



COIT Budget & Performance Subcommittee

Regular Meeting
March 29, 2019

1 Dr. Carlton B. Goodlett Place, City Hall, Room 305
San Francisco, CA 94102

Agenda

- Call to Order by Chair
- Roll Call
- Approval of Meeting Minutes from March 15, 2019
- FY 2019-20 & FY 2020-21 Budget Hearings
- Discussion: Subcommittee Budget Recommendations
- Public Comment
- Adjournment





Action Item

3. Approval of Minutes



4. FY 2019-20 & FY 2020-21 Budget: General Fund Departments

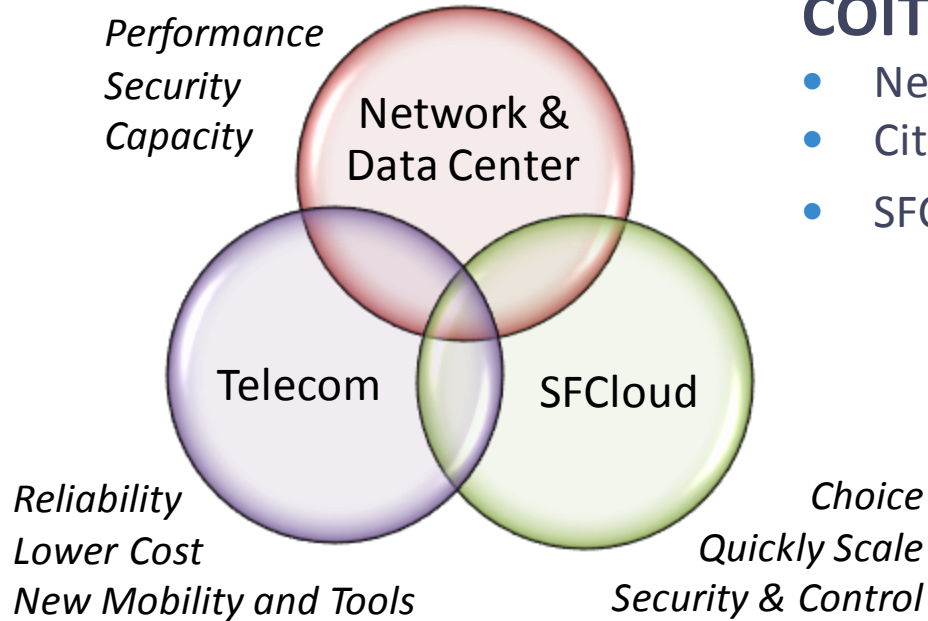


Department
of
Technology

Technology Infrastructure Modernization and Transformation

Building technology infrastructure to expand capacity, speed, safety and performance for data, voice & video.

City Infrastructure Modernization



COIT 2019/2020 BUDGET REQUESTS

- Network & Data Center: \$3,300,000
- City Telecom Modernization: \$3,000,000
- SFCloud: \$2,478,583

