INFORMATION TECHNOLOGY

The Department of Information Technology's mission is to deliver technology solutions that serve the Henrico community through modern, secure, and reliable systems and applications. The department strives to deliver all solutions it provides with the core values of customer service, communication, collaboration, being a trusted partner, integrity, accountability, reliability, and fiscal responsibility at the forefront. Services provided include but are not limited to information and office automation equipment selection, application development and/or software selection assistance, ongoing hardware and software maintenance, and data and telecommunications network development and support. Major areas of service include Finance, Community Development/Operations Agencies, Human Resources, and all Public Safety agencies. IT's Service Desk aids agency personnel on any computer related problems.

The Department also administers and maintains the county's security cameras, audio-visual systems, and telecommunications infrastructure including telephone systems, mobile devices, and the voice and data plant. In addition, the Department is responsible for the maintenance and support of the Emergency E-911 system for Public Safety and the management of the county's Geographic Information System (GIS).

OBJECTIVES

- To provide enterprise server-based computer capabilities to county agencies.
- To assist county agencies in increasing efficiency and effectiveness through using advanced technological tools for administrative and field operations.
- To provide application development and/or software selection services.
- To maintain operational efficiency through using state-of-the-art equipment and software.

FISCAL YEAR 2022 SUMMARY

Annual Fiscal Plan

Description	FY20 Actual	FY21 Original	FY22 Approved	Change 21 to 22
Personnel	$ 10,569,353	$ 10,476,940	$ 11,577,312	10.5%
Operation	3,934,185	4,516,777	4,850,981	7.4%
Capital	43,755	445,250	522,205	17.3%
Sub-Total	$ 14,547,293	$ 15,438,967	$ 16,950,498	9.8%
Interdepartmental Billings*	(79,000)	(87,146)	(554,002)	535.7%
Total Budget	$ 14,468,293	$ 15,351,821	$ 16,396,496	6.8%
Personnel Complement**	99	99	107	8

*Interdepartmental Billings reflects the reimburstment of positions assigned to Information Technology.

*8 Positions in FY21 have been reallocated from Recreation and Parks (3) and DPU (5) to Information Technology.

Information Technology

Performance Measures

Workload Measures	FY20	FY21	FY22	Change 21 to 22
Support Desk - Tickets	10,823	13,729	15,000	1,271
Support Desk - Call Queue	5,286	6,227	7,500	1,273
Systems - Servers Added	65	66	70	4
Systems - Servers Decommissioned	38	40	60	20
Systems - On Prem Storage (TB)	550	1,182	1500	318
Systems - Cloud Storage (TB)	16.1	16.9	20	3.1
Systems - Accounts Created	1,256	880	900	20
Systems - Accounts Deleted	1,625	975	1,100	125
DBA - Active Databases	440	490	530	40
Oracle - Change Requests/Projects Completed	482	533	550	17
Oracle - Database Supports	51	57	63	6
APEX - Support Tickets	1,031	1,231	1,352	121
Enterprise Applications - Support Tickets	801	751	872	121
Finance Applications - Oracle Support Tickets	1,850	1,075	1,100	25
Finance Applications - RCS Support	220	46	50	4
Finance Applications - RBS Support	865	387	425	38

OBJECTIVES (CONTINUED)

- To administer the Department's information technology resources in a manner that best serves the county's operational and customer service needs.

- To maintain the highest level of proficiency of staff in all areas of technical support.

- To host and support various enterprise applications, including email and Internet connections, to all county agencies.

- To monitor, maintain, and upgrade the county's local and wide area network (LAN/WAN) as efficiently and effectively as possible.

- To manage GIS technology to enhance coordination of Community Development services among Ccounty departments.

- To provide the county with an efficient and dependable telecommunications network.

- To administer, maintain, and enhance the County's security camera and audio-visual systems.

Information Technology

The Department of Information Technology's (IT) FY2021-22 budget totals $16,396,796 which represents an overall increase of $1,044,975 or 6.8 percent from the previous approved budget.

The current personnel budget is $11,577,612, leading to an increase of $1,100,672, or 10.5 percent. This increase is due to employee compensation increases along with the integration of 8 positions from Department of Public Utilities (DPU) (5) and Recreation and Parks (3) and the rising costs of healthcare. Personnel costs have been transferred from these departments to cover the increases in Information Technology's budget. It should be noted for the positions from DPU are reimbursed by the Water Sewer Fund. The reimbursement is reflected in an interdepartmental billing account, which totals $554,002 for FY2021-22.

