performed by state staff. However, Technology Services continued to have a need to develop and manage locally-developed applications for circuit staff. The Circuit needed its own server.

In 2010 the state provided a used server to the 13th Circuit. This server, BNEAS1301, hosts several locally developed applications including CCTS and several wikis. Although the server was already old when Technology Services staff received it, it functioned well.

In 2015 a new server was purchased to replace BNEAS1301. During the summer of 2015 the new server was configured and tested.

As a part of the process a comprehensive set of server build instructions was developed to aid in disaster recovery documentation.

In late fall the new server was put into production. The old server remains available for testing purposes.

Surplus of BNEWCMNEMO

In early 2010 a server with a large data storage capacity was purchased and deployed in the Boone Courthouse server room. The primary purpose of BNEWCMNEMO (NEMO) was to house the data files produced by the court reporters. Per OSCA's policy, court reporter data is the responsibility of each court reporter to maintain and back up. Such data was not to be backed up to OSCA's main file servers. Accordingly, this device was

purchased for the purpose of court reporter data backup.

Although files were backed up from the court reporter workstations to this server, none of the court reporter data was backed up to an off-site location. Having data duplicated in geographically separated locations is a disaster recovery best practice.

In April 2011 the 13th Circuit and OSCA reached an agreement that OSCA would provide a Network Attached Storage (NAS) device at OSCA's expense in one of its data centers. The 13th Circuit would back up data from NEMO to that device thereby achieving the goal of having data duplicated in geographically separated locations.

The 13th Circuit began nightly backups of NEMO to the NAS device and this practice continued into late 2014.

By late 2014 a confluence of events arose which prompted a reconsideration of this strategy:

- The NEMO server was aging and due to be replaced.
- OSCA notified Technology Services staff the NAS device was also aging and due to be replaced.
- OSCA began to host a service for all court reporters statewide to allow them to back up their data.

OSCA and Technology Services staff collaborated and reached the logical conclusion it would be more efficient to transition to this new method of backup, rather than go to the expense of the 13th Circuit purchasing a new NEMO server and the state purchasing a new NAS device.

In early 2015 the transition was completed. All data from NEMO was moved to the "R:" drive (the state-provided court reporter backup drive) and the court reporters began backing up their own data.

With its mission completed the NEMO server was decommissioned and eventually sent to surplus property.

Training Conducted

During 2015 the 13th Circuit Technology Services staff conducted 12 formal training classes in the areas of Lotus Notes, courtroom technology and video conferencing.

Collectively 51 people attended training and 51 hours of training were provided.

Video Conferencing Changes at the Juvenile Justice Center

Video conferencing plays a significant role at the Juvenile Justice Center (JJC) by reducing the need for juvenile detainees to be transported for court proceedings.

Since the video conferencing unit at the JJC was aging, the decision was reached in 2014 to replace the unit in 2015.

In 2015 a replacement unit was purchased and subsequently placed in the video room at the JJC.

Although the original unit was old it was still functional so JJC management staff elected to place the old unit in their conference room and use it for video meetings with staff in other locations. This old unit will continue to be used in that capacity until it fails.

Wireless Access Points at JJC

Over the past few years the number of wireless access points (WAPs) in the 13th Judicial Circuit has grown. WAPs allow staff using court-configured wireless devices such as tablets and notebooks the ability to access judicial network resources wirelessly.

Additionally, WAPs allow select visitors such as attorneys, news media, teachers, Department of Corrections staff and others a method to connect their devices to the internet.

At the end of 2014 the only facility in the 13th Circuit without WAPs was the Juvenile Justice Center.

In 2015 two WAPs were installed completing the coverage of wireless connectivity to all five 13th Circuit locations.

Boone Technology Audit

In 2015 the Boone Auditor's office performed an inventory of all property including technology-related items. It was discovered the inventory in the Ceremonial Courtroom did not match that on file at the Auditor's office.

A review concluded a small number of items originally proposed for installation by the vendor during the technology renovation in 2013 were ultimately not installed due to configuration changes during the project. The list was corrected.

2016 UPCOMING ACTIVITIES

Application Re-Writes

A handful of locally-developed applications remain that were written using Delphi-based and Visual Basic technologies. Such applications will likely not survive the transition to Windows 10 when that transition begins in 2018.

During 2016 these applications will be evaluated and prioritized for possible re-writes. Initial considerations will be made for PAMS and the three budget programs. While application re-writes will start in 2016 they may continue into 2017.

Ground Floor Courtroom Video Conferencing Upgrade

The video conferencing equipment in the Ground Floor Courtroom of the Boone County Courthouse is aging. The video conferencing codec was installed in 2004. The cameras and other technology are 1990's-era.

During 2014 the audio quality of the connections with some locations, particularly with the Boone County Jail, started to degrade making it difficult for video participants to understand each other.

In late 2015 a Request for Proposals process was started soliciting bids to replace the equipment. It is anticipated in 2016 the bid, if approved, will be awarded and the upgrades will be completed.

State Printer Additions for Callaway County

The state last replaced its workstations and printers in 2014. During 2015 Technology Services staff noted there were no state-provided printers in Callaway County, either in the courthouse or the juvenile office, despite the fact there are several state-paid employees in each location.

Technology Services staff contacted OSCA to discuss this discrepancy. OSCA staff agreed that during 2016 an appropriate number of printers would be added to each location.

Staff Training

Application development activities have been performed primarily by the application developer utilizing Ruby and Rails. Other local application development is performed by the Supervisor utilizing Lotus Notes.

While each is well-versed in their respective application development languages they are not fluent in each other's languages. With a small staff it is important to cross-train staff in the various disciplines encountered in Technology Services.

