

DEPARTMENT OF INFORMATION TECHNOLOGY

I. DEPARTMENT MISSION TO THE COUNTY

To advance the success of the County's employees, partners, and citizens by providing leadership, innovative and scalable solutions that create a foundation for joint problem solving and collaboration with Information Technology and Telecommunications.

II. MAJOR BUSINESS UNIT FUNCTIONS

A. ADMINISTRATION:

The primary function of this team is to provide leadership, accounting, and administrative services to support the Department of Information Technology (DoIT) in achieving efficiencies and transparency in daily operations. This team also manages the purchasing and accounts payable and receivable process for all hardware, software, and professional services required to serve our customers. Our administrative team provides invaluable support in overseeing Human Resources, administrative reporting, budgeting, accounting, billing systems, safety, and facilities.

CUSTOMER CARE CENTER: The Customer Care Center logs all reported problems and, whenever possible, attempt to resolve. Unresolved issues are logged and communicated to the respective support group for follow-up and resolution. Support can also be given via email or in person. Standard support hours are Monday thru Friday 8am-5pm. The Data Center (Operations) handles calls afterhours, 5pm-11pm (Mon-Fri). Any calls received on weekends and holidays will be handled on a case-by-case basis. Customer Care Center (Helpdesk) phone (925) 313-1250 or email CustomerCare@doit.cccounty.us

BUDGET: \$4,602,114

FTE: 16

B. OPERATIONS

The Operations Team manages the Data Center with two full shifts on site Monday through Friday from 6:30 AM to 11:00 PM. Using automation, Operations has been able to go to a "lights out" model on weekends. In addition, Operations utilizes a scheduling system to automate processes for our customers. The Operations team will also respond, work overtime, and weekends when required for unexpected events like a disaster or to support critical functions like payroll.

The Data center houses a variety of computer equipment, including but not limited to: IBM Z14 mainframe, AS/400s, RS/6000s, Sun and IBM UNIX servers, Window based servers, Virtual Tape System (VTS) that are connected and mirrored, high-speed laser and MICR printers. Operations is also responsible for the hardware and operating software on these systems and performs the Database Administration duties in support of Oracle, SQL, and IDMS data management systems.

Other duties of Operations include managing offsite storage and Disaster recovery processes: Off-site storage is utilized for customers' critical systems and information to support disaster and business recovery.

Regular testing of our UPS and Generator Power supply units ensures that all critical disaster recovery and power interruption backup equipment and procedures are available and operating for a smooth transition during an outage.

BUDGET: \$2,904,891

FTE: 8

C. SYSTEMS & PROGRAMMING

Systems and Programming (S&P) team is responsible for maintaining a wide variety of enterprise and departmental applications, in addition to providing business requirements, system analysis, custom development, integration, and maintenance services for many departments.

Our Systems & Programming staff provide these services through Service Level Agreements (SLA's) and partnerships with several Departments. DoIT partners with customers annually to plan future projects and assist them with preparing the budget needed for their technology spend.

Systems & Programming offers Service Level Agreements (SLA's) for the development and support of customers' applications for Web, Client Server, and Mainframe applications. We also provide programming services to departments who prefer to do their projects based upon time and materials. For these customers, we provide a competitive estimate for them to evaluate and approve.

Systems & Programming staff provide our customers with high-quality information application services. This includes consulting with customers about their present and future technical information applications needs, proposing innovative solutions to meet our customers' business goals and incorporating appropriate state-of-the-art technology solutions in designing systems and application programs. We provide application development, integration, implementation, and maintenance services.

BUDGET: \$9,900,019

FTE: 28

D. NETWORK SERVICES

The Network Services Team provides advanced network technologies to design, implement, and support the County's wide array of systems, applications, storage, and email services. Network Services supports both internal and external customers. The Network Services Team provides advanced network technologies to design, implement, and support the County's wide array of systems, applications, storage, and email services. This is delivered over leading-edge transport technology allowing the County to share data and collaborate, as well as host applications internal and external of the County. DoIT

supports an environment with services located on premise and systems we have migrated to the private, government, and County supported Cloud service. This team provides our customers with business and technical consulting services, which includes project management, contract negotiation services, system integration services, enterprise-wide computing and file server availability, full back-up and storage services, and facility planning services.

