

19-6145 - FY2019 Asset Report FINAL

COOK COUNTY BUREAU OF TECHNOLOGY
LEGISTAR

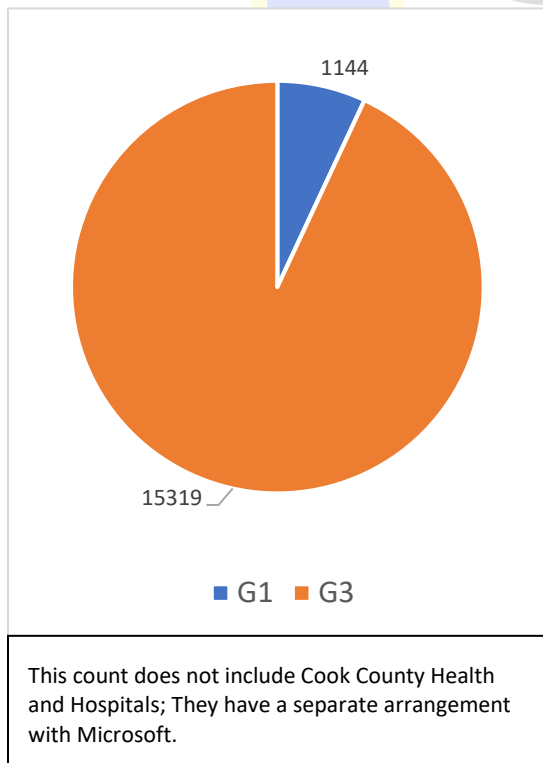
ASSET INVENTORY AND STRATEGY

Pursuant to Ordinance No. 16-3977, all County offices and agencies are required to submit annual software and IT hardware inventories during the Budget cycle. The ordinance requires the Bureau of Technology (BOT) and County Budget Office to summarize and assess the inventories in the context of a “strategic document” to be delivered to the Board. The following document presents BOT’s IT asset strategy and accompanying assessment of received software and IT hardware asset inventories.

PERFORMANCE AND SECURITY

In addition to keeping our workforce effective with efficient computers and devices, lifecycle management is an important facet of the BOT strategic technology policy to reduce or eliminate the instances of IT infrastructure or software that is no longer supported by the manufacturer. Replacing out-of-date appliances and software on the network is a crucial step to eliminate IT security vulnerabilities across the enterprise and reduce the risk of an incident on County government owned and managed devices.

SOFTWARE INVENTORY ASSESSMENTS



Cook County prepares each year a consolidated list of all its licenses for Microsoft products through a process called the “true-up.” Each agency is cross charged for their Office 365 (O365) usage. O365 refers to the subscription plans that include email, calendar and access to Office applications, such as Word, Excel, PowerPoint, etc.

In 2016, Cook County added a new, less expensive Microsoft Office 365 option for some employee groups. The standard licenses we have now are called “G3” licenses. Users who do not need all the standard Microsoft Office products are downgraded to less expensive “G1/E” licenses, which include email plus online-only access to other standard Office applications.

In 2020, BOT will work with offices Countywide to review license needs and seek additional savings by expanding use of less expensive licenses.

HARDWARE INVENTORY ASSESSMENTS

COMPUTERS

BOT minimum standards for computer purchases include:

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

By purchasing computers that meet these specifications, BOT expects six years of use before the computer should be replaced. For older computers still in use, BOT expects that computers with at least eight gigabits of RAM and other minimum standards will remain viable for the next 12 to 24 months; these computers will be upgradeable to Windows 10 and Office 2016.

Soon Microsoft will cease support for the Windows 7 and 8 operating systems. BOT is in the process of upgrading all the computers it services to Windows 10 and Office 2016. Below is a table showing BOT's progress, as of September 2019, with computers it manages. BOT is on track to finish deploying Windows 10 to the computers BOT manages before Microsoft support ends in January 2020.

Windows Version	Count
Microsoft Windows 10	2345
Microsoft Windows 7	969

Across Cook County, asset inventories demonstrate that the County's separate agencies and offices have a variety of desktop and laptop computers. Currently, these assets aren't centrally managed. Agencies can purchase a wide variety of computers through reseller contracts, and many agencies manage their own hardware replacement lifecycles.

The County's separate IT agencies will work together in 2020 to adopt Countywide standards, as contemplated in the Cook County IT Consolidation Ordinance.

SERVERS

BOT made a strategic decision to move toward hyper-converged technology. Hyper-converged infrastructure is a fully software-defined IT infrastructure that virtualizes all the elements of conventional 'hardware-defined' systems.

You may have heard of "cloud" technology; hyper-converged infrastructure allows Cook County to create its own cloud, using equipment residing on-premises, which works seamlessly with public cloud infrastructure residing off-site.

