



FY2023 REPORT ON OFFICES UNDER THE PRESIDENT SOFTWARE ASSETS AND HARDWARE ASSET INVENTORIES

COOK COUNTY BUREAU OF TECHNOLOGY
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COOK COUNTY REPORT ON SOFTWARE ASSETS AND HARDWARE ASSET INVENTORIES FOR OFFICES UNDER THE PRESIDENT

ASSET STRATEGY

In the wake of the COVID-19 pandemic, thoughtful and strategic procurement of information technology assets has become more important than ever before. Information technology has allowed for Cook County to transition to a largely remote workforce with little reduction in productivity. Remote work required greater collaboration and automation of processes and increased leverage of existing software platforms for virtual collaboration, for example the creation of documents allowing for e-signatures via DocuSign and the ubiquitous use of Microsoft Teams as a video conference platform.

Security concerns are a primary consideration when procuring technology assets given the growing sophistication of cyberthreats. The Bureau of Technology routinely implements hardware and software upgrades to maintain the most up-to-date security patches. These upgrades help prevent successful cyberattacks and subsequent costly data breach remediation.

Product lifecycle, or the amount of time from technology implementation through use and eventual decline, affects not only information security but also employee productivity. The current computer and server lifecycles recommended by the Budget Office are six years. All Bureau of Technology enterprise software license procurement contracts are drafted to ensure perpetual upgrades and full support of the manufacturer.

SOFTWARE INVENTORY ASSESSMENTS

The Bureau of Technology manages the procurement of enterprise licenses for Adobe and Microsoft products. Elected Offices and the Cook County Forest Preserve are then charged-back for their portion of licenses. Procurement of licenses on an enterprise-scale helps reduce costs and improve efficiency.

The enterprise software license inventory is measured annually through a true-up process that helps reconcile assignment of licenses. Cook County's largest software asset is its collection of Microsoft Office 365 (O365) licenses. O365 refers to a suite of office productivity desktop products including Outlook (email and calendar), Microsoft Word (word processing), PowerPoint (presentation slide decks), Teams (collaboration), and Excel (spreadsheets), among others.

Microsoft offers various levels of licensing. The County currently uses both G1 and G3 licenses. The G1 license provides access to Outlook and web-based Microsoft applications only and has a lower price per license than the G3 license. The Bureau of Technology has made a concerted attempt to right-size its use of Microsoft licenses to fit the needs of each user, thereby saving the County the expense of unnecessary G3 licenses. In addition, the Bureau of Technology manages enterprise Adobe licenses (web experience and content management).

HARDWARE INVENTORY ASSESSMENTS

COMPUTER INVENTORY

| Dept/Agency | Computers |
|--|-------------|
| Department of Administrative Hearings | 30 |
| Animal Control Department | 12 |
| Office of Asset Management | 40 |
| County Auditor | 18 |
| Budget and Management Services | 42 |
| Building and Zoning | 68 |
| Bureau of Technology | 193 |
| Office of the Chief Administrative Officer | 68 |
| Office of the Chief Financial Officer | 22 |
| Board of Commissioners | 100 |
| County Comptroller | 42 |
| Contract Compliance | 29 |
| Office of Economic Development | 19 |
| Department of Emergency Management and Regional Security | 218 |
| Department of Environment and Sustainability | 12 |
| Department of Facilities Management | 127 |
| Department of Human Resources | 106 |
| Department of Human Rights and Ethics | 12 |
| Office of the Independent Inspector General | 19 |
| Justice Advisory Council | 22 |
| Department of Labor Relations | 20 |
| Cook County Land Bank Authority | 8 |
| Cook County Law Library | 104 |
| Medical Examiner | 110 |
| Office of the President | 22 |
| Planning and Development | 35 |
| Office of the Chief Procurement Officer | 36 |
| Public Administrator | 16 |
| Public Defender | 892 |
| Revenue | 191 |
| Risk Management | 50 |
| Secretary to the Board | 27 |
| Department of Transportation and Highways | 384 |
| Zoning Board of Appeals | 6 |
| Total | 3100 |

**These counts include some computers that are being prepared for salvage. All counts were self-reported by designees from each section.*

Per the Bureau of Technology, the minimum standards for new computer purchases for Offices Under the President (OUP) include:

- Sixteen gigabits of RAM
- An i5 processor
- A solid-state hard drive

The procurement vehicle for technology hardware is typically through reseller agreements. Cook County currently has three hardware agreements through SHI, Insight, and CDW-G all of which were obtained through the RFP process and in compliance with all legal requirements.

SERVERS

In 2020, BOT implemented the Cook County Cloud for production applications, following a successful implementation for testing and development. It started with the migration of the Bureau of Records from their aging infrastructure to the new platform that provides disaster recovery and costs less than alternatives.