Network Services offers both Project and Service Level Agreement (SLA) support to serve customers evolving business needs.

BUDGET: \$7,181,239

FTE: 12

E. INFORMATION SECURITY

This team delivers vigilant oversight of information networks and computer systems to maintain awareness and adaptability in an everchanging environment of security threats from hackers and malware. This team also provides leadership and expertise in building a robust and sustainable defensive posture that adapts to the complex information security threat landscape.

DoIT is responsible for the formation and ongoing maintenance of the Countywide Information Security Program. This program includes the implementation of the Countywide Information Security Awareness and Business Resumption programs. The Security Team is available to assist the Departments in setting up, monitoring, and changing these plans. These programs are comprised of the following:

- Information Security Program (ISP) - This program covers prudent business practices that will establish and implement the “need-to-know” rule base (policy and procedures) that should dictate how County controlled assets, both physical and logical (computer) are maintained with integrity, secured, and monitored.
- Security Awareness Program (SAP) - This grass roots program ensures that all County employees thoroughly understand and acknowledge that protection of County controlled assets is critical to the survival and well-being of the County.
- Business Resumption Program (BRP) - This program is comprised of individual County Department plans to ensure business continues after any significant business interruption. Business Resumption is the overall umbrella that covers Disaster Recovery (an IT function) which allows for the recovery and resumption of mission critical I.T. functions and departmental data. It also includes the emergency preparedness plans that are used by departments, which are unique to their ‘evacuation’ scenarios and return to work processes. Lastly, it includes the individual employee’s personal recovery capability e.g., PC back-up, software restores, and off-site documentation (operational procedures).

BUDGET: \$4,290,648

FTE: 3

F. TELECOMMUNICATIONS

This business unit provides telecommunications services and support for Contra Costa County Agencies, special districts, and other local governments. The Telecommunications team is responsible for County telephone and radio systems. The Telecommunications group provides services for daily add, moves and changes, as well as project planning and coordination with department facility moves. The Telecommunications Team partnered with Alameda County to support the East Bay Regional Communications (EBRCSA) public communications P25 System. This ensures installation, maintenance, and monitoring of the County's P25 radio systems for Contra Costa Sheriff, Fire, the incorporated cities police and fire, special districts, and medical facilities. As County department communications needs evolve both Telecommunications and Radio-Microwave groups evaluate the newest technologies and equipment providing a leading-edge solution to best serve County clients. Other duties include:

- Maintaining the County's communications system
 - Voice over IP and POTS voice communications
 - Smart Cellular Device Communications
 - Data circuit communications
 - TV content broadcast and Broadband communications
 - County wide Microwave
- Provides support for the 5000 square foot data center, supporting County wide technology to implement and maintain Countywide applications, storage on premise, cloud, and security.
- Supports technology needs for existing and new County facilities.

BUDGET: \$17,422,898

FTE: 25.0

G. ENTERPRISE INFRASTRUCTURE (formerly WAN)

The Enterprise Infrastructure team ensures reliable, secure, and fast support and maintenance of the County's Wide-Area Network (WAN) infrastructure. The Enterprise Infrastructure team provides the connectivity between all County facilities for internet, voice over internet protocol (VOIP), County hosted applications, outside agencies including the Department of Justice, Emergency Services for the Sheriff, Police Departments and Contra Costa County Fire Protection District. The Enterprise Infrastructure staff designs, configures, deploys, maintains, and troubleshoots the county network, wireless, active directory, domain names system and email system. The Enterprise Infrastructure staff maintains the County's email, internet access, application system data transport, remote access with two factor authentication, wireless connection, virus detection, SPAM filtering, internet monitoring and security scan.

BUDGET: \$5,885,560

FTE: 4

H. GEOGRAPHIC INFORMATION SYSTEMS (GIS)

Specializes in design and development of dynamic spatial applications customized to meet the analytical, communication, and data management needs of their clients. Responsible for access, automation, development, and distribution of geospatial data. Leverages and integrates spatial technologies and data-driven mapping services for the county, cities, and special districts. Provides 24/7 staffing support for the Sheriff's Office EOC. Manages a multi-platform Enterprise that encourages project collaboration, facilitates data hosting and sharing, and supports public outreach.

