



13th Judicial Circuit Court

Technology Services 2018 Annual Report

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Technology Services Supervisor

TABLE OF CONTENTS

TABLE OF CONTENTS	2
STAFF AND RESPONSIBILITIES	4
TECHNOLOGY AREAS SUPPORTED	5
Network	5
Audio/Visual	5
Telephone	5
General Support	6
Applications Management	6
CONFIGURATION OVERVIEW	7
ASSETS	8
Asset Tracking	8
Workstations	8
Printers	8
Video Conferencing	8
Conference Telephones	8
Courtroom Technology	8
Enterprise Software Provided by State Entities	9
Local Software Provided by Technology Services	9
Other Third-Party Software	9
2018 ACCOMPLISHMENTS	ERROR! BOOKMARK NOT DEFINED.
Application Development Cross-Training	Error! Bookmark not defined.
Cyber-Security Awareness Training	Error! Bookmark not defined.
eJuror Pilot implementation	Error! Bookmark not defined.
State Workstation Replacements & Windows 10 Upgrades	Error! Bookmark not defined.
Wireless Access Point Upgrades	Error! Bookmark not defined.

Technology Services

13th Judicial Circuit Court
2018 Annual Report

2019 UPCOMING ACTIVITIES	ERROR! BOOKMARK NOT DEFINED.1
Complete Windows 10 Transition	10
Replace Internal Application Server	11
Replace Network Routers	11
FTR.....	11
Digital Docket Signs	11
Continued Technology Evaluations.....	11
 APPENDIX A - WORKLOAD ANALYSIS	 13
 APPENDIX B - GLOSSARY	 15

STAFF AND RESPONSIBILITIES

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

Christopher Fishman-Weaver, Supervisor

- Staff Supervision
- Technical Project Management
- Hardware, Software and Network Management
- Applications Development Management
- Technology Bid & Contract Preparation and Review
- Statewide & Local Committee Participation

Dickson Njoroge, Computer Information Specialist

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

Nicholas Stultz, Computer Systems Specialist

- Applications Development

Staff Changes in 2018

- Staff supervisor Christopher Fishman-Weaver was hired on July 23, 2018 replacing Steve Smith.
- Michelle Wheeler left in July 2018 and was replaced by Dickson Njoroge in August 2018

We are thankful to both Steve and Michelle for their many years of service to the Judiciary.

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
- Manage patch panels, cables and switches
- Collaborate with other technology staff to resolve network-related issues

Workstations

- Install and configure operating system and applications
- Locate and eradicate viruses and other mal-ware
- Manage workstations and resolve user issues both remotely and locally

Servers & Storage Devices

- Install and configure operating system and applications
- Manage storage 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
- Manage video conferencing bridge to schedule and conduct conferences

Audio/Visual

Courtroom Technology

- Train and assist staff on courtroom evidence presentation systems
- Manage vendors troubleshooting and resolving issues

Audio/Video

- Manage audio technology (microphones, speakers, amplifiers & XLR cabling)
- Set up and manage projectors and document cameras

Telephones

Telephones

- Manage portable conference phones
- Collaborate with phone company regarding programming changes and issue resolution
- Route internal phone lines via patch panels

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
- Provide self-help information via the Circuit 13 Technology Help wiki

Security

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

Other

- Technology budget preparation and implementation
- 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 connects all trial and appellate courts in Missouri. From a computer networking perspective, Missouri's courts are a united enterprise and the 13th Circuit is part of that enterprise.

OSCA provides for the courts certain **hardware components** utilized by 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 have consolidated into centralized judicial data centers located in different geographical locations within Missouri.

OSCA also provides and manages enterprise-wide **software products** including, but not limited to, court case management software, jury management software, email, office automation products, Case.Net and the judiciary's "Your Missouri Courts" website.

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 certain software applications in-house used solely by 13th Circuit staff. It also installs and manages "off-the-shelf" software not provided by OSCA such as local accounting and other office automation products.

