

# INFORMATION TECHNOLOGY

## DESCRIPTION

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 Help 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.
- 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.

## FISCAL YEAR 2021 SUMMARY

### Annual Fiscal Plan

Description	FY19 Actual	FY20 Original	FY21 Approved	Change 20 to 21
Personnel	\$ 10,172,557	\$ 10,769,203	\$ 10,476,940	(2.7%)
Operation	3,804,878	4,669,365	4,429,631	(5.1%)
Capital	210,630	522,215	445,250	(14.7%)
Total	<u>\$ 14,188,065</u>	<u>\$ 15,960,783</u>	<u>\$ 15,351,821</u>	<u>(3.8%)</u>
Personnel Complement	98	98	99 *	1

\* One position reallocated from Public Relations to IT in FY2019-20.

PERFORMANCE MEASURES

Performance Measures				
	FY19	FY20	FY21	Change 20 to 21
<b>Workload Measures</b>				
Support Desk - Tickets	10,402	10,823	11,106	283
Support Desk - Call Queue	6,127	5,286	5,573	287
Systems - Servers Added	53	65	60	(5)
Systems - Servers Decommissioned	24	38	42	4
Systems - On Premise Storage (TB)	322	550	750	200
Systems - Cloud Storage (TB)	8.2	16.1	32.0	15.9
Systems - Accounts Created	1,245	1,256	1,250	(6)
Systems - Accounts Deleted	1,453	1,625	1,550	(75)
DBA - Active Databases	420	440	460	20
Oracle - Change Requests/Projects Completed	185	482	510	28
Oracle - Database Supports	22	51	54	3
APEX - Support Tickets	957	1,031	1,153	122
Enterprise Applications - Support Tickets	579	801	835	34
Finance Applications - Oracle Support Tickets	2,176	1,850	2,100	250
Finance Applications - RCS Support	266	220	215	(5)
Finance Applications - RBS Support	845	865	800	(65)

OBJECTIVES (CONTINUED)

- 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 County 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.

## BUDGET HIGHLIGHTS

The Department of Information Technology's (IT) FY2020-21 approved budget totals \$15,351,821, which represents an overall decrease of \$608,962 or 3.8 percent from the previous approved budget.

The personnel component decreased by \$292,263 or 2.7 percent. The operating component totals \$4,429,631 for the FY2020-21 budget and reflects a decrease of \$239,734 or 5.1 percent from the previous fiscal year. The capital component totals \$445,250, a decrease of 14.7 percent, while still allowing the purchase of new and replacement computers and network equipment as well as furniture replacement needed for the department. These substantial measures are to address the economic instability due to the pandemic while still pursuing technological progress of all County operations.

## DEPARTMENTAL HIGHLIGHTS

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### IT SYSTEM ENGINEERING TEAM

In FY2019-20, the **IT System Engineering Team** continued to expand and upgrade its server environment. During this time period, IT's server infrastructure consisted of 54 physical servers and approximately 450 virtual servers running on 26 physical host servers. Much of the focus this current year has been on addressing legacy Windows 2008 servers which will officially go out of support by Microsoft in January 2020. The System Engineering team has been coordinating with other divisions and internal IT support teams to address more than 70 of these legacy servers before they go unsupported. County enterprise onsite storage grew by 15% (101.5TB) for a total of 773TB of data on-premise. This increase was due in large part to several new application projects and other divisions moving data to IT's centralized enterprise storage systems. Cloud storage grew significantly by 90% totaling 12.3TB of data in Office 365 (Email, OneDrive and SharePoint). This increase is due to concentrated efforts by IT support teams focusing on, and assisting, departments in adopting Office 365 into their everyday business practices. Additionally, IT generated 1,283 new employee accounts and deleted 1,310 accounts, 74 accounts were transferred to other departments and 32 accounts with name changes during this same timeframe.

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### IT DATABASE TEAM

The **IT Database Team** continued to support over 425 databases on more than 50 servers on both the Microsoft and Oracle database platforms. The DBA team also focused on upgrading or migrating approximately 14 legacy database servers from soon to be unsupported Windows 2008 operating systems to newer, supported versions. The DBA team has also been focusing on data migrations from the legacy Tidemark application to the new POSSE system implementation.

