



13th Judicial Circuit Court

Technology Services 2016 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 2016

- None

TECHNOLOGY AREAS SUPPORTED

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

Network

Network Management

- User and 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 both remotely and locally

Servers & Storage Devices

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

Printers & Multi-Function Devices

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

Video Conferencing Technologies

- Configure video conferencing devices
- Work with multi-media bridge to schedule and 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 and document cameras

Telephone

Telephones

- Set up and retrieve 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 and manage technology-related training materials

Security

- Extract video recordings of incidents
- Ensure appropriate user access for applications and network files

Other

- Develop and 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

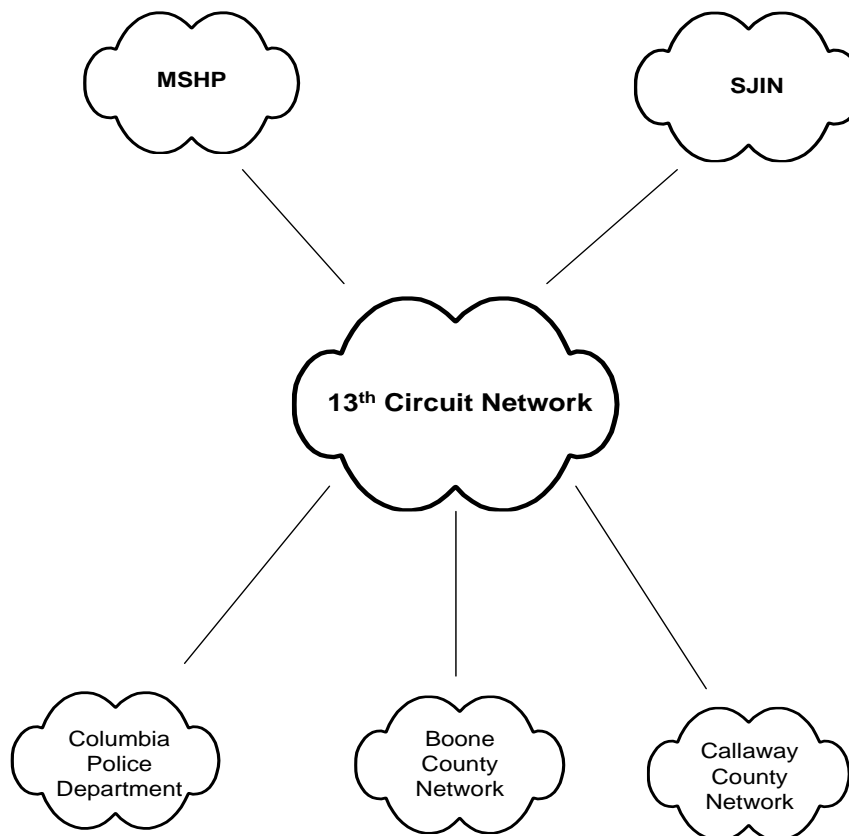
The computer network utilized by the 13th Circuit is part of the larger Statewide Judicial Information Network (SJIN) managed by OSCA. The SJIN is the backbone that interconnects all trial and appellate courts in Missouri.

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 the state. However, the Technology Services unit tracks and manages the court-related technology components regardless of their ownership.

At the end of 2016 the unit tracked the following technical assets:

Hardware

- Boone-owned: 685
- Callaway-owned: 159
- State-owned: 221

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

Licensed Software

- Boone-owned: 53 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. 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: 129
- Callaway workstations: 4
- State workstations: 160

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:

- 196 workstations (98 provided by the state),
- 21 tablet computers (14 provided by the state), and
- 26 notebook computers (1 provided by the state).

Printers

The 13th Circuit utilizes approximately 99 network and local printers, 11 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 several mobile units and also units built into the Ground Floor, 2 South, 3 West and Ceremonial courtrooms of the Boone County Courthouse. Two units are located in the Boone County Jail and one is in the Callaway County Jail.

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.