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

ASSETS

Asset Tracking

The Technology Services unit uses software to track and manage the various hardware and software assets of the circuit. Some assets are owned by Boone County, some by Callaway County, and others by the state. However, the Technology Services unit tracks and manages all of the court-related technology components regardless of ownership.

At the end of 2018 the unit tracked the following technical assets:

Hardware

- Boone-owned: 722
- Callaway-owned: 174
- State-owned: 226

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

Licensed Software Installed

- Boone-owned: 53 licenses
- Callaway-owned: 4 licenses

Non-Licensed Software Installed

- Boone workstations: 99
- Callaway workstations: 5
- State workstations: 123

Workstations

The 13th Circuit utilizes approximately:

- 203 workstations (97 provided by the state),
- 7 tablet computers and,
- 48 notebook computers (16 provided by the state).

Printers

The 13th Circuit utilizes approximately 101 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, as well as units incorporated into the technology of the Ground Floor, 2 South, 3 West and Ceremonial courtrooms of the Boone County Courthouse.

Outside of court facilities, two units are located in the Boone County Jail and one unit is located in the Callaway County Jail.

Conference Telephones

Both Circuit Courts routinely see case participants who either do not speak English fluently or do not speak English at all. Each court sometimes uses telephonic interpreters to accommodate non-English speakers through Language Line™, whereby interpreters provide language interpreting services over a portable conference telephone placed in the courtroom.

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.

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

Enterprise Software Provided by State Entities

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

Product	Primary Use
Windows 7 / Windows 10	Operating system
Office 2013	Office automation
JIS / Show-Me Courts	Court case management
OSCA Reports	Court case reporting
COGNOS	Ad-hoc reporting
JMS	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: <ul style="list-style-type: none">• Focus on Kids• Budget• Case Scheduler• Court Services
Technology Asset Tracker	Manage technology inventory
Training Repository	Records training of staff under Court Admin authority
Court Admin Personnel	Records personnel info for staff under Court Admin authority
Attorney Conflict Calendar	Reporting calendar conflicts for attorneys
BIRS	Booking and Incident Reporting System for court marshal staff
Court Keys	Manages physical key distribution
Technology Help Wiki	Technology-related self-help web site for circuit staff

Other Third-Party Software

Product	Primary Use
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
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
Papervision	Allows select court clerks to manage and access digitally archived documents

2018 ACCOMPLISHMENTS

Application Development Cross-Training

One staff member of the Technology Services team is dedicated solely to applications development. Other team members focus on other unit-related duties. This situation means knowledge of this key area is held primarily by one person.

Following proper management practices, both of the non-development staff were cross trained in a variety of applications. Due to staff changes noted above this process will need to be repeated with new staff members in 2019.

Cyber-Security Awareness Training

In October 2017 the Missouri Court Automation (MCA) Committee enacted a new Security Guideline (900.01) mandating that anyone accessing the judicial computer network will be *required* to complete a sanctioned Cyber Security Awareness training course annually. In 2018 all staff were able to complete this training.

eJuror Pilot implementation

For many years the jury management product used statewide is JMS (Juror Management System). JMS is used solely by court staff. Jurors receive, complete and return paper

questionnaires by mail. To replace this aging system, OSCA is developing **Show-Me Jury**.

Show-Me Jury pilot was implemented in 2018. A link to the **eJuror** web portal was placed on the 13th Circuit's website, allowing potential jurors to electronically submit and interact with the jury system.

State Workstation Replacements & Windows 10 Upgrades

To keep pace with technology, the state replaces its computers every four years. Approximately 112 computers were replaced with an additional 30 computers to be migrated in place in 2019.

Wireless Access Point Upgrades

Many of the wireless access points (WAPs) used in the Boone County Courthouse were installed approximately a decade ago. Technology advances over time now require these aging WAPs be replaced.