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### IT ORACLE EBUSINESS TEAM

The **IT Oracle eBusiness suite** team continues to support, enhance and update the Oracle eBusiness suite applications infrastructure and legacy Oracle databases. The Henrico APEX infrastructure has completely been overhauled to bring in the latest REST data services capabilities, and security across the enterprise environment has been tightened. This year, the Oracle eBusiness team helped successfully implement and convert the very high priority HCPS monthly to semi-monthly payroll schedule. Several new APEX applications, interfaces into Oracle HRMS and Financials, and new workflow processes were built to support the County's business. In calendar year 2020, PMT2 will be working on the upgrade of Oracle eBusiness suite to 12.2.9, this new and updated release brings in the modern and improved user

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interface and host of new features, including online patching capabilities for applications. Oracle EBS team will also be working on upgrade of database infrastructure to release 19c. Several custom, one-off eBusiness suite applications (IDT, Tax Calculator, CTAP) will be redeveloped using the APEX-ORDS development platform. In addition to this, PMT2 will be performing the following critical tasks in 2020 1) Support for the 2019 W2 Processes. 2) Generate the 1095c ACA forms. 3) Quarterly VRS Hybrid enrollment updates into Benefits. 4) Open Enrollment for year 2021. 5) HRMS and Payroll Support for Year End 2020 legislative updates.

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### IT FINANCE SUPPORT TEAM

The **IT Finance Support Team** has been working with the Treasury Division to implement a new Delinquent Tax Collection application which is scheduled to Go-Live in January 2020. This replaces an application first installed in 2010. The team completed 7 development tasks resulting in automation manual processes or otherwise improved user access to data in 2019. In 2020, the team will be working with the Department of Finance to complete the upgrade of the existing Real Estate CAMA system (Vision); which has not been upgraded since originally implemented in 2011. In addition to providing development and troubleshooting support for many of the applications utilized by the Department of Finance; they provide Helpdesk support countywide to Oracle Financial users. PMT9 is also responsible for the following critical processes: (1) Transferring files related to payroll and benefits to 3rd party vendors each pay period for Government and HCPS, (2) all Tax Billing and eBill Presentment cycles, (3) annual Business License Renewal form generation, (4) annual Real Estate Assessment Notice generation, (5) annual roll forward of the tax billing system for the next tax year, (6) the annual roll forward of the CAMA system to the new tax year, and (7) the annual fiscal year-end / year-begin processes for Oracle Financials.

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### IT NETWORK TEAM/TELECOMM TEAM

In FY2019-20, the **IT Network/Telecom Team** turned up equipment at the new Fairfield library including new switches, routers, security cameras and a video recording system. The network team also installed 4 new Cisco Identity Services Engine servers to support port-security on the entire County Infrastructure enabling the Security Team to start implementing best practices for network security. Cisco Prime and DNA center servers were also installed to streamline the management of County network infrastructure and improve visibility when troubleshooting network outages. Installation of fiber optic cable between Eastern Rec Center, Eastern Health Center, Fairfield Library, and the in-progress Aquatics Center is underway which will allow a reduction in monthly recurring charges for network access from these locations by creating another campus network similar to the Western Government Center and Woodman Road. By the numbers, this team ran more than 23 miles of Category 6 network cable and installed more than 2 ½ miles of in-ground fiber optic cable. Additionally, more than 150 new and replacement security cameras and in excess of 1,000 network drops were installed across the enterprise.

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### IT WEB TEAM

The **IT Web Team's** major focus for the year was twofold: the launch of the county's mobile application and re-platforming the websites we support to updated servers. The native mobile application developed for iOS and Android launched in April 2019 as another tool for users to access various County services, events, news, and locations and includes push notification capabilities. The mobile application continues to be maintained as new devices and technologies are introduced. The server upgrades were necessary to increase security, reliability, and performance of the many county websites including henrico.us, employees.henrico.us and power.henrico.us. The team also launched the General Notice web application as well as the Historic Highland Springs website. Many features were added to the county website including Google translation services and an updated Henrico News section to incorporate feature

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stories, videos, podcasts as well as press releases. The new content web editor, Gutenberg, was also incorporated and the team provided training to the web editors.

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### OFFICE 365 TEAM

The **Office 365 Team** had a major focus on training and adoption throughout the year, as well as the completion of a major intranet redevelopment. A new site was developed to house IT training materials for all employees in the county on Office 365, as well as technologies like Cisco, Oracle, and Movelt. Monthly presentations were given during IT Technical Advisory Meetings with staff around the County. The county's intranet was also rebuilt in SharePoint with an expected launch at the first part of 2020. The site was put into a beta release through the Fall of 2019 to solicit feedback from County staff on the major change. Many other sites and projects were completed as the team reached many new departments due to cross-department initiatives where Sharepoint could provide a technical solution. Microsoft Teams grew substantially through the organization as a new way to communicate. Staff on the team also took on the role of being the SME on Cisco Webex to drive adoption on this platform too, including training materials, presentations, and even an on-site demo day showing off multiple devices and uses of Cisco Webex.