The operating component totals $4,850,981 for the FY2021-22 budget and reflects a increase of $334,204, or 7.4 percent, from the previous fiscal year. $50,000 was added to the IT operating budget this year for the purchase and implementation of electronic signature software that will allow county departments to obtain and process signatures more efficiently. The capital component totals $522,205, an increase of $76,955, or 17.3 percent. The increase in this area allows for the purchasing of new and replacement computers and network equipment as telework has become a major part of the county's modes to combat the Pandemic and continue public access.

DEPARTMENTAL HIGHLIGHTS

Information Technology is made up of several teams that handle Henrico County's technological internal and external priorities. These various teams are tasked with everyday internal fixes to substantial external projects to help employees, departments, and Henrico citizens, streamline operations for optimal services. Outlined below are the teams and a brief description of how they are an integral part of county infrastructure.

IT SYSTEM ENGINEERING TEAM

In FY2020-21, the **IT System Engineering Team** had to balance normal operational priorities along with COVID response measures. Early in the year, the team focused on enabling the county's workforce for telework. This required the team to quickly identify systems and services that would be needed by each department and create custom web portals for each business unit. As a result of the System Engineering Team, IT was able to quickly scale and double the county's overall VPN access from approximately 900 users to nearly 2,000 at the highest usage peak since authorizing telework for staff.

In FY2020-21, this team continued to provide operational support for IT's server infrastructure consisting of 59 physical servers and approximately 460 virtual servers running on 26 physical host servers. This allows IT to have longer retention of data and enables a seamless move it to the Cloud if needed. This increase in data retention was immediately reflected in the overall storage consumption metrics. County enterprise onsite storage grew by 115% (632TB) for a total of 1,182TB of data on-premises.

IT DATABASE TEAM

In FY2020-21, the IT Database Team continues to support over 490 production and development databases on more than 50 servers on both the Microsoft and Oracle database platforms. In addition to their normal operational

responsibilities, the Database team quickly responded to several requests to set up databases for IT Development teams creating new COVID-related applications and services needed across the County.

The DBA team also successfully migrated the Wastewater Reclamation Facility's PACS system from its unsupported Windows 2000/Oracle platform to the latest edition of SQL Server. The Database team has been active in supporting the efforts by IT's Public Safety teams to upgrade the Sheriff's Office Jail Management System (Offender Track), and the GIS team's database re-architecture to new high-availability SQL Server solutions. The Database team also continues to focus on data migrations from the legacy Tidemark application to the new ELMS/POSSE system implementation.

IT ORACLE EBUSINESS TEAM

Apart from supporting Oracle HRMS and Financials production operations, due to the COVID-19 pandemic, the **IT Oracle eBusiness suite** rapidly developed several new applications to facilitate business continuity, including a document workflow system and tool to manage COVID-19 testing requests.

In the past year, PMT2, a section of the business team, worked on several projects including:

- Completing Phase II of School's Semi-Monthly project and converting the school's Biweekly population to the semimonthly payroll schedule.
- Developing a replacement for Oracle Public Sector Budgeting module using APEX for online budget transfers and revisions.
- Support for the 2019 W2 Processes and generate the 1095c ACA forms.
- Quarterly VRS Hybrid enrollment updates into Benefits and Open Enrollment for year 2022.
- HRMS and Payroll Support for year end 2021 legislative updates.

Future endeavors for 2021 will be working on the upgrade of Oracle eBusiness suite to 12.2.9, which brings in a modern and improved user interface and host of new features, including online patching capabilities for applications.

IT FINANCE SUPPORT TEAM

The **IT Finance Support Team** completed two significant implementations in 2020. In collaboration with the Real Estate Division and their vendor, the Vision CAMA application that was originally implemented in 2011 was upgraded. Additionally, the team worked with the Treasury Division and their vendor to implement a new Delinquent Collection module for the existing RBS Tax Billing System. This new module replaced a stand-alone 3rd party application originally installed in 2010 and substantially enhances access of all delinquent taxes to the collections staff. IT Finance Support Team resolved over 1,400 KACE tickets in 2020 and completed several notable development tasks in 2020 to streamline processes for the Finance Department. These tasks included the RBS Tax Billing System, RCS Cashier System and Vision CAMA systems.