A separate technology component involved in the overall configuration is the *wireless controller*. Due to its exorbitant cost, we evaluated options to purchasing a replacement. OSCA has agreed to take over management of the WAPs by using its own controller. Thus, the Boone County Circuit Court will not be required to purchase that expensive component.

In 2018 all wireless access points were replaced and are now managed by OSCA.

2019 UPCOMING ACTIVITIES

Complete Windows 10 Transition

Microsoft Windows 7 will reach the end of life in January 2020. Once it reaches the end of life security updates will no longer be developed, and any new exploits will not be fixed. To maintain security, we will be phasing out all the remaining Windows 7 computers in 2019. We anticipate being able to upgrade over 30 current computers from Windows 7 to Windows 10 reducing the overall costs of the upgrade.

Replace Internal Application Server

The original internal applications server was purchased at the start of 2015. It hosts many home grown applications that are heavily utilized by multiple departments. Given its age and the essential nature of these applications the server will be replaced in 2019. The current server will be repurposed as a test environment for all future application development.

Replace Network Routers

In order to keep pace with technology, OSCA will provide the 13th Circuit with two replacement routers, one in Callaway County and one in Boone County. These routers facilitate the connection between the local courts and the state wide judicial network, including Show-Me Courts, and all network file storage. Currently these routers are several generations old and are beginning to fail, causing slower than usual network access for all staff.

FTR

In 2019, 5 of the 8 FTR workstations in Boone County will be replaced, and all 3 FTR workstations in Callaway County will be replaced as part of the routine equipment replacement schedule.

Additionally, the judiciary will be upgrading to FTR version 6 in 2019. This version is a major upgrade and was budgeted in both counties in 2018 for this 2019 purchase.

The transition of the FTR workstations was moved from 2018 to 2019 due to staffing changes as noted above.

Digital Docket Signs

In 2019 the Boone County court anticipates moving to digital signage to display public docket information. Initially, the paper docket printouts at the front entrance will be replaced by a digital sign. If this pilot is successful, the court anticipates working towards replacing all paper dockets that are manually hung outside each courtroom. This project will save many hours of labor for the current staff who are responsible for printing, updating and attaching the current paper dockets before court each day. Additionally, changes can be made and displayed in real time.

Continued Technology Evaluations

The technology in the Boone 3 West courtroom and jury assembly room was installed in 2008. In early 2017 the video conferencing codec failed. A technology vendor was contacted to evaluate and estimate the cost to repair. Due to the age of the technology and technological advances in the intervening decade, replacing the codec would require several additional technology upgrades estimated to total in the range of \$30,000 or more. Additionally, one of the table monitors also failed in 2017 and 2018.

Due to age, neither of the device models were available through retail vendors, so no new replacements could be purchased. Fortunately, both items were able to be repaired by purchasing used parts from eBay.

Technology Services

13th Judicial Circuit Court
2018 Annual Report

In 2019 we will begin to reach out to multiple vendors to continue evaluating the technology in the 3 West courtroom and jury assembly in order to budget for replacements in 2020 and beyond.

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** – Requests to modify user network/application security & to extract security video.
6. **Purchases** - Requests to purchase technology-related equipment such as workstations.
7. **Web Site** - Requests to modify web site content.
8. **Vendor Management** - Contacting and managing outside vendor/OSCA 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** - Pull network & 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.