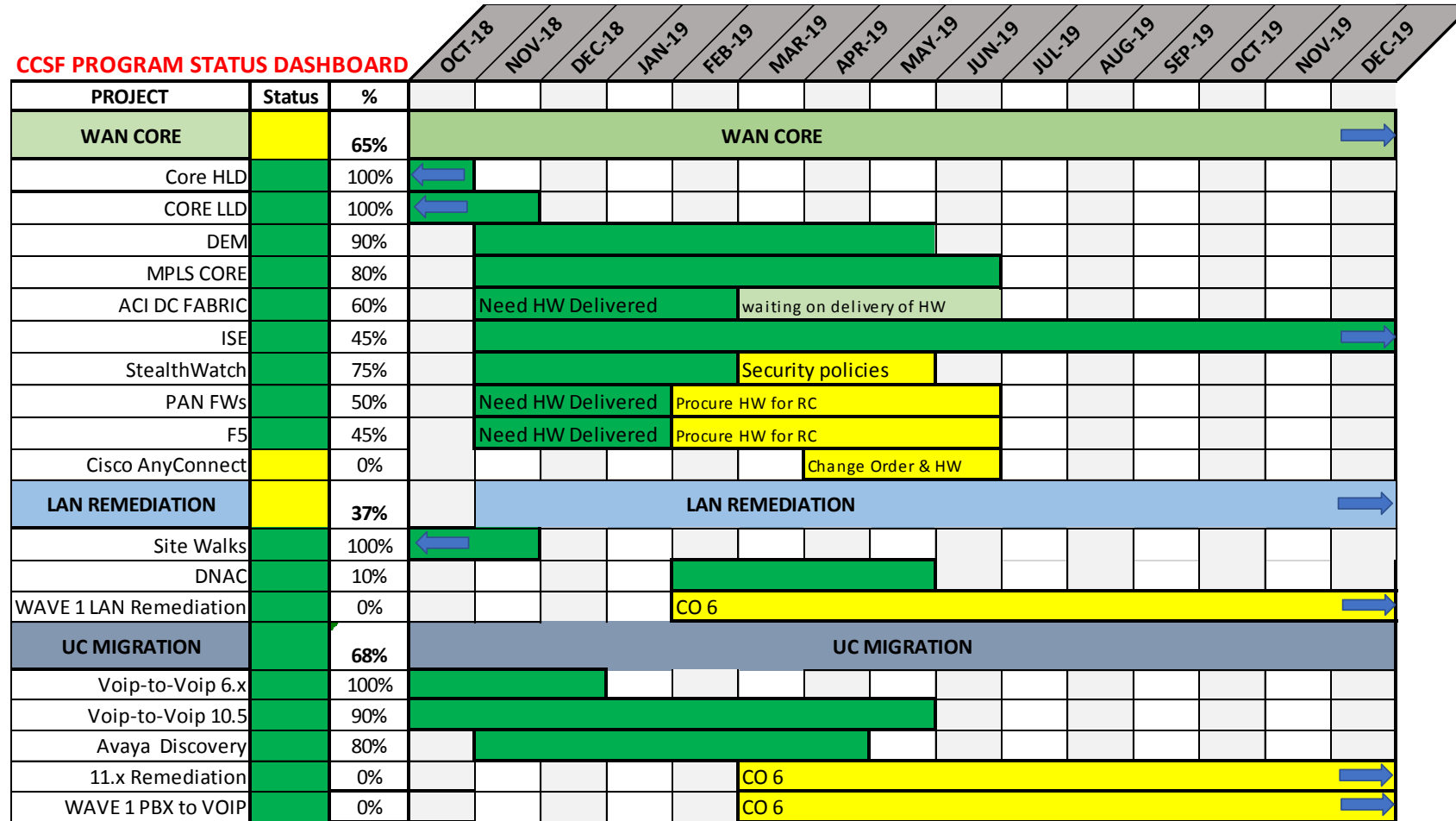
City Infrastructure Modernization

DT Initiatives to Meet the Changing World of IT Infrastructure

- Choice of on-premise or commercial cloud environment
- Expandable capacity & ability to scale
- Ability to define levels for workloads, services and storage
- Disaster recovery data center with high speed connection
- Comparable (or lower) cost than commercial providers
- Managed environment with visibility (users, traffic, cyber threats, and devices)
- Improved security and vulnerability management
- Network Operations Center (NOC) and Helpdesk – 24x7x365 support
- Managed cybersecurity incidence response for cyber threats
- Compliance – HIPAA, CJIS, PCI