IT NETWORK TEAM/TELECOMM TEAM

In FY2020-21, the **IT Network/Telecom Team** upgraded the county's internet connections at both the Western Government Center and County Training Center to 1 Gigabit, doubling the county's overall bandwidth capacity to support telework initiatives as a result of COVID-19. Their efforts also included the creation of hundreds of profiles for Cisco IP and Jabber phones allowing the call centers' staff to continue operations during the pandemic. Several new networks and call centers were installed at various county locations to support emergency operations, State agencies

and COVID contact tracing staff during the pandemic. Rollout of DPU's new SCADA WAN is underway with 54 new routers and 30 new switches installed at 54 locations. Wireless surveys and antennae installation at 43 sites were completed and 28 of the networks have been migrated to the new circuits allowing the removal of old unsupported copper lines. Switch replacement for the 911 center is underway with six new switches and migration off old equipment. By the numbers, the Telecom team ran approximately 17.5 miles of Category 6 network cable and installed more than 4.5 miles of in-ground fiber optic cable including a major fiber relocation project at Dabbs House Road Additionally, more than 48 new security cameras were installed across the enterprise.

IT WEB TEAM

The **IT Web Team** supported the extraordinary amount of communication required by the county to the public throughout the pandemic. The website was utilized heavily to communicate COVID-19 information county-wide, including department and service specific operational changes. These important updates were also pushed to the mobile app which extended the reach of messaging to the public. The Web team assisted with the restaurant sign-up portion of the Nourish Henrico program and pushed the data to SharePoint for administration of the program. The team also created resource pages for Municipal Relief, Emergency Rental Assistance, Care Facility Resources and Know Your Rights. Online services became even more important, and the team worked with many departments to make paper and in-person services available online. The website saw the highest web traffic ever on the days preceding and including the 2020 election. The web team also supported virtual events, including the County Manager's State of the County address, the fall Energy Fair, and a DPU hiring event and created the branding for Build Henrico (ELMS).

OFFICE 365 TEAM

The **IT Office 365 Team** successfully launched the new intranet SharePoint site in February 2020 to provide a modern and easy to use format for sharing county information within the departments and agencies. The Office 365 Team was instrumental in supporting the telework mandate instituted on March 13, 2020. The team supported all county agencies in updating workflows and providing collaboration solutions with the Office 365 cloud-based services. As a result, there was a massive explosion of growth utilizing the Microsoft Office 365suite of products (especially with Microsoft Teams), much of which happened in a relatively short period of time. The Office 365 Team spun up and supported the COVID-19 Regional Collaboration SharePoint site, as well as the Nourish Henrico county program site and the Transition Forward site in addition to the numerous department specific sites.

FILENET TEAM

The **IT FileNet Team** has exported over 650,000 documents to the ELMS system with go-live scheduled for early 2021. With the COVID-19 work from home order, the team has worked with several departments to change workflows regarding Kofax. Accounts Payable (AP) now receives emails directly from the department who submits the invoice. AP can then do a software import into Kofax which eliminates the hard copy from being sent to AP and physically scanned into Kofax. Revenue has changed workflows during the pandemic which help streamline their scanning process. The FileNet Team is also working with DSS to give access to VDSS for all IV-E documents in FileNet, as well as projects with the Commonwealth Attorney's Office and Fiscal division of the Police Department. The FileNet team is also rewriting all the 'AutoCommit' processes to streamline those workflows.

WEBEX TEAM

The **IT Webex Team** had a drastic uptick in usage in all Webex Meetings including Meetings, Events, and Training over the past year. When the work from home order was issued, the county experienced a 3,755% increase in total meetings over the following two weeks. With this explosion of usage, the team spent countless hours training, attending, and helping with Webex Meetings and empowering the users to do it on their own. Most private and public meetings including BOS Meetings, Planning Commission, Community Meetings moved to a virtual platform. The Webex team assisted Circuit Court with implementation of a process where judges conduct pretrial hearings with defendants and their attorneys in jail, the Commonwealth Attorney's Office, and witnesses virtually. The Webex team also assisted with the installation of several new Spark Room Kits and DX80 devices. Each one aiding the department to adhere to the County's and Governor's COVID restrictions. It is very notable how users and the team incorporated Webex to continue the work of the county. An example is the Finance department's use of a combination of DX80s, webcams, and laptops to communicate with citizens physically coming to the Administration Building. The citizens continued to receive excellent customer service by being able to conduct business with Revenue, Real Estate, and Treasury using this process.