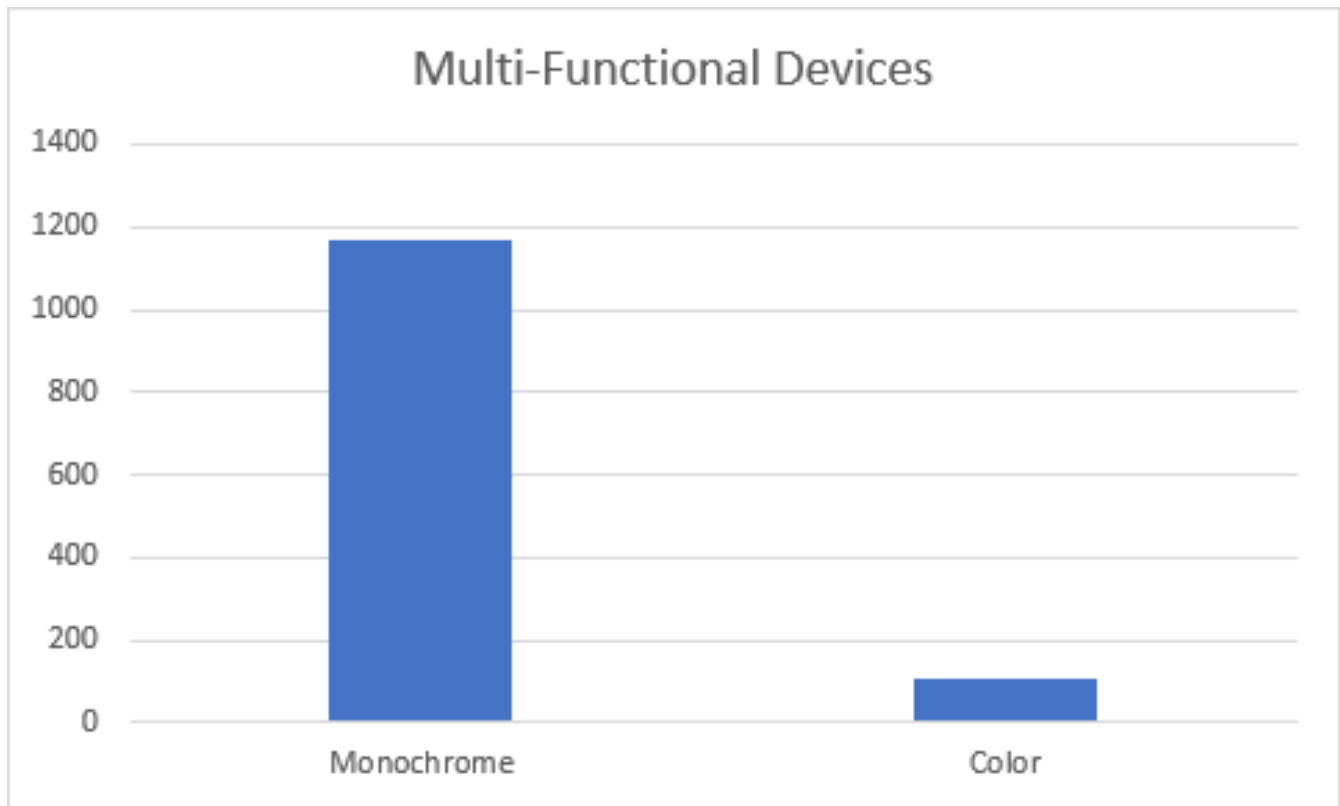
Cook County has engaged in a change in its computing infrastructure over the past two years to provide a more resilient and available environment including two availability zones of compute infrastructure, each containing four environments (DMZ, Test/Development, Production, and Production database). This hyperconverged environment has brought a significant amount of resiliency and flexibility for the computing infrastructure where Cook County is able to logically separate its various production environments without making additional hardware purchases.

This direction is an avenue away from the traditional three-tiered approach and encompasses technology that bridges the gap between on premise workloads and the public cloud. Cook County has several ways to provide dedicated infrastructure, where the County can physically or logically separate various offices to ensure data ownership remains with our customers. As the solution matures over time, the environment becomes more resilient.

| | 2018 | 2020 | 2022 | 2023 |
|----------------------------|------|------|------|------|
| Windows Server 2003 | 6 | 0 | 0 | 0 |
| Windows Server 2008 | 92 | 25 | 22 | 17 |
| Windows Server 2012 | 242 | 204 | 147 | 99 |
| Windows Server 2016 | 32 | 180 | 187 | 205 |
| Windows Server 2019 | 0 | 10 | 69 | 162 |
| Windows Server 2022 | 0 | 0 | 0 | 3 |

PRINTERS

The County has moved away from using multiple devices for printing and scanning. The Bureau of Technology recommends that when printers reach the end of their lifecycle they are replaced with multi-functional devices (MFDs). MFDs incorporate printing, photocopying, and scanning into one device that can be used by multiple users. This results in greater efficiency and reduced maintenance costs as well as greater accessibility through the implementation of ADA-compliant screens. It is important to note that this standardization has been implemented for the Offices Under the President and is recommended for all Elected Offices.



TELECOMMUNICATIONS

The CIO manages all telecommunication hardware throughout the County, including the jail complex and Health and Hospital System. Voice-over-internet protocol (VOIP) has become the industry standard because it provides more features for users such as voicemail, call forwarding, and conference call features while reducing telecom provider costs and increasing call quality. The County recently completed a five-year implementation.

MOBILE DEVICES

The Bureau of Technology manages all County mobile devices and contracts, except for Cook County Health. Mobile devices include cellphones, smartphones, MiFis and wireless network equipment known as “data transmitting devices.”

| | |
|---------------------------|-------------|
| Basic Cell Phones | 597 |
| Data Transmitting Devices | 641 |
| MiFi Devices | 658 |
| Smart Phones | 1465 |
| Tablets | 4873 |
| Total | 8234 |

MOBILE DEVICE MANAGEMENT

Beginning in March 2022, Cook County has been rolling out the Microsoft Intune Mobile Device Management (MDM) application for employees within our Microsoft Office 365 tenant with compatible County-issued cell phones. To date, 578 devices have been enrolled.

MDM software allows IT administrators to remotely manage mobile devices. Using MDM allows Cook County to install and update apps. MDM also provides the ability to delete Cook County data from a device if it becomes lost or stolen.

Other benefits of utilizing MDM include:

- Improved efficiency
- Decreased downtime for users
- Mitigation of compliance risks
- Increased data security
- Seamless delivery of services

MDM works on newer smart phones with either Android or iPhone operating systems. Android phones need to be on version 8.0 or later, and iPhones/iPads have to have iOS version 13.0 or later.