CCSF PROGRAM STATUS DASHBOARD





Network and City Data Center Modernization

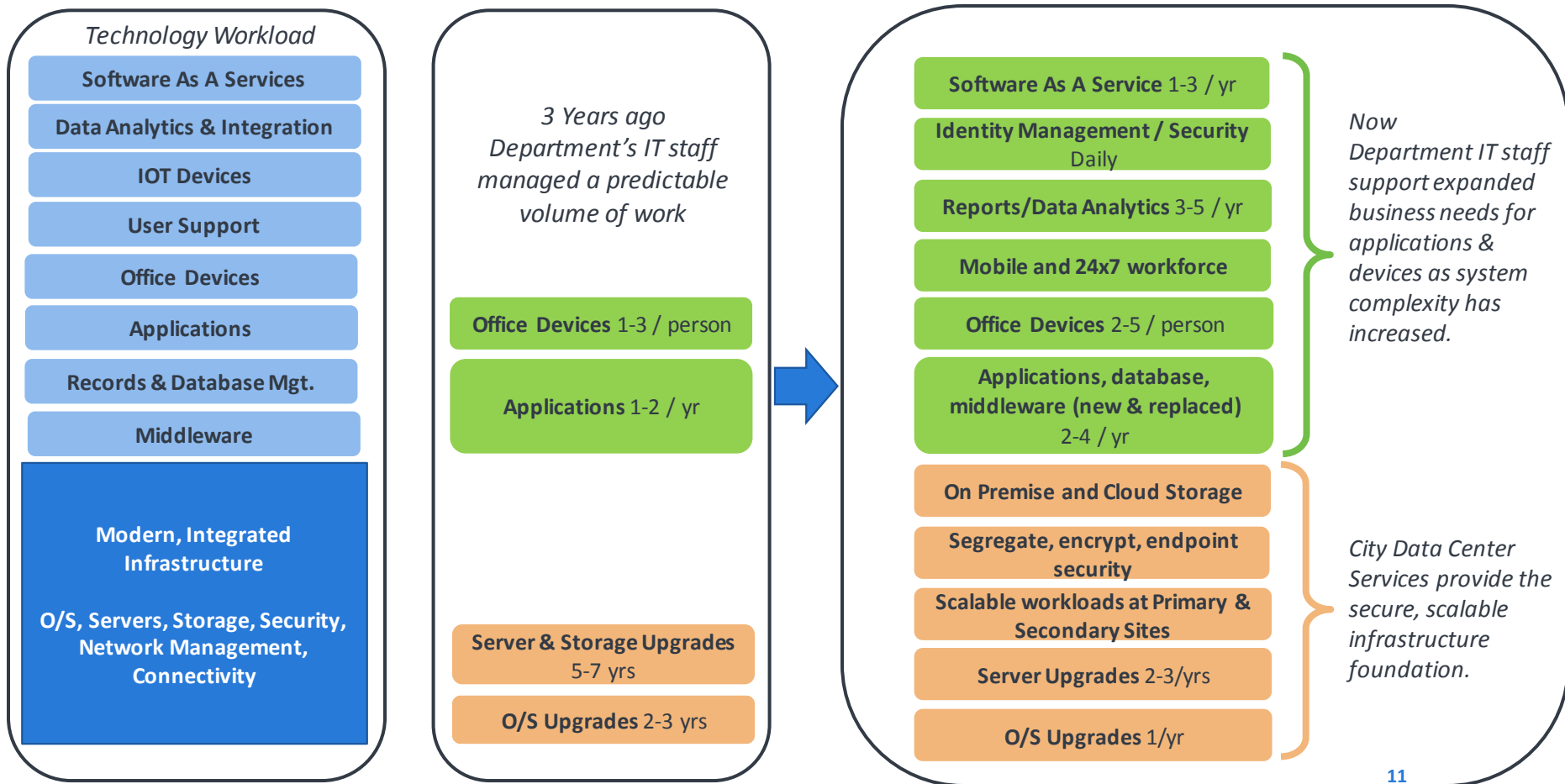
Department Of Technology

What does this mean for Departments?

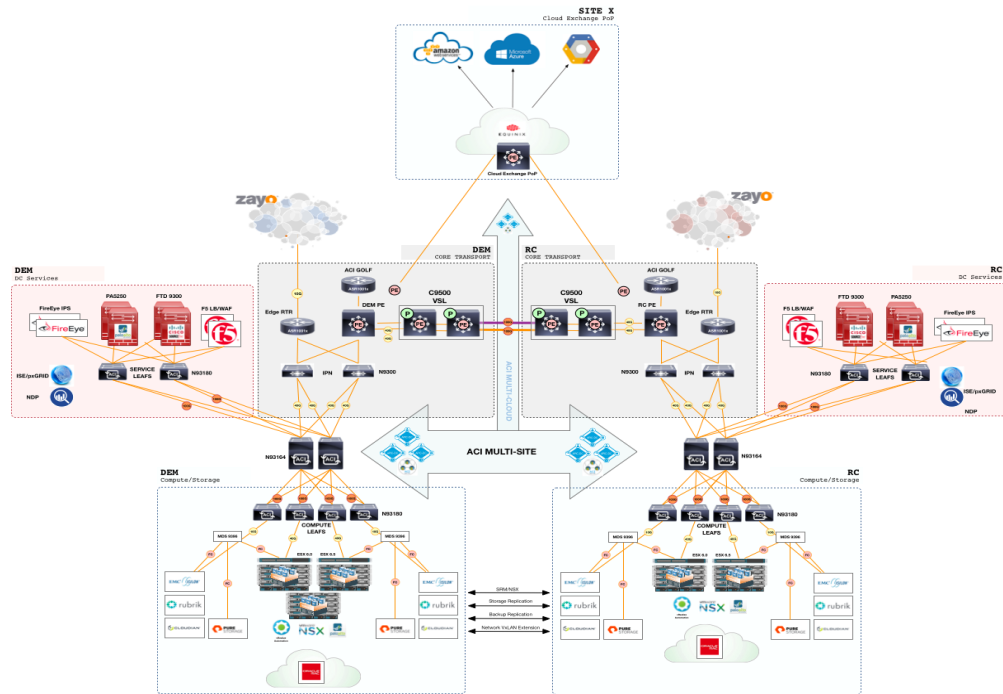
Control of on-premise servers with the benefits of a Data Center

- You control your virtual server infrastructure
- You manage data access down to the individual user
- Your data is segmented to only your Department – DT cannot see your encrypted data
- Your data is backed up in the CA Department of Technology Rancho Cordova Data Center
- You have multiple layers of state-of-the-art security and vulnerability management
- Your calls and voicemails are encrypted
- You have Network Operations Center and Helpdesk support – 24x7x365
- You have cybersecurity disaster preparedness, incident response and threat management
- Your IT staff are freed up from infrastructure management duties