Courtroom Technology

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

Enterprise Software Provided by State Entities

These products are provided by OSCA, the Missouri State Highway Patrol and Missouri's Department of Social Services:

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

Product	Primary Use
Windows 7	Operating system
Office 2013	Office automation (word processing, spreadsheet)
JIS / Show-Me Courts	Court case management
OSCA Reports	Court case reporting
COGNOS	Ad-hoc reporting
JMS/JUROR	Jury management
Lotus Notes	Email, calendaring, instant messaging, & local 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: <ul style="list-style-type: none">• 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	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

2016 ACCOMPLISHMENTS

Addition of State-Provided Printers for Callaway County

OSCA provides a number of network printers generally sufficient to meet the needs of state-paid court employees. Each county is expected to provide a sufficient number of printers to accommodate its county-paid employees. Use of both state- and county-provided printers overlaps allowing each group of employees to use both groups of printers.

In 2015 while reviewing printer distribution and utilization it was noted there were no state-provided printers in Callaway County despite the fact most of its court employees are state-paid. Discussions were conducted between OSCA and the 13th Circuit regarding this issue. OSCA agreed to provide a sufficient number of printers to correct this oversight.

In early 2016 four printers were delivered to Callaway County. Two printers were deployed to the Circuit Clerk's office, one printer was deployed to the judges, and the remaining printer was deployed to the juvenile office.

Boone Courthouse Door Security Transition

For many years access to the external and numerous internal doors in the Boone County Courthouse and the Alternative Sentencing building was managed cooperatively between Court Marshal and Technology Services staff. From a technical standpoint the several electronic panels controlling door access were connected to the state courts' network. Administration of the system was handled through a dedicated workstation under the technical control of Technology Services and managed day-to-day by the Court Marshal's office.

As part of a county-wide security initiative the Boone Commission created a new security specialist position to, among other things, generally manage door controls and security cameras for most Boone County facilities including the courthouse and Alternative Sentencing. In early-2016 the technical groundwork to transition responsibility of managing the door control panels from the

state network to the Boone County network began.

In mid-2016 the transition of door control management from court staff to Boone County Facilities staff was completed.

Boone Juvenile Office Polycom Replacement

The Boone Juvenile Office mobile video conferencing unit consisted of a large CRT television, CODEC and cart designed to hold a CRT television.

As part of a routine upgrade of aging equipment the mobile Polycom cart was replaced with a new CODEC, flat-screen television monitor and rolling cart designed to hold a flat-screen television.

Since the old CODEC was technically still functional it was repurposed and mounted in the Juvenile waiting room where staff often conduct meetings. This repurposing allows the Boone Juvenile Office to conference with Callaway Juvenile Office staff and others while still allowing the new mobile cart to be utilized elsewhere.

Callaway Sergeant

In 2016 the state authorized funds for a court marshal sergeant position for Callaway County. As a result the Technology Services staff performed specific tasks necessary to acquire, configure and deploy additional computer equipment in order to set up this additional user.

CCTS Enhancements

Circuit Court Technology Services (CCTS) is a suite of locally-developed applications. Court staff utilize a web interface on the court intranet to access the applications.

During 2016 the underlying development software of CCTS (Ruby on Rails) was updated in order to remain current. Additionally, the visual style of CCTS was updated with a new navigation system and a header color scheme that allows users to differentiate between production and testing data.

Additionally, several enhancements were added to the ACS (Adult Court Services) module. The key enhancements include improving a number of ACS reports to allow them to complete more quickly, modifying selected ACS reports to better reflect modern usage, and addition of home detention type and equipment type reports.

Email Encryption - SecureMail

Encryption is the process of securing communication in such a way that parties not privy to the communication are prohibited.

Court staff routinely use email to communicate with others outside of the court. While email encryption is readily available for messages routed within the judiciary, due to technical reasons that encryption does not automatically extend to those outside the judiciary. As a result, emails containing confidential information could not be securely encrypted between court and non-court recipients.