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### FILENET TEAM

The **FileNet team** completed several major updates to their FileNet, Navigator, and Kofax applications, including a system re-platform, database upgrade, and core software upgrades. These upgrades included new features and enhanced security to County staff and systems using FileNet. The team also worked on several new projects for various agencies around the County. A couple projects that stand out include working with the Henrico Sheriff's Office to scan and validate Juror Information Sheets and the transfer of Henrico Department of Social Services (HDSS) data and documents to the Virginia Department of Social Services (VDSS) Document Management Image System (DMIS).

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### IT HELP DESK

The **IT Help Desk** provides tiered technical support for County-owned hardware and software. The support is provided via telephone and deskside visits from technicians. During the latest year, the Help Desk received 10,402 tickets via the Kace ticketing system, while also handling 6,900 phone calls for support. This ticket volume represents more than a 15% increase in the number of tickets received and supported. In addition, the average of 866.8 tickets per month does not include other departmental queues such as General Services or Recreation & Parks. In 2019, the IT Help Desk continued as primary IT support for the four locations of CRWP in Henrico, Richmond, and Chesterfield.

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### 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 to into production. New systems were deployed in 2019 to collect event logs across all servers and workstation, which will provide in-depth intelligence into any security event. New configurations were created to implement DMARC, which stands for "Domain-based Message Authentication, Reporting & Conformance". It is an email authentication, policy, and reporting protocol with a goal being to increase the trustworthiness of incoming email and protect the County's reputation in outgoing email. The team also work with Internal Audit to facilitate the 2019 network vulnerability assessment performed by a 3rd party auditor.

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### IT ORACLE APPLICATION EXPRESS (APEX) TEAM

The **IT Oracle Application Express (APEX) Team** continued the development of software solutions for Henrico County Agencies. Projects completed this year include Equipment Tracking for Recreation and Parks, Mobile Real Estate Assessment for Finance, Illicit Discharge Detection and Elimination Tracking for Public Works, and the first phase of Real Estate Commercial Assessments. The APEX team completed the first phase revamp of the County's Telephone Inventory System administered by Information Technology. The team also collaborated with the Oracle Database Administration team to upgrade web servers, databases, and application software, improving security and providing a more robust development environment. Planned 2020 projects include phases two through five of Real Estate Commercial Assessments and continuing support and enhancement of the team's forty-five production applications used by every County agency.

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### IT ENTERPRISE APPLICATION TEAM

The **IT Enterprise Applications Team**, along with the IT Project Management Office (PMO) and Computronix (U.S.A.), Inc., kicked off the Enterprise Land Management System (ELMS) project for a new work order management/inventory control and land management system (POSSE) on January 15, 2019. The Work Order Management/Inventory Control module went live on November 18, 2019, in Recreation & Parks and the Department of Public Works-Traffic Division with plans to expand to other departments in the future. The Team is currently working on phase two of the Land Management System project, which will convert all data from the legacy Accela Tidemark system to the new POSSE system. The Team upgraded ChristianSteven CRD (enterprise reporting software), Medicat (used by Employee Health), and are in the process of upgrading RiskMaster (used by Risk Management). Other projects included the migration of Building Inspection's InspecTrack mobile application and all Tidemark APEX applications to new servers.

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### IT PROJECT MANAGEMENT OFFICE (PMO)

The **IT Project Management Office (PMO)** implemented a new process for agencies to request IT Projects. This ensures all incoming project requests are handled the same. It allows IT to identify and work on the projects with the highest Return on Investment and highest priorities. The PMO is formally managing the Enterprise Land Management System (ELMS) project, which is a multi-year, multi-agency effort. The project began in January 2019 and is currently estimated to complete in the 1st quarter of 2021. The PMO has also established Organization Change Management for this and other major IT change efforts to address the people side of major changes; the uncertainties, the apprehension, the buy in of the change. We continue to administer the Project Management Information system, which is used not only by IT, but also several other County agencies, including Henrico County Public Schools.

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### IT PUBLIC SAFETY TEAM

The **IT Public Safety Team** enhanced the Incident Crime Report (ICR) application to allow automatic status notification to Police Command Staff during assessment of received threats based on recorded Uniform Crime Report (UCR) codes established by the FBI. The team expanded data warehouse reporting by providing Police an application that identifies individual associations by analyzing related data. With the addition of a court scheduling calendar in the court appearance application, the eTicket application used to create Virginia Uniform Summons (VUS) was updated to include prevention of writing electronic summons on closed court dates while allowing traffic and criminal summons to be generated. Modeled after the Aviation application, a Marine application was written to enable usage and maintenance tracking of the Police Division's maritime assets. Technical assistance was provided to the Juvenile Detention Home as Zebra TC20 Android-based handheld personal computers replaced the archaic Motorola MC55 Windows CE platform. Upon testing, the new TC20s were found to be lighter, faster, less trouble-prone, and more power efficient than their