Data Center Allows Departments to Meet Growing Demands



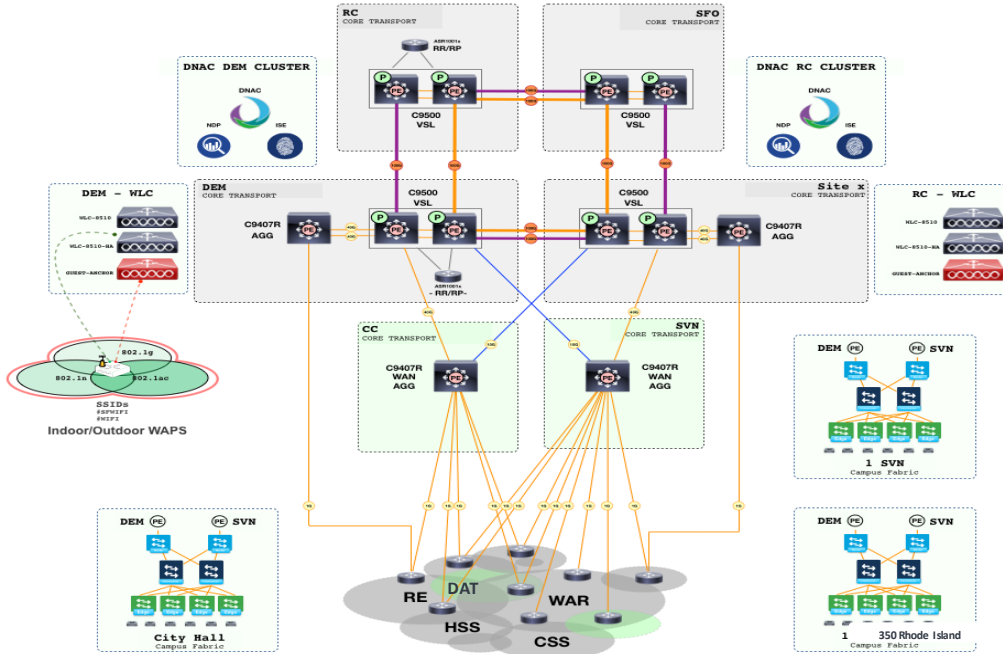
Benefit: Data Center Infrastructure



Department Services:

- Multi-Tenant: Client isolation and autonomy
- All application hosting and servers
- Highly scalable and resilient data center fabric to enable 99.99% uptime
- Patch management and privilege access mgt.
- Future proof technology to leverage best of class capabilities (SDN-Cisco ACI)
- Backup, replication, data warehousing capabilities across all data center locations – unified view
- Security enabled from access to application – zero trust model - TrustSec
- Web application security, DDOS protection, L7 filtering and content management applications
- Redundant power, cooling, physical security

Benefit: Campus & Branch Networks



Department Services:

- User access to the network
- **Policy-based network access control** for users and devices
- Network access for wired and wireless users
- Infrastructure to enable enterprise class VoIP service
- Security enabled from user access to application

Departments are Moving to City Data Centers

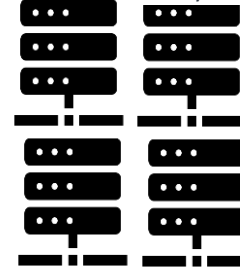
Status:

- Data Center space is prepared at 1011 Turk
- Disaster recovery operational at Rancho Cordova
- COIT funded equipment is being installed
- Security audit and assessment in scoping phase

Departments currently migrating to Hybrid Cloud environment in City Data Centers:

- CON/Emerge
- SFPD CDW (Crime Data Warehouse)
- SFPD all other infrastructure (Non CDW)
- DBI, CPC, JUSTIS
- DPW, SHF

Dept. Systems Servers
(Currently at Dept.
locations)



Virtualization



City Data Centers (1011 Turk & Rancho Cordova) with a hybrid cloud infrastructure for public and private cloud and virtualized environments

Network Modernization

Project Objective

- Upgrade City network infrastructure and provide capacity, reliability, redundancy, enhanced security, and operational availability 24x7.
- Benefits of new infrastructure include security, lower operating cost, flexibility, scalability, and resiliency.
- Network upgrades are essential for the VoIP project.

Primary Users & Major Stakeholders

- Citywide



Network Modernization

Problem Definition

Current State	<ol style="list-style-type: none">1. Aging network equipment2. Inadequate quality of service for VoIP3. High maintenance resources4. Security vulnerability
Future State	<ol style="list-style-type: none">1. Software Defined Network (SDN) for advanced end point management and traffic segregation2. Future proofing and improved network performance3. High availability, resiliency, and disaster recovery4. Quality of service for VoIP, video, collaboration5. Reduced maintenance cost, and flexible configurations6. Increased security visibility (users, traffic, cyber threats, and devices)7. Content, malware, intrusion and anomaly detection, intrusion protection8. Improved connectivity to service providers for outside access9. Security enabled from access to application – zero trust model – TrustSec10. Web application security, DDOS protection, L7 filtering and content management applications



Network Modernization

Performance Measures

- Number of departments migrated to City Data Center.
 - › 3-4 per year
- Number of Departments that have implemented SDN.
 - › 4-6 per year
- Percentage of endpoints secured and protected.
 - › Increase of 15% per year.



Network Modernization

PHASE	DATES	DESCRIPTION
Phase 1	FY18-19	Design, install, and operationalize the modern Data Center core network equipment at DEM, RC, and SFO.
Phase 2	FY18-19	Design, install, and operationalize the modern WAN core network equipment at DEM, RC, SFO, 1SVN, CC, TP, and EQX sites
Phase 3	FY18-19	Begin upgrading departments with modern LAN equipment, which will be connected to the newly upgraded WAN core network equipment, to enable PBX to VoIP migrations at those initial sites.
Phase 4	FY19-23	Continue upgrading departments with modern LAN equipment, which will be connected to the newly upgraded WAN core network equipment, to enable PBX to VoIP migrations at additional sites.



