

## **DEPARTMENT OF INFORMATION TECHNOLOGY**

### **I. DEPARTMENT MISSION TO THE COUNTY**

To provide leadership to County departments in the management and deployment of Information Technology (IT) and Telecommunications. Services include consulting, analysis, planning, design, project management, implementation, maintenance, as well as, assessing, and monitoring the security risks in the application of technology and communications.

### **II. MAJOR BUSINESS UNIT FUNCTIONS**

#### **A. ADMINISTRATION/CUSTOMER SUPPORT CENTER SERVICES**

The primary function of this team is to provide leadership, accounting, and administrative services to support 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, accounting, billing systems, and the building security system.

**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](mailto:CustomerCare@doit.cccounty.us)

BUDGET: \$851,258

FTE: 12.0

#### **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. We hope to expand this model over the next few years. 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: \$3,577,964

FTE: 9.2

### **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: \$6,221,131

FTE: 24.6

### **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: \$2,934,440

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: \$1,860,708

FTE: 2.5

#### **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: \$14,265,000

FTE: 21.0

#### **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.

The Enterprise Infrastructure Team is funded entirely by customer fees for a monthly, per-unit, connection to the County’s Wide Area Network (WAN) Infrastructure.

BUDGET: \$4,958,083

FTE: 5.5

**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: \$1,422,418

FTE: 4.1

**I. DEPARTMENT DATA**

**BUDGET: \$36,091,000**

**FTE: 92      Filled: 69      Vacant: 23**

<b>CLASSIFICATION</b>	<b>ALLOCATED POSITIONS</b>
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	3
Chief of Administrative Services	1
Executive Secretary	1
Accounting	6
Customer Service Center (Help Desk)	2
Geographic Information Systems	4
Network Services	12
Operations	9
Security	2.5
Systems & Programming	23
Telecommunications / Radio Communications	20
Wide Area Network	5.5

### III. ACCOMPLISHMENTS

#### **Project Management Office (PMO):**

Continue to support the Board of Supervisors' virtual meetings including the redistricting town hall meetings. Continued efforts to establish Countywide Information security resiliency via a cyber security program. Revamped interdepartmental Service Level Agreements to better serve customers throughout the County.

- Service Level Agreement (SLA) completed and presented to Executive Management Team
- The onboarding/offboarding forms have been completed and stored in SmartSheet
- Hired two contractors to help with Customer Care (helpdesk)
- Established training materials for training helpdesk personnel
- Documented the CA7 scheduling process

#### **DOIT Telecommunications & Radio:**

**Telecommunications** - Remote workers w/ a 911 ability.

Telecommuters using Cisco Jabber application on a County provided Laptop, Smartphone, or home-based Cisco Hard Phone, can reach emergency service allowing 911 Dispatchers the ability to see their Call-Back Number and location Address.

**Telecommunications** – Deployment of Nice InContact.

Three departments moving from premises based IVR/ACD solution to DoIT supported cloud solutions.

- Elections
- Clerk Recorders
- Tax Collectors

**Telecommunications & Radio**– 651 Pine Demolition Project.

- Critical equipment has been identified to the project team.
- Critical Departments at 625 Court and 1111 Ward:
  - Auditor-Controller network service converted to stand alone; hosted UC phone service deployed
  - Tax Collector network service converted to stand alone; hosted UC phone service deployed
  - Conservatorship migrated to UC phone service.

**New Radio Tower location identified**

- Land use permit obtained from EBRPD
- Tower design and specification outlined
- Temporary Carrier on Wheels (COW) obtained to meet construction deadlines

**COVID Testing and Immunization**

- Deployed network and phone services at Waterworld in Concord, CA
- Deployed network and phone services 1275 Hall Ave in Richmond, CA
- Deployed network and phone services RMC Lower parking lot

## **Systems and Programming LIS and LJIS**

### **Department: Clerk of the Board**

#### **Description: Appeals COB.NET Appeals Application released for Clerk of the Board**

Appeals application for COB is used for appeals between Contra Costa County property owners and the Assessor department. This application was developed and maintained by DoIT. S&P has continued to provide an exceptional support for the maintenance and any service need. This has resulted in our continued excellent customer support.

- Streamlined COB appeals processing, printing improvements.
- Provided significant performance improvement over the old platform.