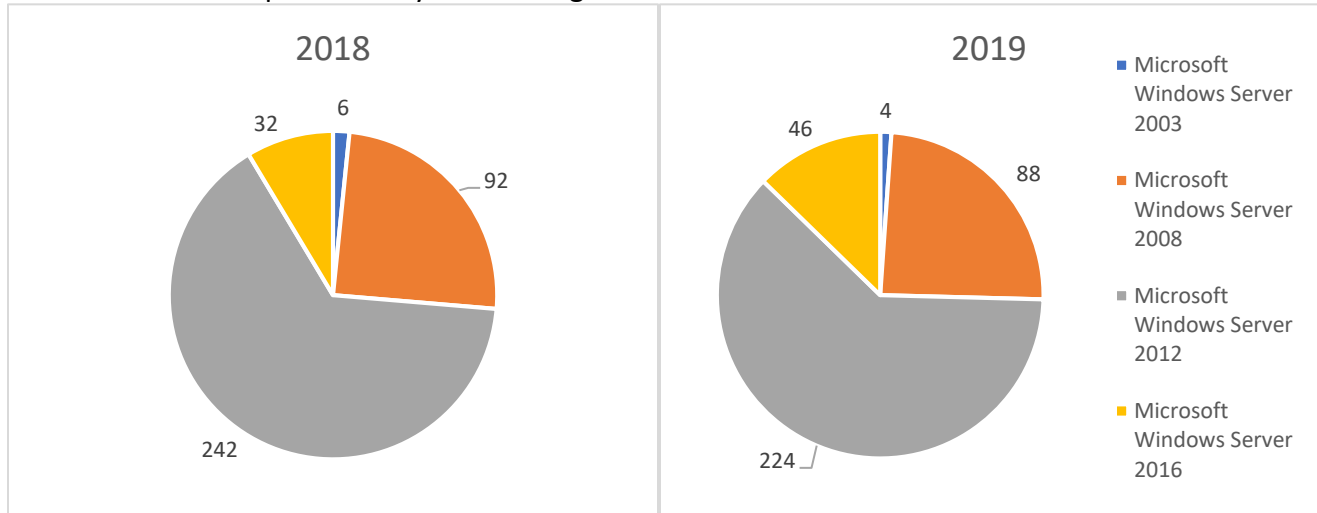
This move will:

- Decrease the number of servers we maintain
- Improve the speed and availability of our IT systems

- Put us in a better position to safeguard crucial data

We have achieved a patching level of 99 percent on servers in Offices Under the President. While we are continually striving to reach 100 percent, 99 percent is a significant improvement over last year when we were at 93 percent.

The charts below represent only BOT managed servers.



The BOT inventory includes some but not all servers owned by each agency. Some servers currently in use in other offices predate even the 2003 machines. BOT recommended that these be upgraded as soon as possible.

As mentioned above, BOT will work with the County's separate IT agencies to develop and roll out server standards in 2020, as contemplated in the Cook County IT Consolidation Ordinance. A major part of this effort will be achieved through the upcoming work on Business Impact Analysis and Disaster Recovery.

BUSINESS IMPACT ANALYSIS (BIA) AND DISASTER RECOVERY (DR)

We are in the process of identifying how resilient the County should be in case of disruptions using various impacts to justify planning efforts such as business continuity plan development and disaster recovery implementation for critical IT systems.

The BIA project identified the impact to Cook County services if an unforeseen, disruptive event were to occur. As part of this project, we reviewed 71 services across 17 agencies and documented our most critical. We prioritized what services need to be immediately restored in case of a major disruption and which services have more flexibility.

The analysis resulted in two key recommendations: creation of a business continuity team to oversee development of our recovery strategy and development of a consolidated DR plan. The next step is to

develop and implement business continuity plan for all agencies and continue maintenance of the plan in the long term.

DISASTER RECOVERY

DR plans document the specific processes from each agency needed to recover the critical business services and assets from a natural disaster or system failure. Our team has connected and analyzed what each agency has in place for purposes of disaster recovery and their respective levels of completion. We are now working collaboratively to create a consolidated countywide DR plan that will ensure we have a common and consistent plan to restore County services.

IT INFRASTRUCTURE ASSESSMENT

We are in the process of creating a hosting strategy that will identify the potential benefits for a more unified management of infrastructure, standardized strategies for cloud, virtualization and managed services as well as optimization of vendors/contracts.

The IT Infrastructure Assessment will help us to identify efficiencies for cost savings across the County. It will establish a baseline inventory of current infrastructure assets and contracts that enable our critical services. It entails reviews of infrastructure budgets and overall productivity to identify potential gaps in performance and costs. Results of the assessment will lead to creation of a plan to help realize cost savings through standardization of processes, consolidation of equipment and rationalization in supporting vendors and contracts.

PRINTERS

BOT manages MFDs for all County Offices, except the Health and Hospital System. BOT standards for printers dictate that employees move away from more expensive-to-use desktop personal printers and instead use shared, efficient multifunctional devices. Other standards include Americans with Disabilities Act (ADA) compliant screens and the ability to password protect your print jobs for private printing.

BOT’s standard machines will also report monthly usage statistics, which we can use to be sure the device assigned is appropriate for the average workload of the office where it resides. The table below shows Countywide printer activity detected through the County network. Devices and activities disconnected from the County network were not included.