Network Modernization - Financials




PROJECT BUDGET	FY 2019-20	FY 2020-21
FTEs (1043's)	In DT Budget	In DT Budget
Professional Services	\$700,000	\$700,000
HW/SW/Maint.	\$2,600,000	\$2,300,000
Total Project Cost	\$3.3M	\$3.0M



Network Modernization - Financials

(Ongoing projects only)

Total Project Cost*	Total COIT Funding To Date (FY18-19)	Total Other GF Funding	Total NGF Funding	Total NGF + GF Funding	Total Spent
\$24M	\$2.2M	\$5.28M	\$0	\$7.48M	\$7M

	Status	Comment
Schedule		Begin Date: July 2016 End Date: June 2023 % Complete: 20%
Scope		Currently defining scope for LAN remediation.
Budget		<ul style="list-style-type: none">* 2018 ~ 2025 cost\$2.2M COIT funds includes \$600k for 3 FTEs (2 1043s, 1 1042)"Total Spent" includes actuals, encumbered funds, and PO's which are presently being processed





Citywide Telecom Modernization

Department Of Technology

City Telecom Modernization

Project Objective

- Convert 35,000+ phone lines from 100+ telephone systems to VoIP (Voice over Internet Protocol)
- Enterprise Contact Center capabilities
- High availability and reliability

Primary Users & Major Stakeholders

- Citywide



City Telecom Modernization

Problem Definition

Current State	<ol style="list-style-type: none"> 1. Failing PBXs 2. PBXs that are no longer manufacturer-supported 3. Single points of failure throughout the City 4. Costly maintenance
Future State	<ol style="list-style-type: none"> 1. VoIP (Voice over Internet Protocol) technology 2. Co-location of data and voice: <ol style="list-style-type: none"> a. Simplified connectivity technology -fewer wires! b. Improved portability 3. Two call manager hardware/software sites, and highly redundant network to ensure availability 4. Central telecom management (not 100's of PBXs)



City Telecom Modernization

Primary Performance Measure

Percentage of legacy telephony equipment that are retired and upgraded every year.

Year	2019	2020	2021	2022	2023	2024	2025
Retired	5%	20%	35%	50%	65%	80%	100%

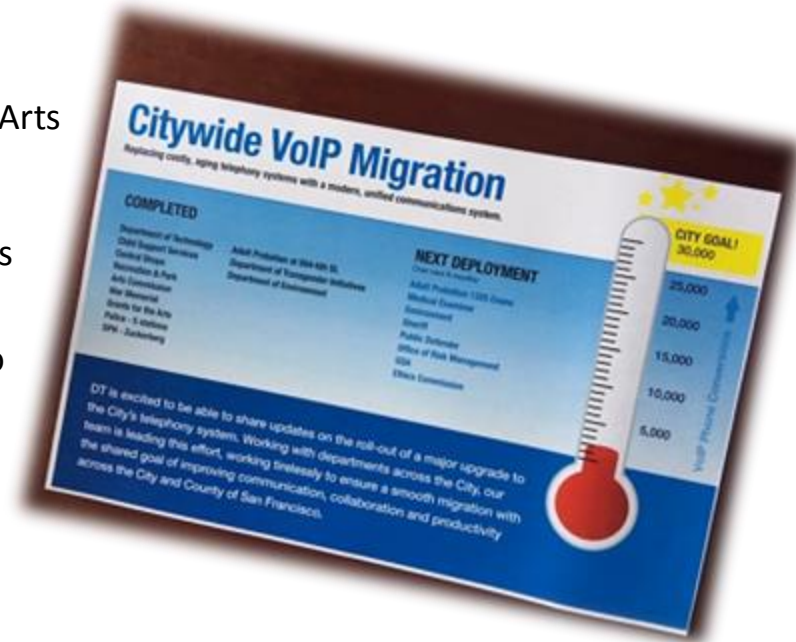
Note at this time the following are not in the DT VoIP plan: SFPD, MTA, DPH, PUC, AIR, HSA, and 311.