To remedy this problem OSCA implemented an encryption solution branded as *SecureMail*. When the SecureMail feature is triggered the message is stored securely on a court server and the non-court recipient receives an email stating the recipient has a message waiting. The recipient logs into a secure court-provided web site to retrieve the message. SecureMail allows two-way encrypted communication between court and non-court staff.

Prior to 2016 as part of a trial process the Boone judges began to utilize an iPad with appropriate applications to process documents outside of normal working hours. This often involved email transmission of warrants and similar documents among the on-call judge, prosecutor staff and law enforcement staff.

In 2016 the trial period for this improved on-call process was completed and rolled out county-wide. The use of SecureMail was mandated both for court and non-court staff. Training sessions were conducted personally with judges, and group training was provided to law enforcement staff.

Additionally, 13th Circuit staff were trained and advised in the use of SecureMail during mandatory annual training.

FTR Audit

For The Record™ (FTR) is the software product used to make on-the-record recordings of certain cases at the associate circuit court level.

In May of 2016, OSCA staff randomly pulled FTR recordings from every FTR-enabled courtroom in the circuit and performed an audit to determine how correctly and audibly the recordings were made.

OSCA identified a number of problems and brought them to the attention of Technology Services staff. Technology Services staff resolved each of the problems identified.

FTR Mixer Replacement

The FTR mixers in use in the 13th Circuit were obtained prior to 2010. During 2016 the Circuit Court Budget Committee authorized funds for replacement of FTR mixers throughout the state free-of-charge to the counties.

As a result the various FTR mixers throughout the 13th Circuit's courtrooms were replaced negating the need to budget for and replace aging components in the next several years. The timing was fortuitous as each of the FTR mixers was reaching the end of a 10-year life expectancy.

Ground Floor Courtroom Technology Project

Much of the technology in the Ground Floor Courtroom of the Boone County Courthouse was installed in the late 1990's and early 2000's. This technology, notably the video conferencing equipment, was aging and beginning to fail.

In 2015 an RFP process was initiated to define requirements and, in early 2016, a vendor was selected. The successful bidder was VSGL, the same vendor who had added video conferencing and teleconferencing technology to the 2 South Courtroom three years earlier.

In late May and early June of 2016 VSGL staff were on site for two weeks removing old technology and adding new.

The major technology capabilities added or upgraded include video conferencing, teleconferencing, and evidence presentation. The new evidence presentation would enable a person to connect their laptop to the system and display evidence over the various screens. The evidence would also be able to be displayed on the “far end” should the court also be utilizing video conferencing.

JIS Java / Show-Me Courts Pilot

The enterprise case management software (JIS) was originally developed over 20 years ago and intended to run on technologies that have long-since expired. Over time technologies change and aging software is no longer capable of running on newer hardware.

OSCA determined Windows 7 is the last operating system which will run the current JIS product. JIS will not run under Windows 10, the next operating system to be deployed. Remaining on Windows 7 for an extended period of time is not feasible as new workstations will not run Windows 7.

To overcome this dilemma OSCA is taking a two-fold approach to replace JIS. In the short-term OSCA contracted with a vendor to migrate the existing JIS source code into a java-based application that will run on both Windows 7 and Windows 10. This product is branded as *JIS Java*. JIS forms presented in JIS Java have the same look-and-feel, and case processing works exactly the same as in JIS. In late 2016 OSCA received the last of the converted JIS Java forms from the vendor. JIS Java is intended to be a temporary, interim solution.

OSCA's long-term approach is to totally rewrite JIS into a browser-based application using current technologies. This new application is branded as *Show-Me Courts* (SMC). While development of SMC is currently underway and parts of it have already been put into production, not all functions are yet available.

Since time is of the essence OSCA plans to deploy JIS Java when it begins replacing state workstations in 2017. State-provided 13th Circuit workstations will be replaced in 2018.

Boone County agreed to participate in the JIS Java pilot. Both the Criminal and Accounting

units participated in a pilot project that lasted several months and into 2017.

Upgrade to Office 2013

As part of the ongoing effort of the courts to use current software, OSCA deployed an upgrade of the Office suite of products (word processing, spreadsheets, etc.) from Microsoft Office 2010 to Office 2013.