### **Department: Assessor Office**

**Description: Assessor CCC Permits .NET released** a new .NET application which is used for Contra Costa County Permits reporting and operations by the Assessor office. The Permit information is linked to the DCD Accella Database. It replaced Assessor Access building permits application. This application is developed and maintained by In-house. DoIT S&P has continued to provide an exceptional support for the maintenance and any service need.

- Reduces time dramatically to receive updated data from DCD. We have seen significant performance improvement over the old platform.
- Permit Data flow from DCD to Assessor has improved significantly. Assessor now receives daily automated data refresh of permits

**Description: migration to .NET /SQL Server from Access Applications.** We provide support for all desktop and Web applications for the Assessor Office including successful migration of 90% of their back-end databases to a SQL Server environment. For example, one application Proposition 58 codified by section 63.1 of the Revenue and Taxation Code for processing claims, is a constitutional amendment approved by the voters of California which exclude from reassessment transfers of real property between parents and children. We converted the front-end applications to a .NET to ensure an improved data security. To date, we have the following:

- Combined existing Access systems into one unifying application in .NET; reduced cost and time. Increased staff productivity.
- Streamlined Prop 58 processing and printing of P58 claims.
- Significant performance improvement over the older platform.
- Security is improved and has reduced application security vulnerabilities.
- Due to the migrations has more scalability for the applications

### **Department - Treasurer-Tax Collector (TTC)**

**Description: (TTC) Office Tax Payment Website/Databases.** The TTCs website has been fully operational for more than fifteen years. Each year, the TTC's team and the 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 integrated the Payment site with the Tax Collectors payment collection system (CUBs), where information regarding some partial payment delinquent taxes can be assessed and payments collected on real-time. 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
- Helped improve productivity
- Reduced downtime for our taxpayers and enhanced operations for both DoIT and TTC office
- Reduced misinterpretation of the tax information and manual work for TTC's staff

**Description: PTS/SPT/BUD/SAM systems.** Backoffice processes are in place to support the Tax payment website. We provide data extracts for the ORACLE database and regularly provide enhancements to this process as needed. We have maintained support for the E-billing, Supplemental Estimator, Business License locator, Web services for Tax Information, data integration with third-party VBS (Virtual Billing System).

**Description: Electronic Deposit Permit application,** sponsored by the TTC & Auditor-Controller. The EDP application fully automates the deposit permit process for all County departments and outside agencies that use the treasurer and their depositor. DoIT conducted an upgrade of this system to automate the process of EDP line-item entry. This should let users import line items from a file. Also, since the recent security vulnerability, DoIT upgraded the EDP system to a new platform.

- New line-item feature caused data entry time to be reduced by over 80%
- For those that enter multiple lines of Deposit permit, staff find it very efficient and easy to use.
- The new EDP system upgrade improved security and system compliance.

**Description: Mainframe Tax Bills Printing** - In 2021 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: Tax bills Lockbox Address Change** - The PTS, SPT, SAM, BUD Tax bills payment mailing address was changed from San Francisco to Los Angeles.

With very short timeline, we made modifications within 2 weeks and met the deadline for the Annual PTS bill print. Modifications included Mailing address change, Post office bar code changes and TTC office phone number.

- Services provided ensured a 99.9% processing of Tax bills without any downtime.
- County TTC is now able to operate without any delayed processing and issuing tax bills to the County taxpayers.



### **Department - Assessor/Auditor/Tax Collector/DoIT**

**Description: Land Information Systems Annual Close of Secured and Unsecured Assessment Roll:** The annual close of roll is a yearly process that closes out the prior year's (2020/2021) assessment roll and creates a new fiscal year (2021/2022) tax roll. DoIT worked with Contra Costa County departments (Assessor's Office, Auditor, and TTC) scheduled roll jobs. Jobs, procedures, and tax bill prints were successfully generated and sent to Contra Costa County taxpayer. Timely notifications were sent to District partners.

- Accomplished a successful production of accurate tax bills printing after BOS approval of the tax rates.
- DOIT generated tax bills for a projected revenue of over 3 billion USD tax in different tax print categories for about 362,000 County parcels (properties).
- County is poised to effectively run operations to provide better service for the residents of Contra Costa County when these revenues are collected.