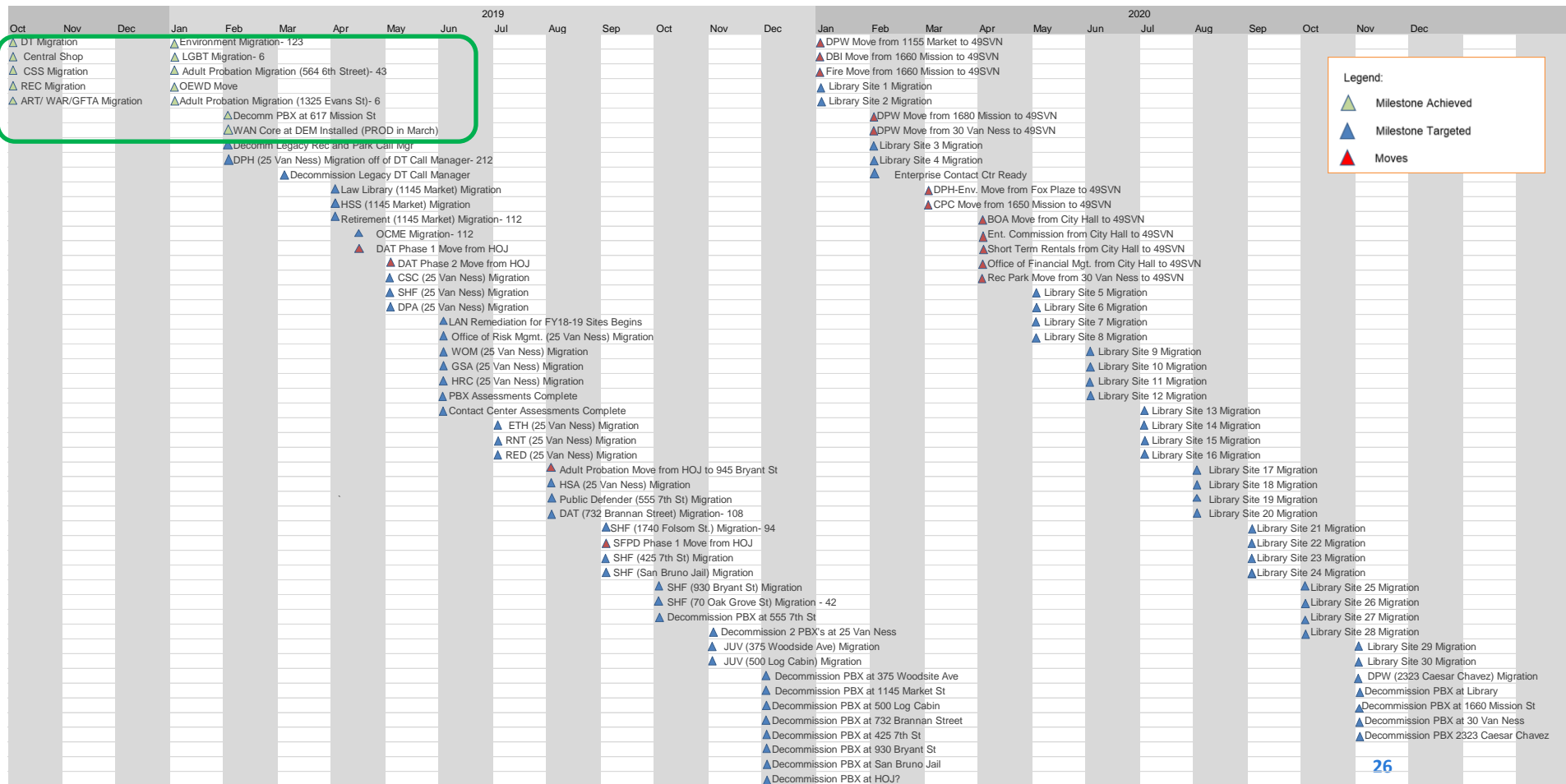
City Telecom Modernization

Recent Accomplishments

- Ten departments moved to City VoIP
 - › Rec Park – 12 sites, 2 Sites
 - › DT – 2 sites
 - › Central Shops
 - › Child Support Services
 - › OEWD
 - › Arts and Grants for the Arts
 - › War Memorial
 - › Environment
 - › Adult Probation – 2 sites
 - › Transgender Initiatives
- Decommissioned 1 PBX: consolidated legacy call managers to Citywide VoIP call manager
- Decommissioning 15 legacy circuits/telephony systems for above departments underway (\$28K / year)
- Department of Health Services, Retirement and Law Library scheduled to migrate to City VoIP in April - May
- Circuit and service audit & PBX and Contact Center Discovery underway
- Planning for 49SVN, ~1900 users retiring AT&T connections and old PBXs



City Telecom Modernization FY19/20 – project milestones



City Telecom Modernization




PROJECT BUDGET	FY 2019-20	FY 2020-21
FTEs (for buildout – 3, 1043's) FTEs (Telcom Team – 6 FTE in DT Budget)	\$750,000	\$750,000
Professional Services	\$500,000	\$500,000
HW/SW for Contact Center	\$1,750,000	\$1,750,000
Revolving Fund – DT Budget	\$1,000,000	\$1,000,000
Total Project Cost	\$3.0M	\$3.0M



City Telecom Modernization - Financials

(Ongoing projects only)

Total Project Cost	Total COIT Funding To Date (18-19)	Total Other GF Funding	Total NGF Funding	Total NGF + GF Funding	Total Spent
\$21.8M	\$2.41M	\$2.55M		\$4.96M	\$4.5M

Status		Comment	
Schedule		Begin Date: July 2016 End Date: June 2024 % Complete: 50%	Note: % complete is for this FY's work only.
Scope			
Budget		<ul style="list-style-type: none">• Total Project Cost includes estimate for contact center replacement and staffing for deployment• "Total Spent" includes actuals, encumbered funds, and PO's which are presently being processed	