IT SERVICE DESKS

In FY2020-21, **IT Service Desk** underwent significant expanding to now include DPU and Recreation and Parks technology support units as of July 2020. Integrating these three units has been a slow process as they synthesize business processes, workflows, cross-train and evaluate skills gaps.

The IT Service Desk provides tiered technical support for county-owned hardware and software. The support is provided via telephone, remote access sessions and deskside visits from technicians. During this time frame, the IT Service Desk had significant increases in both their request tickets and phone support to assist the county workforce transition to telework and the integrations with DPU and Recreation & Parks support staff. The number of KACE request tickets increased to 13,729 while phone support calls rose to 6,227. Another significant change to the IT Service Desk is how the role of IT Purchasing was assumed as well as the annual Tech Refresh process for the county. This new role was due to the projected cost efficiencies by centralizing those services to help offset revenue losses due to COVID-19. The IT Service Desk also continues to provide primary technology support to the CRWP division and its four locations in Henrico, Richmond, and Chesterfield.

IT SECURITY TEAM

The **IT Security Team** continues to work to enhance the county's security posture, both physically and virtually. The team actively participates in MS-ISAC, the Multi-State Information Sharing and Analysis Center, and brings industry best practices into production including always on security through any connection. The team continues to monitor and ensure email authentication, policy, and reporting with a goal to increase the trustworthiness of incoming email and protect the county's reputation in outgoing email. The team has also entered into an agreement with an outside auditor that offers Cyber Security as a Service. This program augments the work of the security team to provide external assessments, configuration reviews and social engineering audits.

IT ORACLE APPLICATION EXPRESS (APEX) TEAM

The **IT Oracle Application Express (APEX) Team** continued developing software solutions for Henrico County Agencies. The APEX team accepted the challenge of creating a fast-track application for the Emergency Operations Center to track FEMA-reimbursable activities, facilitate trend analysis, and expedite FEMA reporting. The application

went live in seven days and is available to all county employees. The team obtained assistance from a University of Richmond math professor to analyze and develop the Jury system's randomizer enhancement, ensuring the application will not select two persons from the same household for jury duty during the same cycle. The summer intern, a Deep Run High School Center for Information Technology Specialty Center student, re-engineered the Department of Social Services Electronic Case Management Program system under a senior developer's direction on the team. Planned 2021 projects include phase three of the Real Estate Commercial Assessment system, development of an Information Technology Service Catalog module for the Information Technology Server and Equipment Tracking system, and continuing support and enhancement of the team's forty-seven production applications used by every county agency.

IT ENTERPRISE APPLICATION TEAM

The **IT Enterprise Applications Team**, along with the IT Project Management Office (PMO) and Computronix (U.S.A.), Inc., continued to meet implementation schedule deadlines on the Enterprise Land Management System (ELMS) project. The team is currently working on phases two and three of the project, encompassing code enforcement, annual inspections, and permitting and inspections. Both phases launch in early 2021 and include the Build Henrico portal. The team completed a significant upgrade of the Riskmaster system, including migration to new servers and databases. They also continued administrative support of multiple commercial-off-the-shelf (COTS) systems, including the legacy land management system, Tidemark, and incorporated administrative support of the Public Utilities Cityworks system. Planned 2021 projects include completing phases two and three and the kick-off of phase four of the ELMS project and supporting an expanding list of COTS systems.