### **Department - Auditor-Controller Office**

**Description: Mainframe Property Tax System Division** - LIS team provides support for Refunds, Unsecured and supplemental property systems. We continue to access, research, and provide analysis and program logic for AC programs and provide solutions for the various change requests from their department. Although we have seen a drop in requests from the AC office, we continue to provide service to the PTS group on all change requests tasks.

- Change request tasks has contributed to corrections on an aging system
- Continue to improve their productivity

**Description: Web Service** We built and maintained API services to enhance user experience for tax rate area lookup by property address on the AC website. This was achieved by adding web service API for Tax rates lookup by address for the Auditor's internet site through Civic plus.

### **Department – Animal Services**

**Description: Chameleon Reporting and maintenance – After going through a proof of concept for maintaining the CCASD** Chameleon applications for several months. This application is used by the animal services department for business operations and intake of their animals. DoIT programming team has now fully partnered with CCASD in producing reports for this office.

- Improved processes and optimized workflows
- Successfully resolved over 15 ticket requests in the past year on Chameleon reporting: create new reports or resolve existing reporting issues.
- Although Chameleon is running on desktop computers and is not as modern as most systems, we have a significant increase in performance improvement on our ability to maintain this application.

### **Description: CCASD SharePoint Intranet**

DoIT designed and maintain the SharePoint intranet for the CCASD with standard Operating procedure (SOP process). We used Power Automate and SharePoint to create an automated Standard Operating Procedure (SOP) process for Animal Services. Their previous process was very tedious and time consuming. Staff would create SOP word documents and submit them to be approved using sometimes complicated approval processes. Once approved, the SOP would get manually added to one of several excel documents, depending on the division and type of SOP. Then someone would manually export the SOP as a PDF for final staff use. We completely automated this process, removing the need for manually

tracking and publishing SOP documents. The new approval process automatically requests approval from required managers before publishing the PDF in SharePoint. The SharePoint integration also allows in-document searching of all published SOP documents. Training CCASD managers is planned for January 2022.

- Increased processing efficiency
- Saves times for staff

#### **Departments at 651 Pine Street (LAFCO, CAO, Labor, Human Resources and County Counsel)**

**Description: Document Imaging 651 Pine** Digitize every document for Departments in 651 Pine before the move to the new Administration building to reduce paper imprint, minimize physical storage footprint, make records searches easier and provide ability for documents to be indexed and searched by topic

- The 3TB data storage Enterprise Laserfiche Rio Cloud solution can be used fully across the enterprise. County is on target to achieving a paperless office.
- Over 3.8 million images scanned and migrated; Cloud storage usage is only at about 50%, there is room for more growth.
- Documents are readily accessed through roles and permissions security settings, making County data be more secured.
- County IT now provides good customer quality service through ongoing maintenance and support from DoIT and DOIT's vendor partners.
- County has provided departments an opportunity to establish a system of record governance model. County departments can implement retention policies and schedules.

#### **Department: Courts Law & Justice Information Systems**

##### **Description: Criminal System Migration to Tyler Odyssey**

This system is still on schedule to go to production in March of 2022. DoIT S&P has made great progress in providing the Courts with all the data dictionaries and full data export processing. The team has been working diligently with the Courts staff to ensure all Data Dictionary are delivered to Court on time and as expected. The Court has successfully planned and carried out data push into the new solution since October 2020. DoIT maintains this data dictionary and provides updates with ongoing research and development for the Court.

- The Courts planned migration off the mainframe in March is 100% achievable.

#### **Department – County Administrative Office (CAO) – Law Justice Information System (LJIS)**

##### **Description: Conversion from Justice Automated Warrant System (JAWS)**

We successfully migrated the JAWS to another platform. DoIT partnered with CAO-LJIS group and vendor (LexisNexis) in the conversion of JAWS to eWarrant. This system went into production October 2021. DoIT provided support to CAO/LJIS for connectivity to the appropriate testing platform and automated dumps of data for CAO LJIS's use in the analysis. Today the eWarrant is live and JAWS system of over 20 years on the AS400 machine is to be decommissioned as it is now fully migrated to the new eWarrant system.

- ROI - Reduced maintenance, Scalability

**Description: Migration to Public Defender Karpel**

We have completely migrated to PD Karpel. DoIT partnered with CAO-LJIS group in 2021 to fully migrate the public defender mainframe system to another platform.