SF Cloud

Department of Technology



SF Cloud

Project Objective

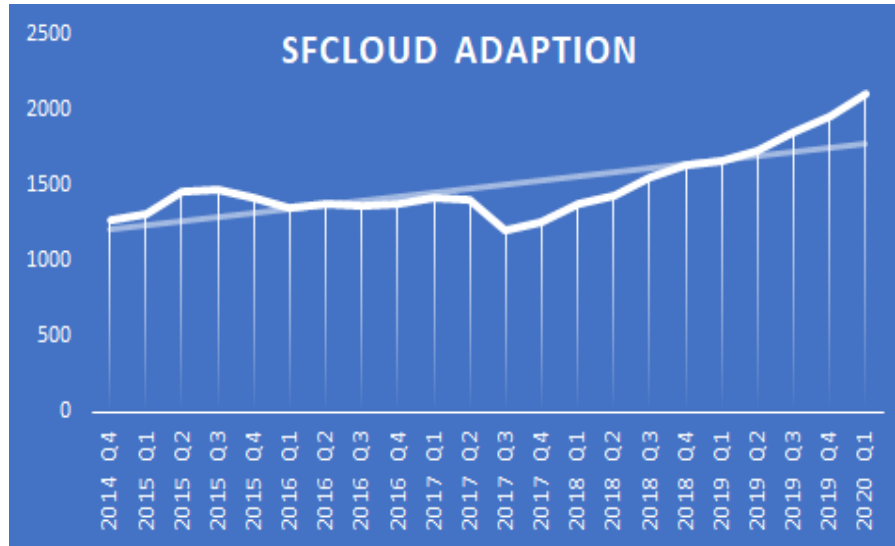
Build capacity to support growth of CCSF public and private Clouds

- Implement SF Cloud in hardened, highly-available, and secure data center
- Implement highly-secure network around the applications while providing client-based isolation, autonomy, and administration
- Migrate apps to cloud environments (private/public)
- Continually test, exercise, certify, and improve resiliency

SFCloud - Problem Definition

<p>Current State</p> 	<ol style="list-style-type: none">1. Limited ability for departments to recover from disaster events.2. Duplication of infrastructure.3. Investments are continually needed to ensure that the City's critical infrastructure and applications are appropriately secured and supported.
<p>Future State</p> 	<ol style="list-style-type: none">1. Enable citywide migration to the centralized SF Cloud to decrease maintenance costs and enhance security, redundancy, and stability.2. Improve ability to recover quickly from natural and human-created disaster3. Provide portals for departments to manage workload administration while preserving client isolation and autonomy.4. Deliver policy-based network access control for users and devices.5. Extend security policies between end users and applications.6. Implement highly scalable and resilient data center fabric to enable 99.999% uptime.7. Create a unified view of backup, replication, and data warehousing capabilities across all data center locations.

SFCloud



Tenant Departments

ART, ASR, BOS, CII, City Planning, CON, CSC, DHR, DPA, DPH, DPW, GSA, HRC, HRD, HSS, IAM, REC, TTX, WAR, WOM, ENV, ETH, FIR, IAM, DT

Future Departments

DT, TTX, DPW, CON, 311, IAM, ASR, REC

SFCloud

Recent Accomplishments

- Upgraded data protection infrastructure to modern technology standards
- Continuing data center buildout
- Increased SF Cloud capacity to meet increasing demand
- Built and tested DR program for IAM mission critical systems
- Completed Business Impact Analysis to determine DR objectives for departments scheduled to migrate to SF Cloud
- Continue to work with remaining departments to develop their DR programs



Chronicle / Dennis E. Hargrave



SFCloud

Primary Performance Measures

- Tenant Satisfaction
- Number of departments migrating to and using SF Cloud
- Reduction in the number of siloed department IT environments

With the perfect combination of moisture and dust, Dutch artist Berndnaut Smilde creates unbelievable indoor clouds.






SFCloud - Financials

PROJECT BUDGET	FY 2019-20	FY 2020-21
FTEs (1053 and 1043)	\$378,000	\$378,000
Software	\$340,000	\$340,000
Hardware	\$860,000	\$860,000
Cloud Consumption (storage, CPU)	\$900,000	\$900,000
Total Project Cost	\$2,478,000	\$2,478,000



SFCloud Expansion - Financials

Total Project Cost	Total COIT Funding To Date	Total Other GF Funding	Total NGF Funding	Total NGF + GF Funding	Total Spent
\$4.4M	\$3.3M	\$	\$	\$	\$2.6M

	Status	Comment
Schedule	 Begin Date July 2016 End Date June 2024 50% Complete	
Scope		Added new departments to migrate to SF Cloud not previously included (DAT, HOM, ADP, SHF, CPC)
Budget		Totals above do not include FY19-20 new COIT ask. "Total Spent" includes actuals, encumbered funds, and PO's which are presently being processed.
Risks		



QUESTIONS?



Clouds at Westfield Centre



SF Budget, Performance Measurement, Projections & Reporting Project

Controller

Systems Division Director – Jack Wood

SF Budget, Performance Measurement, Projections & Reporting Project

Project Objectives

- Implement a modernized budget system that will:
 1. Enhance security and increase dependability.
 2. Streamline budget system process, end to end.
 3. Improve tools and process to track performance measures.
 4. Provide complete reporting tools and finalized reports for internal audiences and the public.