BUDGET: \$1,802,453

FTE: 5

I. DEPARTMENT DATA

BUDGET: \$50,498,746

FTE: 101

Filed: 81

Vacant: 20

CLASSIFICATION	ALLOCATED POSITIONS
Chief Information Officer (CIO)	1
Assistant Chief Information Officer (ACIO)	1
Assistant Chief Information Officer (ACIO) / Chief Information Security Officer (CISO)	1
Information Systems Division Director	4
Chief of Administrative Services	1
Executive Secretary	1
Administration	5
Customer Service Center (Help Desk)	4
Geographic Information Systems	5
Network Services	12
Operations	8
Security	2
Systems & Programming	27
Telecommunications / Radio Communications	25
Wide Area Network	4

III. ACCOMPLISHMENTS

Administration:

The Administrative Division is the process of reorganization while still managing the budget, accounting, personnel, training, performance management, employee relations, facilities, and safety for the department.

- Filled over 30 permanent positions with new hires, internal promotions, and county transfers.
- Implemented a new rate methodology for most of the DoIT Teams.
- Implemented department wide communication.
- Established SOP and workflows for purchasing and accounting team.
- In process of implementing new performance management system.
- In process of establishing new Employee Handbook.

Information Security:

- Respond incident response activities.
- Establish and adopt Incident Response Plan
- Created new Incident Response Playbooks
- Review and edit Information Security Awareness Course content.

Telecommunications & Radio:

- Telecommunications enhanced County wide Emergency Alert System to allow departmental use for site specific information distribution.
- Remote work solution enhanced to include a 911 location identification and smart device integration.
- Bring new Carquinez radio tower online replacing 651 Pine St, allowing greater coverage area.
- Move County Library Admin and 27 local Libraries onto CA CENIC backbone and Internet services.

Systems and Programming LIS and LJIS:

Peoplesoft HRMS

- Implemented SmartERP solution into County’s Human Resources Management System to streamline onboarding, recruiting and manager self-services.
- Automated integration of Sherriff’s Office Telestaff product into County wide Payroll Timekeeping system to reduce manual labor work.

GIS

- DoIT GIS conducted a very good analysis of PIT count contractor data from 2022 survey. GIS is to assist Health Services, H3 Division (Health, Housing, and Homelessness Services), with the annual Point-In-Time Count that is to be conducted county-wide during the last two weeks of January 2023. The objective of the PIT count is to gather a “snapshot” of sheltered and unsheltered homelessness occurring throughout Contra Costa County. DOIT GIS role would be to provide geospatial products, training, and volunteer-friendly field apps for data acquisition and to provide data analysis of the PIT 2023 data

post-acquisition. This helps in collections for a more accurate and streamlined 2023 PIT Count platform.

- Initiated collaboration with Sheriff's office to provide map products with potential for expanded role.