During 2016 it is planned that the application development languages and server operating systems will be cross-trained.

Upgrade to Office 2013

During 2015 OSCA announced that enterprise office automation software such as Microsoft Word and Excel will be upgraded from Office 2010 to Office 2013.

Technology Services staff will participate in this upgrade process and will assist 13th Circuit staff in making the change.

APPENDIX A

Workload Analysis

Categories of Issues

In order to analyze workload, several categories of issues have been identified and established in JIRA™, the issue management software utilized by the Technology Services team. As each issue is recorded it is assigned to one of the following categories:

1. **Staff & Equipment** - Tasks typically related to:
 - a) personnel changes (e.g. new hires and resignations), and
 - b) equipment moves or troubleshooting for computers & phones, etc.
2. **Software & Device Configuration** - Requests to install software, configure printers, etc.
3. **Documentation** - Updating technical documentation such as operational checklists.
4. **Software Development** - Requests to change software functionality or fix software bugs.
5. **Security** – Includes requests to modify user network and application security, and requests to extract security video footage.
6. **Purchases** - Requests to purchase technology-related equipment such as workstations and monitors.
7. **Web Site** - Requests to modify web site content such as posting and pulling job advertisements.
8. **Vendor Management** – Contacting and managing outside repair staff or technicians.
9. **Reporting & Data Research** - Requests for ad-hoc data queries and reports.
10. **Training & Demonstrations** - In-service training on technology-related topics.
11. **Wiring** - Requests to pull network and telephone cable, or reroute telephone lines via patch panels.
12. **Miscellaneous** - Items that don't readily fit into any other category.

Documentation of Issues

The primary reasons for recording issues in JIRA are to ensure that nothing is overlooked and that priority issues are handled in a timely manner.

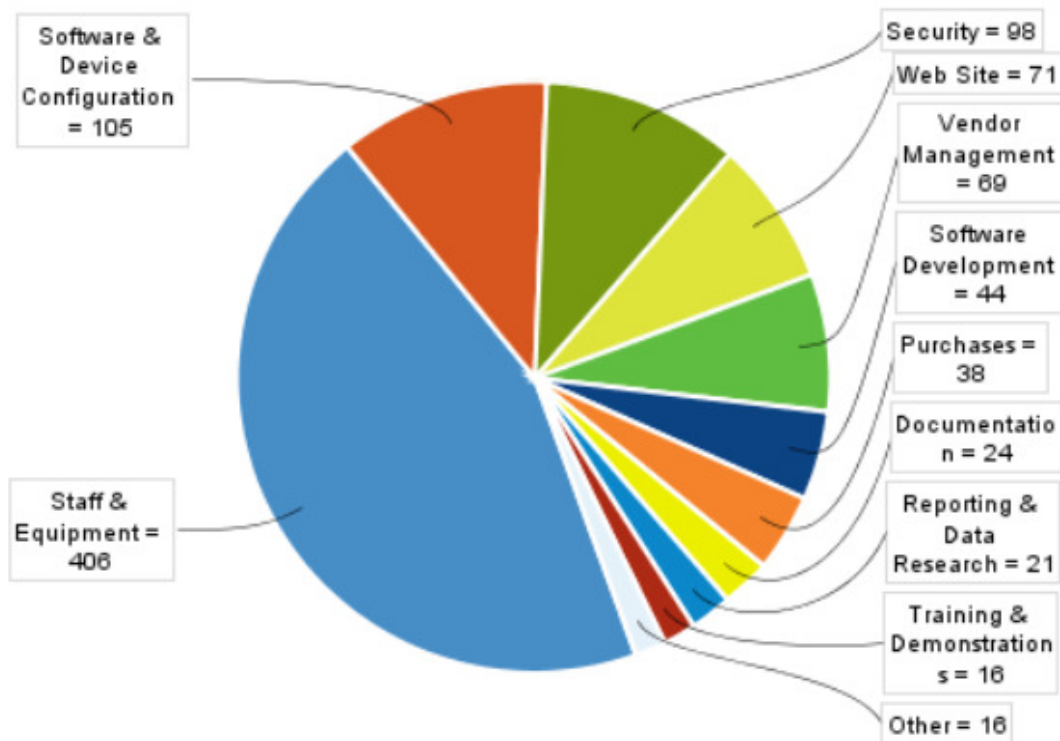
Issues must be documented in JIRA if they:

- a) cannot be immediately resolved,
- b) are scheduled to be worked at a later date, or
- c) are security-related.

It is important the reader note not all issues are recorded in JIRA. Technology Services staff routinely receive calls for courtroom emergencies, password assistance and other issues which are immediately resolved. Such issues are typically NOT recorded in JIRA after-the-fact. Therefore, the numbers noted in the chart on the next page are NOT an accurate reflection of the *total activities* performed by Technology Services staff.

Clock time spent on issues is not recorded. Some issues documented in JIRA may be resolved in as little as 5 minutes. Others can take much longer. Therefore the numbers in the chart on the next page are simply *counts* of issues and do not reflect the total amount of time spent on recorded issues.

2015 Issues Opened



On January 1, 2015 a total of 48 issues were pending.

Throughout 2015 a total of 908 issues were opened and categorized as follows:

45% were related to **Staff & Equipment** which are typically activities associated with employee hires, resignations, and equipment moves.

12% were related to **Software & Device Configuration** which are typically requests to install and/or configure software.

11% were related to **Security** which are typically related to requests to extract security camera footage or to modify application or network access.

These three categories constitute two-thirds of the tasks recorded.

Throughout 2015 a total of 911 issues were resolved. The percentages among the categories were virtually the same.

On December 31, 2015 a total of 41 issues remain pending.