Training Conducted

During 2016 the 13th Circuit Technology Services staff conducted 11 formal training classes in the areas of Lotus Notes, courtroom technology and video conferencing.

Collectively 36 people attended training and 30.5 hours of training collectively provided.

Additionally, most circuit court staff were trained in the use of SecureMail during mandatory annual training sessions.

Visiting Judge Tablet - Callaway

Since court records are now electronic each judge and commissioner in the 13th Circuit utilizes a tablet computer to access those records. Periodically the circuit will host a visiting judge to hear a docket. In order for the visiting judge to access the court's electronic information the 13th Circuit provides the visiting judge a tablet usable at any of the court benches.

The visiting judge tablet serves two purposes. First, as the name implies the court is providing a device for use by visiting judges. Secondly, if an existing judge/commissioner tablet should fail or be forgotten, the visiting judge device can be quickly pressed into service.

Boone County acquired one in 2013. When a visiting judge was scheduled to appear in Callaway County the Boone visiting judge tablet was transported.

In 2016 Callaway County acquired its own visiting judge tablet negating the need to coordinate transportation between counties.

2017 UPCOMING ACTIVITIES

Application Re-Writes

As part of an ongoing effort to migrate aging legacy applications into current technologies, the Budget program will be rewritten as a module of CCTS.

The process of gathering requirements, developing a functional specification and beginning the application rewrite began in 2016. The transition is anticipated for completion in the spring of 2017.

Additionally the Court Marshal Keys program will be rewritten in Lotus Notes. This is intended as a two-fold effort to both migrate an application from aging technologies into one more current, and as a training exercise for the application developer learning a new language.

Associate Circuit Jury Trials

Until 2016 all jury trials in the 13th Circuit were heard by a circuit judge. The official recording is made by the court reporter.

In 2016 the Court en Banc modified its local rules to allow associate circuit judges to hear jury trials. Since associate circuit judges do not have court reporters all proceedings that require an official recording can utilize FTR. It is necessary for jurors to be heard and recorded during the voir dire process.

In Boone County there is one courtroom that meets the multiple criteria of being capable of hosting a jury trial, has FTR equipment available and has jury microphones that are recorded using the FTR equipment.

However, the main courtroom in the Callaway County Courthouse does not have an appropriate configuration to record jurors.

It is anticipated that in 2017 the audio components in that courtroom will be reconfigured allowing jurors to be heard and recorded on FTR.

Boone Courthouse Security Cameras Transition

Similar to the Door Security topic discussed earlier, access to the video camera security DVRs in the Boone County court facilities is managed cooperatively between Court Marshal and Technology Services staff. Management of the system is handled through a dedicated workstation under the control of Technology Services and made available to Court Marshal staff to view desired security events.

As part of a county-wide security initiative the Boone Commission created a new security specialist position to, among other things, generally manage door controls and security cameras for most Boone County facilities including the courthouse.

It is anticipated that in early 2017 control of the management of the security DVRs will transition to the Boone security specialist. Appropriate court staff will still have an ability to either view live camera feeds or to view and extract past events.

APPENDIX A - Workload Analysis

Categories of Issues

In order to manage 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. **Administration** – Committee participation, bid activities, other administrative tasks.
13. **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 mandated by the judiciary's Security Guidelines.