Applications and Data foundation

- **Description – Mainframe Land Information Systems Annual Close of Assessment Roll:** The annual close of roll is a yearly process that closes out the prior year's (2021/2022) assessment roll and creates a new fiscal year (2022/2023) tax roll and opens a working Assessment Roll for 2023-24 Tax year. DoIT partnership with Contra Costa County departments (Assessor's Office, Auditor, and TTC) resulted in a successfully generated tax bill printing for 362,000 parcels secured tax bills which translates to over 3 billion dollars tax revenue for County.
 - With timely successful production of accurate printing of all bills after BOS approval of the tax rates, the County is poised to effectively run operations to provide better serve the residents of Contra Costa County with collected revenues.
- (Departments - Assessor/Auditor/Tax Collector/DoIT)
- **Description: Animal Services Support and Application Chameleon Reporting** – This Chameleon application is used by the Animal services department for business operations and intake of animals. We provide application support resulting in
 - Improved analysis of current processes to optimize workflows
 - Improvement analysis, proposal and recommendation to the department for ways to use technology to improve services through GIS/PowerBI/SharePoint and other tools.
 - Successfully resolved over tickets requests in the past year on Chameleon reporting; some of which are to create new reports or resolve existing reporting issues.
 - With DoIT's proposal and recommendations, on GIS/SharePoint/PowerBI, there are great opportunities for ASD.
 - (Department - ASD)
- **Description: Criminal System Migration to Tyler Odyssey** – In March, the Court's Criminal System (a subsystem of Law & Justice Information System) was migrated to a cloud solution, Tyler Odyssey, in partnership with DoIT. With this migration DoIT is closer to moving enterprise systems off the mainframe machines.
 - (Department – Courts)
- **Description: Mainframe Juvenile Migration for DA and Probation Migration**
 - DoIT partners with CAO-LJIS group in the migration of Juvenile DA and Probation Systems and Adult Probation System (PAMS) on the mainframe. This migration would be for the District Attorney's Office and Probation Department. Juvenile and Adult Probation System's data migrates to a new web-based SaaS solution, Tyler Supervision, and the DA Juvenile would migrate to Karpel's PBK(ProsecutorByKarpel). This project is planned to go live in 2023.
- DoIT is generating the data extract from the mainframe systems.
 - (Department: DA and Probation)

- **Description: Mainframe Upgrades OS and Database -** To keep the Mainframe System on the latest supported version and to maintain optimal performance, increased reliability, ability to maintain the regular support from IBM/ vendors and provide additional security options, DoIT performed a successful mainframe z/OS V2.4 Upgrade and IDMS database version 19 upgrade.
- Optimization through computing workloads in the most efficient environment.
- Better up time and reliability, enhance and provide new capability for better management of security and data protection on the system.
- Drive increased pervasive encryption
- (Department: Department of Information Technology(DoIT))
- **Description: Special Projects**
 - **DocuSign** eSignature enablement process is available to all 24 County departments – 325 people. Doit in partnership with DocuSign provided training and 5 (HR, HRD, CAO, County Counsel, Animal Services) digital eSignature is implemented in these departments. We have recently kicked off the Contract management implementation in November 2022 with a planned timeline for April 2022 to go production. With this implementation, County is ready to start managing the basic contracts digitally.
 - (Department: County Departments and Department of Info Technology(DoIT))
- **Description: Mainframe Tax Bills Printing** - In 2022 approximately \$2.9 billion secured tax dollars in tax bills were printed at the DoIT data center. We continue to provide support for the redesign and printing of County tax bills for Secured, Supplemental, Redemption, and Unsecured properties in Advanced Format Printing (AFP).
 - Reduced misinterpretation of the tax information and manual work for TTC's staff.
 - Increased productivity for County staff.
- **Description: Continue to provide support of production systems** for Assessor, Auditor and Tax Collector. This FY we completed Secured Tax Bill processing and printing for 2021-22 Tax year - Sept. 2021. We also completed support for Special District processing for 2021-22 Tax year - Aug 10, 2021.
- **Description - The TTCs Tax Payment portal, E-billing, Supplemental Estimator, Business License locator, Web services for Tax Information,** data integration with third-party VBS (Virtual Billing System) has been operational for more than fifteen years. Each year, the TTC's team and the DoIT LIS Team evaluate processes and methods to increase efficiency and ease of use for the County taxpayers. We continue to add new features for taxpayers. Recently we upgraded the servers and replaced the end-of-life servers with new ones. We maintained and provided access to tax bills online for Taxpayers who would prefer to view them online. There has been a significant rise in traffic to the website this past year.
- Reduced foot traffic to the TTC's Office and improved productivity for County Staff and taxpayers.
- Reduced misinterpretation of the tax information and manual work for TTC's staff.