- **MFDs:** Multifunctional (print/scan/copy/fax/etc.) Devices
- **AMV:** Average Monthly Volume in printing

2019						
MFDs	Total	Total AMV	Mono AMV	Color AMV	BW Devices	Color Devices
<i>Konica-Minolta*</i>	70	226,485	224,527	1,958	67	3
<i>Toshiba*</i>	890	5,837,700	5,609,927	227,773	810	80
Total	960	6,064,185	5,834,454	229,731	877	83
Desktop Printers	Total	Total AMV	Mono AMV	Color AMV	BW Devices	Color Devices
<i>HP</i>	1,591	3,101,489	2,926,899	174,590	1,230	361
<i>Dell</i>	273	478,629	474,791	3,478	254	19
<i>Lexmark</i>	132	191,053	190,692	361	130	2
<i>Xerox</i>	189	208,623	204,262	4361	184	5
Total	2,185	3,979,794	3,796,644	182,790	1,798	387

	2018 Actual	2019 through Q3
Percentage of Pages printed on networked MFDs	47.00%	50.20%
# Total number of pages printed within reporting period	123,911,037	90,857,575
# pages printed on MFDs	58,239,471	45,612,107
# pages printed on personal printers	65,671,566	45,245,468



BOT projects that in 2019 the County will print about 2.7 million pages less than the year before. That translates to about 540 boxes of papers or 5,400 reams of paper.

TELECOMMUNICATIONS

BOT manages telecom hardware and infrastructure for all offices Countywide. This includes both landlines and cellular devices.

MOBILE DEVICES

The County has made efforts to ensure that employees have access to mobile phones and equipment if it is essential to their job duties. The table below was compiled from data maintained by BOT's Telecommunications Department. It shows the top active users of the different types of cellular devices supported by the County.

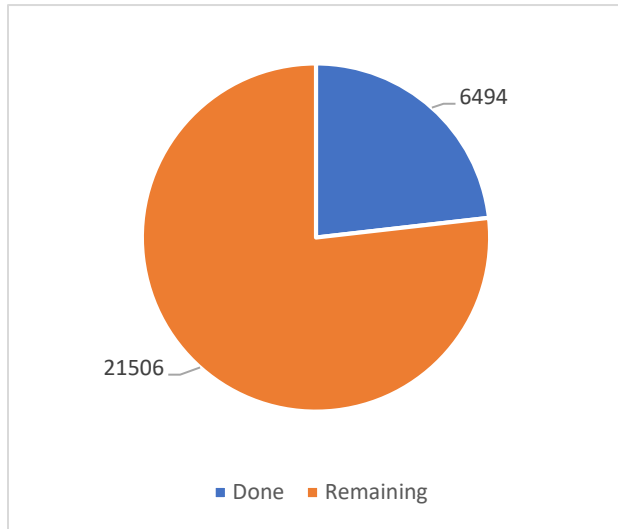
Note: The County Clerk's elections equipment isn't actively used year-round – only during elections.

Departments with Most Cellular Devices by Budget Code

Office	Device Type	Count
1524 - County Clerk Elections	Data Device	2618
1524 - County Clerk Elections	MIFIs	2030
1200 - Department of Facilities Management	Smart Phones	302
1524 - County Clerk Elections	Smart Phones	249
4896 - Managed Care	Smart Phones	195
1231 - Police Department	Basic Phones	187
1231 - Police Department	MIFIs	164
4890 - Health System Administration	Smart Phones	133
1524 - County Clerk Elections	Basic Phones	109
1239 - Department of Corrections	Smart Phones	83
1326 - Juvenile Probation	MIFIs	76
1009 - Technology Policy and Planning	Smart Phones	61
4897 - John H. Stroger Jr, Hospital of Cook County	Smart Phones	52
1230 - Court Services Division	MIFIs	50
1230 - Court Services Division	Basic Phones	45
1501 - Highways	Smart Phones	38
1280 - Adult Probation Dept.	Smart Phones	36
1007 - Department of Revenue	Smart Phones	35
1210 - Office of the Sheriff	Smart Phones	34
4891 - Provident Hospital	Smart Phones	33

VOIP PHONES

Cook County is in year two (2019) of a five-year project to migrate the County's Legacy telephone System to a Voice over Internet Protocol-enabled Unified Communications platform. The County Health and Hospital System opened a new building in October 2018 which was the first Cook County facility to have only the new telephone system. The graph below shows the total number of VOIP phones as of September 2019 and the total remaining forecasted to be replaced.



Why is VOIP Important for Cook County?

- It streamlines the County's telecommunications operating model.
- It allows us to consolidate our telecommunications and data infrastructure, instead of using separate lines and switches for each.

ASSESSMENT CONCLUSION

In order to efficiently manage IT assets, County agencies and offices must work with BOT to improve the quality and accuracy of IT asset inventories and ensure that proper software and hardware lifecycle, patching, and management standards are maintained. In addition to the phased consolidation of some County help desks, the IT Consolidation Ordinance recommends collaborating on hardware and software standards. In the coming year, work will begin on adopting new standards and ensuring our inventory is refreshed on a standard lifecycle to meet the evolving needs of an increasingly digitized Cook County Government.