IT PROJECT MANAGEMENT OFFICE (PMO)

The **IT Project Management Office (PMO)** expanded its reach this past year while using each member's skill sets to assist a multitude of divisions and departments across the County. The PMO helped acquire and implement two third party on-line scheduling software's as direct solutions to situational needs that stemmed from the COVID-19 pandemic. Along with these launches the PMO has worked with the web team to create the "Build Henrico" brand. This brand will be the customer facing side of the ELMS project that encourages citizens and the development community to interact with services usually done in person, completely online. The PMO also spearheads all communication efforts with every department in Henrico by providing a platform for and facilitating a Technology Advisory Meeting held monthly. This meeting allows IT the opportunity to engage and educate all Department Technology Specialists and Liaisons across the county on best practices, industry updates and department changes that effect users county-wide. In addition, the PMO has also started collaborative efforts with the APEX Team to implement an Information Technology Service Catalog that will provide a living, organized collection of any and all IT related services that can be utilized internally and enterprise wide.

IT PUBLIC SAFETY TEAM

The **IT Public Safety Team** enhanced the eTicket application which creates Virginia Uniform Summons (VUS) to additionally collect Community Policing information before the July 1, 2020 mandate. A new Traffic Warning application was written to document Community Policing information which allows the officer to document possible traffic infractions when no further action is required. The collection of Community Policing information led to the creation of several reports that facilitate the review for mandate compliance. The team expanded the evidence tracking application by providing barcode scanning and audible feedback within the inventory audit portion of the application. A Security and PREA assessment application were significantly enhanced for the Classification section

in the Sheriff's Office to facilitate incident reporting during the accreditation process. A vendor was selected for a new Jail Management System (JMS) to replace the current Offendertrak Offender Management System (OMS). Analysis and data conversion preparation is being performed with the goal of beta testing starting in the summer of 2021. The team assisted the Juvenile Detention Home with adding COVID-19 related assessment questions to the Mental Health Screen Transfer Form.

IT COMPUTER AIDED DISPATCH / COMMUNICATIONS SUPPORT TEAM

The **IT Computer Aided Dispatch / Communications Support Team**, which designed and developed the CAD24x7 system used in the county's Emergency 9-1-1 communications center, provides constant support for this year-round non-stop operation. During the past year numerous enhancements have been implemented, including an updated CAD application for Henrico Police. This is a significant update which allows officers to scan licenses and registrations with the built-in scanners on the mobile devices. The CAD system has undergone a complete application server update. This includes three new servers and a move to a new load balancer. IT has enhanced the online mapping and vehicle locator applications, adding additional layers and closest hydrant features for Henrico Fire. Due to COVID-19 exposure concerns, a new Emergency Center Remote (ECR) 9-1-1 center with 8 new positions was set up. The Communications Center has undergone complete renovation. This includes shifting of positions, removal and installation of all CAD PCs, radio, and phone systems. A new False Alarm Billing application has been developed which allows citizens to use web-based forms remotely rather than the paper forms that have been used in the past.

IT GIS OFFICE

In FY2020-21, the **IT GIS Office** made several significant achievements this year. The GIS Office made contributions to the county's COVID communications efforts by providing a platform for the "COVID-19 Central Virginia Public Information" portal. The GIS Office has also been providing key demographic data across the county for many of the other COVID response agencies such as EHMS, Emergency Operations, and Public Safety.

The GIS Office continued to move their operations forward through the development, and release, of a new "Subdivision Plat Search" application for the development community and citizens-at-large to easily locate and view current and historical subdivision plats. A major GIS project this year involved working with the software vendor to successfully design and deploy a new, state-of-the-art, enterprise GIS server architecture. This new architecture postures Henrico County well for the future, providing enhanced redundancy, security, increased performance and accessibility via web and mobile platforms. The GIS Office continues to work with departments, including Emergency Management, on many new web applications and tools providing situational awareness and data-driven decision making. Finally, extensive work and efforts continue the county's NG911 dataset including cooperative efforts with surrounding jurisdictions, Virginia Geographic Information Network, and AT&T/Entrado.

IT FIRE APPLICATIONS GROUP

In 2020 the IT Fire Applications Group has developed a new Day Log application which replaces a paper process, and changes how the Henrico Fire tracks their daily activities across the division at a station-level. It allows insight into what calls a station answered, what staff did that day, tracking of PPE, drug boxes, knox boxes, and other items. Additional applications that have been implemented are: ECC Refusal Form - a new module of Fire Forms to help staff track and manage details of responses to potential exposures (principally COVID-19), CFO Form - a new module of Fire Forms to help Henrico Fire staff document altered responses to calls for service, and Lost Damage - a new electronic system for handling claims of lost or damaged equipment.