- ROI – Less applications to maintain; Increases productivity for our staff, they now have more time to plan other system migration
- Scalability – County systems are deployed to a more scalable environment to support County’s vision of migrating systems off the mainframe is becoming a reality

**Description: Juvenile Migration for DA and Probation Migration**

DoIT partners with CAO-LJIS group in the migration of the Juvenile systems on the mainframe. This migration would be for the DA and the probation. Probation Juvenile migrates to a new Tyler supervision system and the DA Juvenile would migrate to PbKarpel. This project is planned to go live this year in 2022.

- DoIT is generating the data extract from the mainframe systems.
- We expect to meet the deadline of 01/05/2022 for the first data extract for migration.

**Department: Department of Information Technology (DoIT)**

**Description: Mainframe ZoS Upgrade.** 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 V2.4Upgrade.

- Optimization through computing workloads in the most efficient environment.
- Provided better up time and reliability, enhance, and provide new capability for better management of access and privileges in RACF
- enhanced security and data protection on the system, with the intention to provide the new security features of OpenSSH 7.6p1
- Drive increased pervasive encryption by giving users the ability to encrypt data without application changes and simplify the task of compliance.

**Description: Mainframe Short on Storage.** The mainframe system has had issues with the systems shutting down at odd times. DoIT S&P along with the SSA team completed an evaluation and worked with our internal teams to implement solutions to resolve the issue successfully. DoIT S&P completed BUD application program revisions to reduce resource memory utilization that eliminated the occurrence of BUD application abends caused by short on storage.

- Reduction in memory utilization and eliminated the application abends.
- Reliability at 99.9%

Others: S&P completed state mandated Homeowner claim form and Homeowner notification letter revisions on time and as requested.

**Description: Tivoli UAC.** Monthly, the team provides support for the DoIT Tivoli UAC system for computer-center cost accounting. This system enables DoIT to bill entire County departments. We have successfully carried out month end closes for the entire year.

### **Technical Services Division**

- Continue to expand coverage through our centralized Mobile Device Management (MDM) for Contra Costa County's mobile fleet with JAMF Pro. This would include Animal Services and Agriculture Departments.
- Upgraded the Board of Supervisors (BOS) offices to the latest security management solution suite for all devices (endpoints) used by BOS members and staff
- Established a centralized server backup and recovery system with our cloud data management partner (Rubrik). This has allowed DoIT to provide departments with no backup solution or deprecated backup services to utilize Rubrik's central platform. Additionally, Rubrik's platform has allowed Doit to create and replicate server backups between on-prim sites as well as transfer data to a cold storage platform in Microsoft's Azure cloud.
- Continued to expand DoIT's ability to provide endpoint security, threat intelligence, and cyberattack response services (via CrowdStrike) to all CCC endpoint devices.
- Continued to expand coverage of Singlewire's emergency communication notification platform (InformaCast) to CCC's desktop and email systems.
  - Testing with CCC departments will continue to be ongoing throughout FY 2022-2023
- Development and deployment of endpoint management & visibility (Tanium) to CCC Library systems.
  - DoIT has provided direct training and access to the centra Tanium endpoint management platform for the library use. Allowing for direct access to the platform, the library staff now can maintain endpoint management, patch management, and vulnerability remediation when necessary.
- Expanded mobile operation coverage of Airport safety officers by providing tablets (iPads) for the airfield operations.
  - DoIT reviewed airfield safety officer's device usage and request for additional ipad deployment. The review and subsequent increase field deployment allowed for improved operational coverage and increased data security abilities. The ability to deploy multi-factor authentication (MFA) security, which require users to provide at least two pieces of evidence, or authentication factors, to prove their identity was essential in providing device and operational security for airfield operations.
- Successfully established a new central FTP server for mainframe jobs usage
  - Upgraded outdated and non-supported 2000 servers to 2019 supported servers.
- Papercut managed print platform established at Human Resources
- All NES staff trained for Comptia Network+ or Security+
- Consolidate Animal Services servers to a single virtual environment
  - Migrated aged hypervisor servers to new 2019 MS HyperV host
- Successfully hosted Board of Supervisor Redistricting Initiative Meetings (once per decade)
  - Reviewed remote sites, provided technical guidance, and hosted public meetings for BOS Redistricting efforts