Technical Services Division

- The Technical Services team has taken part in the upgrade of various systems and equipment, including datacenter switches, Tanium Cloud management services, implementation of multi-factor authentication, and Microsoft Office 365.
- The Technical Services team has developed and deployed various systems and equipment, including the help desk ticketing system (Track-IT), ProofPoint Email Protection, Thousand Eyes Enterprise Agent Testing, CrowdStrike endpoint protection solution throughout the county, and new routers for several police departments and fire stations thus expanding the county's ASE connections for the ACCJIN network,
- The Technical Services team designed and configured redundancy connections for CC County Fire Stations using Cradle Points and Cloud Genix routers.
- As part of the CalSAWS preparation, the team configured access to that program via AnyConnect, Cloud Genix, and Azure Virtual Desktop. It also implemented risk-based conditional access for central Azure tenant and O365 users.
- The Technical Services team has been in charge of many successful system migrations, including oversight of the Criminal System migration to Tyler Odyssey, migration from OnPrem Exchange server to O365 cloud based (91%) complete with 100% anticipated by end of year 2022, and migrating 150+ devices into SolarWinds, setting up multiple maps and a voice alarm for when a node is nonresponsive.
- The team proactively decommissioned outdated equipment, such as end of life Microsoft 2012 and 2012 R2 servers, thus reducing the county's exposure to attacks through unsupported servers, and replacing Opteman circuits with new ASE circuits.
- In order to facilitate improved internet traffic throughout the County, the team rerouted Internet traffic from 30 Douglas to the Bisso location.
- The team continues to serve multiple County Departments and Court operations by physically and logically mapping the County's central data center, establishing a centralized County data backup solution through with Rubrik Enterprise Application Administrators, continuing support for Granicus - BOS, Housing and Fire Meetings, transmitting ACH Calwin, Finance, Payroll files to the Federal Reserve Bank, processing and printing of Annual Property Tax Bills, batch processing jobs for probation and Juvenile DA Migration, continued Court Orders AMORS Destruction, and overseeing the transition of Operations FTP DMV process from Systems & Programming.
- The team performed multiple projects for the library, including Active Directory Hardening and Design and Implementation Database (DIAD).
- The Technical Services team added 2500+ Devices to SNTC Collection, manually adding SNMP community strings to 300+ devices.
- Finally, the team facilitated county wide technical training offerings with several industry leaders in information Technology.

IV. DEPARTMENT CHALLENGES

1. **Personnel** continues to be a challenge for a few positions, we continue to partner with vendor partners to engage in personnel resources when needed.
2. **Adjusting** to adaptive changes in the work environment (remote work options, COVID, etc).
3. **Purchase of Equipment:** Acquiring technology has been a challenge due to constraints with the supply chain and the delay in receiving equipment.

V. PERFORMANCE INDICATORS

Measuring Process and Solutions

Quality Assurance - One thing is to deliver a project on time, but if it is riddled with issues and bugs, this means very little. Measuring number of issues per project and as a whole, can help determine where there may be challenges when launching projects, and with time, this will improve the process and reduce friction.

Service Level Agreements (SLAs) - This is quite a specific way to measure and present both performance (time) and quality. The numbers are agreed and measured monthly or quarterly to identify if the agreed level of service is being delivered. SLAs present transparency and set realistic expectations if used positively.

Measuring Financial Metrics

Cost Recovery - A common approach from IT departments is to provide ‘chargebacks’ to other departments for rendered services. This demonstrates the value IT brings. IT teams can measure and report on the resources allocated to each department, maintaining the awareness. Measuring where resources are allocated can really help IT identify areas of weakness or stress. DoIT will empower each division director budget actuals, budget how it is trending.

Measuring IT Budgets - Accurately measuring the budget and tracking it as a project develops will put teams in a position to stay on target or address anomalies well ahead of over-spending.

Application And Service of Total Cost - This metric helps understand what it costs to deliver each IT offering. For example, how much do you spend on storage, networks, security, and which departments use these offerings the most. This can help uncover the ‘long-tail’ application run cost, while also aligning the expenses with business objectives.

Measuring People

Service Desk - The effectiveness and accuracy of the service desk department will determine how much the end users will rely on the DOIT to solve their related concerns. KPIs in the service desk include the ticket resolving process, new processing system procedure and queuing procedures among other computerized systems.

Team initiative - This is almost a direct result of the level of engagement from the IT team. Highly engaged teams are more likely to come up with new initiatives and/or new ways of solving current challenges. Measuring internal initiatives will not only give you an indication of the level of engagement, but also the readiness to tackle unexpected turns in an agile environment.