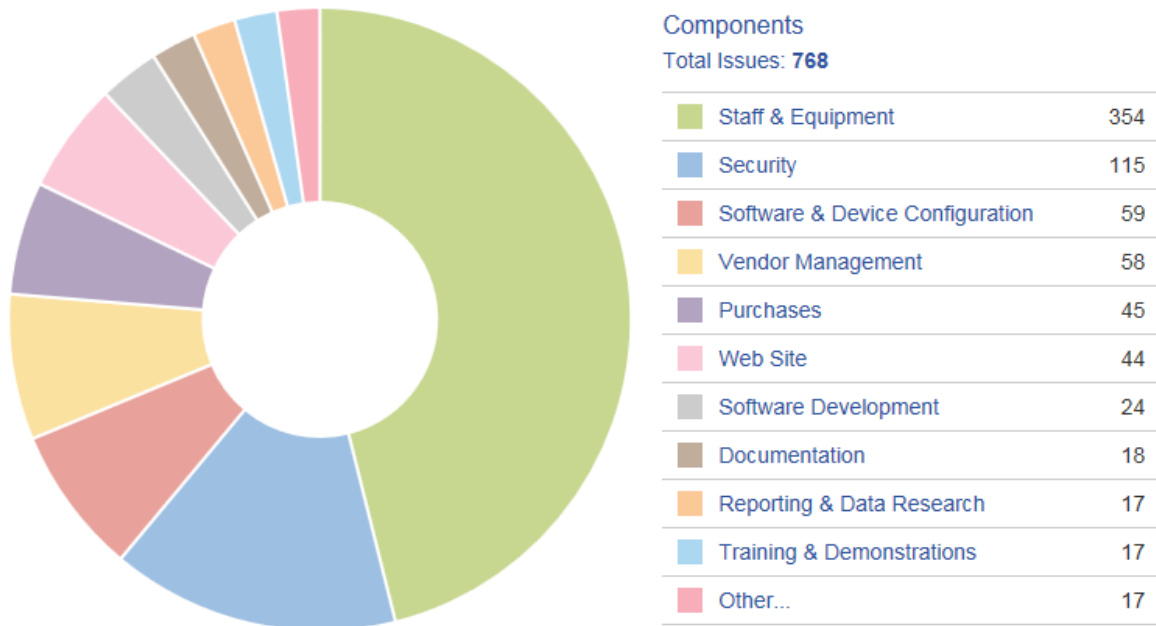
It is important the reader note not all issues are recorded in JIRA. Technology Services staff routinely receive calls for courtroom emergencies, password assistance and other issues which are immediately resolved. Such issues are typically NOT recorded in JIRA after-the-fact. Therefore, the numbers 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 1 minute. 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.

Technology Services

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2016 Issues Opened



On January 1, 2016 a total of 45 issues were pending.

Throughout 2016 a total of 768 issues were opened and categorized as follows:

46% were related to **Staff & Equipment** which are typically activities associated with employee hires, resignations, and equipment moves.

14% were related to **Security** which are typically related to requests to extract security camera footage or to modify application or network access.

7% were related to **Software & Device Configuration** which are typically requests to install and/or configure software.

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

Throughout 2016 a total of 756 issues were resolved. The percentages among the categories were virtually the same.

On December 31, 2016 a total of 57 issues were pending.

APPENDIX B - Glossary

CCTS - The Technology Services staff develop and manage several applications locally - applications not provided by OSCA. Several of these are developed and managed as a suite of “modules” under the umbrella of a single user and system management module. That suite of modules is branded as *Circuit Court Technology Services*, or CCTS. Court staff utilize a web interface on the court intranet to access the various modules within the application. At the end of 2016 the modules in this application are: Focus on Kids, JJC Case Management, ACS and the Case Scheduler.

FTR - *For The Record* [™] (FTR) is the software product used to make on-the-record recordings of certain cases at the Associate Circuit Court level. The audio from at least 4 microphones (judge, witness, attorney A and attorney B) are routed to an FTR mixer. From there the audio is recorded and managed using the specialized FTR software. Recordings are stored both on the local FTR workstation in the courtroom AND on a separate Network Attached Storage (NAS) device for redundancy.

OSCA - The Office of State Courts Administrator (OSCA) is the central governmental entity that oversees state courts administration. As part of the organization’s duties it carries out the mandates of the Missouri Court Automation (MCA) Committee. Missouri utilizes common applications for court case management and office administration. As a result it provides a number of key enterprise applications and infrastructure components.

Polycom - Video conferencing is the simultaneous exchange of video and audio communication among 2 or more participants. “Polycom” is a brand of video conferencing unit as are “Cisco” and “Tandberg”. Polycom happens to be the most commonly used brand of video conferencing unit within the 13th Circuit.