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predecessors without sacrificing necessary security elements. The team also provided software migration assistance as the 3rd party facility management software written in Microsoft Visual FoxPro was replaced with a .NET based solution to deliver faster, more stable, and more efficient performance. The court tracking application used by the Commonwealth Attorney's Office was expanded to include a victim restitution section to improve restitution designation and tracking within the CA's office. General event search and case personnel management functionality were expanded to improve the efficiency and accuracy of day to day tasks within the CA's office. The Civil Process section in the Sheriff's Office received Panasonic Toughbooks and a rewritten CivPro application that provides real-time paper service status mapping with touchscreen capabilities. Analysis and data preparation is being performed with the Sheriff's Office for the 2020 thru 2021 replacement of the Offendertrak Offender Management System (OMS).

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### IT COMPUTER AIDED DISPATCH TEAM

The **IT Computer Aided Dispatch Team**, which designed and developed the CAD24x7 system used in the County's Emergency 9-1-1 communications center, provides 24x7x365 support for this year-round non-stop operation. During the past year numerous enhancements have been implemented, including: implementation of Priority Dispatch's Fire triage program throughout the 9-1-1 center – the Priority Dispatch system classifies each Fire call into one of over 3000 possible classifications each of which can have a potentially unique response package implemented in the CAD system; implementation of a custom in-house triage program for SEND protocol calls which streamline the process used for medical calls originated by County first responders; new mobile application for the Police Division that enables officers to scan driver's licenses and registration cards; enhanced Public Safety maps for both Henrico Fire and Henrico Police first responders; implemented the capability for CAD calls to be auto tweeted via Henrico Police's Twitter account; created the public-facing web site for Active 911 Police calls; continued work on modernization of various components that make up the County's Computer Aided Dispatch system. Additionally, CAD team personnel support certain administrative systems related to County wide user-id administration; County employee identity management (including badge photo display services); system administration support including a new Phone Admin page for VoIP phone administration and an Administration page for MHMR administration; support for a parking tickets application; and for the false alarm billing system; and, finally, interface services and programmatic support for SMS messaging and paging capabilities.

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### IT GIS OFFICE

The **IT GIS Office** has had several major accomplishments during the past year. They provided customized in-house developed and updated GIS training classes for both ArcMap (the ESRI desktop mapping program for GIS superusers) and AGOL (ArcGis OnLine). They implemented significant portions of the new ArcGis Enterprise system including Portal which will replace AGOL for many of our County users. Portal provides self-service mapping and analysis capabilities that will empower County employees with significantly greater hands-on access to GIS technology than ever before. Also many new web apps were deployed including several EOC oriented web maps which will greatly assist with situational awareness and will help to provide a common operating picture for emergency operations; also a new a new Subdivision map is under development which will provide a much needed update; extensive work on the County's NG911 dataset including cooperative efforts with surrounding jurisdictions re: PSAP boundary delineation in preparation for the Q3-2020 rollout of NG911 for our County. Finally, the GIS Office continued to provide a dedication to data quality, completeness and integrity via such projects as an intersection data improvement, completed street centerline QA/QC, a Recreation & Parks Data model and the adoption of a KACE based project initiation process.

#### IT FIRE APPLICATIONS GROUP

In 2019 the **IT Fire Applications Group** added QA Notifications and ECC Feedback forms to the existing Fire Forms system. These provide a means for flagging activities for further review and an assurance that each item is addressed by appropriate staff. Also, a system for preparing Preplans for commercial properties was created that enforces a consistent format and a single storage repository. In 2020 a tracking system for Advanced Life Support training for fire fighters will be released and a Day Log for capturing fire fighter activity that is not related to CAD incidents is planned for 2nd quarter 2020.

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#### SUPPORT FOR COMMUNICATIONS CENTER

**IT provides in-center support for Henrico's Emergency Communications (E-911) center.** This involves responsibility for three systems: The Intrado E9-1-1 on premise telephone system (aka Viper); the NICE voice recording system; and the server software for the ProQA Medical and Fire Dispatch Protocol systems. This also involves the non-GIS portion of the activities in preparation for the Next Generation 9-1-1 migration which is scheduled to occur in Q3-2020. This includes scheduled updates to both the Viper and NICE system to be coordinated with the NG911 changes and the project management activities related to these upgrade processes. Finally, IT support for the communication involves the activities of a dedicated on-site IT employee, who is an integral part of the day-to-day success of many aspects of the E-911 center and provides primary County support for the E-911 telephone system.