- Deployed mobile workstations for the Finance department team as part of the Workday migration project.
  - Established AWS hosted SFTP server for internal and vendor staff to save files to a central repository
- Coordinated with Public Defenders (PD) and LJS teams to successfully deploy new case management system
  - Scanners at all PD remote sites and configured to deposit digital images to central server
- Successfully rebuilt Tax Collector EDP servers after severe ransomware compromise
  - DoIT teams coordinated an emergency rebuild for EDP servers and were able to fully rebuild and upgrade the EDP platform from 2012 servers to a 2019 platform.
- CEINIC Upgrade for Library
  - Preparation for full switch and routing upgrades for 2022

### **Operations**

- Developed and deployed an electronic form filler program in PeopleSoft.
  - County employees no longer need to physically fill out their Tax Withholding (W-4/DE-4) DoIT has now made this process fillable through a web portable.
  - DoIT is working to develop the means of allowing for W-2's to be accessed electronically through a web portal.
- Tax Collector's E-Billing Application
  - DoIT rebuilt the Tax online electronic billing application process to reduce security vulnerabilities. This process has also allowed for the modernization of the online billing application to match with the current design of Tax Collector's tax lookup/payment website.
- Systems Reliability
  - Mainframe system ran without any interruption/disruption of service to our county departments or outside vendors during the pandemic. DoIT was able to maintain daily batch processing and printing for the Assessor's Office, Auditor, General Accounting, Tax Collectors, Calvin and outside vendors despite operational restrictions brought on by COVID. Additionally, Doit was able to complete 342,570 annual Tax Bill printing requests in September with revised board approval.

### **Enterprise Infrastructure**

- Palo Alto/Prisma Software Defined-WAN (SD-WAN) (CloudGenix) Rollout
  - Completed Public works COVID-19 Compliance check project (21 ION 1000s)
- Device Replacements
  - Replaced Aerohive Access Points w/ Cisco Access Points
    - Replaced eight EHSD sites with 100 Cisco 91xx Access Points
  - Updated Public Defender Main Office (800 Ferry) with all Cisco Aps
  - Replaced 50 Douglas Aerohive Access Points (4xx series)
  - Closed out a multiple-year project for Animal Services Department (ASD) AP replacement
  - Purged legacy WAN hardware routers and switches

- Cost Reduction
  - Streamlined Aerohive APs renewal from 250 to 100, reducing the cost of renewal fees by almost half (from 24,622 to \$12,868)
- Network Security efforts
  - Created MFA conditional access policies in Azure
  - Designed and deployed three Conditional Access policies
  - Implemented Multi-Factor Authentication (MFA) for Employment and Human Services Department
  - Migrated majority of departments from SentinelOne to CrowdStrike Endpoint Protection
  - Replaced Azure Active Directory (AD) connect servers
  - Implemented Azure AD Privileged Identity Management (PIM) for securing privileged access to Azure AD environment
- Bandwidth Increase
  - Planned and executed 1025 Escobar Emergency Bandwidth work to redirect internet egress to 2380 Bisso Dr
  - Migrated multiple County locations to higher speed/throughput connection
- Continued Operations
  - Completed Inventory/Surplus of WAN hardware
  - Migrated Telecom SAT Form to Microsoft Forms
  - RSA token reset/assignments
  - Resolved over **3000** work requests/tickets

#### IV. DEPARTMENT CHALLENGES

1. **Resources** continue to be a challenge for DOIT, we continue to partner with vendor partners to engage in just in time resources.
2. **Adjusting** to adaptive changes in the work environment (remote work options, COVID, etc).
3. As discussed in the United States President's May 2021 Executive Order on Improving the Nation's **Cybersecurity**, "the United States faces persistent and increasingly sophisticated malicious cyber campaigns that threaten the public sector, the private sector, and ultimately the American people's security and privacy." Contra Costa County must improve its efforts to identify, protect and respond to these actions.
4. **Purchase of Equipment:** Acquiring technology has been a challenge due to constraints with the supply chain.
5. **Succession planning** – Address salary and career paths for DOIT staff. Pay salaries do not align, salary survey needed. Develop career path for technical and managerial paths.

## 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

**Employee engagement and satisfaction** - Although new and exciting projects are great, most of the time IT teams spend most of their day helping other employees and customers with easy tasks ("I forgot my password again"). It's important to measure the level of engagement from employees and maintain focus on the overall strategy. You can measure this through surveys. **doit** conducts an annual customer satisfaction survey

**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.