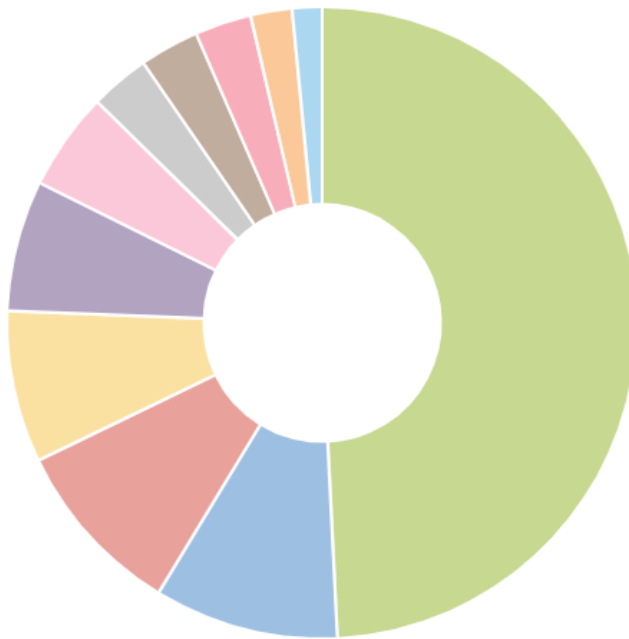
It is important the reader note not all issues are recorded in JIRA. Technology Services staff routinely receive calls for courtroom assistance, password resets and other issues which are immediately resolved. Such issues are typically NOT recorded in JIRA after-the-fact. Therefore, the numbers noted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

13th Judicial Circuit Court
2018 Annual Report

2018 Issues Opened



Components

Total Issues: **652**

Staff & Equipment	323
Vendor Management	62
Web Site	60
Security	51
Software & Device Configuration	44
Purchases	33
Miscellaneous	20
No component	20
Reporting & Data Research	14
Training & Demonstrations	10
Other...	19

On January 1, 2018 a total of 35 issues were pending

Throughout 2018 a total of 652 issues were opened and categorized as follows:

49% were related to **Staff & Equipment** which are typically activities associated with employee hires, resignations, and equipment moves.

9% were related to **Vendor Management** which are typically tickets opened with the Office of State Courts

9% were related to **Website Updates** which are typically job postings, news and meeting updates or other general website updates.

7% were related to **Security** which are typically related to requests to extract security camera footage or to modify application or network access.

6% were related to **Software & Device Configuration** which are typically requests to install and/or configure software.

These five categories constitute three fourths of the tasks recorded.

Throughout 2018 a total of 635 issues were resolved. The percentages among the categories were virtually the same.

On December 31, 2018, a total of 17 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 2018 the modules in this application are: Focus on Kids, JJC Case Management, Court Services, Case Scheduler, and Court Budget.

FTR - *For The Record*™ (FTR) is the software product used to make on-the-record sound 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. Audio is routed to the FTR computer workstation 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.

JEWELS – The Judicial Education Web-Enabled Learning System (JEWELS) is a web-based training delivery system managed by OSCA on the courts intranet. JEWELS provides a host of training chiefly aimed at court staff regarding court case management, jury management, office automation products and other areas of interest to court employees.

Licensed/Non-Licensed Software – *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 end-user licensing agreements (EULAs). There is usually a cost associated with each workstation license. Licensed software is recorded as an asset in the Technology Asset Tracker software.

Non-Licensed Software products are provided free-of-charge to the 13th Circuit by a vendor or others. 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.

The license counts in this document do NOT include the Windows operating system nor do they include the Microsoft Office software as both are part of every computer workstation in the circuit.

Multi-Function Devices (MFPs) – A device that incorporates several functions into a single device, typically consisting of two or more of the following: printer, scanner, copier, FAX.

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. OSCA 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 is the most commonly used brand of video conferencing unit within the 13th Circuit.

Security Guidelines – A set of guidelines intended to safeguard the integrity, confidentiality, and operation of the statewide judicial information network. The Security Guidelines are approved by the MCA committee. All judiciary employees, as well as volunteers, interns, etc. – anyone with a judicial network account – is required to comply with the guidelines.

Show-Me Courts (SMC) – The original court case management system, Judicial Information System (JIS), was developed in now-aging technologies. OSCA is rewriting JIS using leading technologies. The new system is branded as **Show-Me Courts**.

Wireless Access Points (WAP) – A wireless access point (WAP) is a radio transmitter/receiver that allows computers and other devices with wireless capability wirelessly connect to either the courts network or to the public internet. These devices are approximately 8 to 10 inches square and are mounted either high on a wall or ceiling in strategically-located positions to provide coverage.