Problem Definition

Current State	<ul style="list-style-type: none">• The current system is at the end of useful life and no longer supported by the product owner. As a result, the system's stability and security is a significant risk.• The current budget reporting tools are inadequate for the increasing information demands of the Public and City.
Future State	<ul style="list-style-type: none">• After the completion of the Project, the City will have a modernized budget and performance management system with improved security and complete reporting tools. The City will be able to retire the legacy budget system and related support costs.

SF Budget, Performance Measurement, Projections & Reporting Project

Primary Users

- Internal Users: City staff responsible for the creation of budget and reporting tools. City staff responsible for tracking annual department performance measures.
- External Users: The Public, 24/7 access through OpenBook SF.

Major Stakeholders

- All City departments are key stakeholders in the implementation of a modernized budget and performance management system, projection and reporting tools.



SF Budget, Performance Measurement, Projections & Reporting Project

Primary Performance Measure

- Implementation of a modernized budget and performance management system with reporting tools no later than December 31, 2021.
- Retirement of existing budget system which requires approximately \$300,000 of ongoing support for an increasingly antiquated technological platform.



SF Budget, Performance Measurement, Projections & Reporting Project

Recent Accomplishments

- Project Scope and Timeline have been finalized (see next slide)
- Project Management team assignments completed



SF Budget, Performance Measurement, Projections & Reporting Project

PHASE	DATES	DESCRIPTION
Phase 1	Mar 2019-July 2019	Request for Information ("RFI")
Phase 2	Jul 2019-Aug 2019	User Survey based on RFI Findings
Phase 3	Aug 2019-Feb 2020	Request for Proposals ("RFP")/Contract Award
Phase 4	Mar 2020-Sep 2021	System Implementation
Phase 5	Oct 2021-Dec 2021	System & Reporting System Go-Live
Phase 6	Dec 2021-Jun 2022	System Available for FY23-24 Budgeting



SF Budget, Performance Measurement, Projections & Reporting Project

Estimated Budget & Funding Request:

Total Budget (High)	Total Budget (Low)	FY 20 COIT Project Request	FY 21 COIT Project Request	COIT Project Request FY20 & FY21
\$7,400,000	\$4,530,000	\$2,800,000	\$4,000,000	\$,6,800,000
		FY 20 COIT Funding request	FY 21 COIT Funding request	COIT Funding request FY 20 & FY 21
		\$1,508,360	\$2,154,800	\$3,663,160

SF Budget, Performance Measurement, Projections & Reporting Project

PROJECT BUDGET	FY 2019-20	FY 2020-21
Number of FTE	7	8
FTE Classifications	1042, 1043, 1053 (2), 1054 (2), 1070	1042, 1043, 1053 (3), 1054 (2), 1070
Salary & Fringe	\$1,400,000	\$1,590,000
Software	\$930,000	\$210,000
Hardware	-	-
Professional Services	\$470,000	\$2,200,000
Materials & Supplies	-	-
Contingency/Other	-	-
Total Project Cost	\$2,800,000	\$4,000,000

SF Budget, Performance Measurement, Projections & Reporting Project

Questions?





Jail Management System Replacement

Sheriff's Department
Sergeant Linda Bui

JMS Replacement

Project Objective

- Replace aging and inadequate case management system
- Improve transparency regarding incarceration data
- Improve efficiency of staff

Problem Definition

Current State	The current JMS has latency issues in our CITRIX environment. It lacks customization to match the business process or to capture new data elements. Changes to the software would require professional services from the vendor. Mining data is difficult and time intensive.
Future State	The JMS replacement will eliminate latency issues, reducing the time staff need to complete tasks in the software. The software can be customized by SHF to capture new data elements without a lengthy and costly interaction with the vendor. This will allow additional data to be published or shared between other stakeholders.



JMS Replacement

Primary Users

- City employees
- Approved Contractors

Major Stakeholders

- DTIS/JUSTIS
- Criminal Justice Agencies



JMS Replacement

Primary Performance Measure

- Reduce the time to complete a booking.
- Reduce the time to compile data for mandatory reporting and ongoing/increasing ad hoc requests.
- In support of transparency, increase the volume of data available through Open Data Portal.

JMS Replacement

Recent Accomplishments

- SHF, CAT and Tribridge are finalizing the contract for the Proof of Concept phases.



JMS Replacement

PHASE	DATES	DESCRIPTION
Phase 1	•1Q20	Installation/Set Up of Software
Phase 2	•2Q20	Training & Configuration of Booking Module
Phase 3	•3Q20-4Q20	User Testing/Feedback
Phase 4	•FY20-21	Expansion to other Modules if Proof of Concept is successful






JMS Replacement

PROJECT BUDGET	FY 2019-20	FY 2020-21
Number of FTE	-	-
FTE Classifications	-	-
Salary & Fringe	-	-
Software	\$100,000	\$250,000
Hardware	-	-
Professional Services	\$100,000	\$200,000
Materials & Supplies	-	-
Contingency/Other	\$50,000	\$50,000
Total Project Cost	\$250,000	\$500,000



JMS Replacement

Total Project Cost	Total COIT Funding To Date	Total Other GF Funding	Total NGF Funding	Total NGF + GF Funding	Total Spent
\$1,750,000	\$250,000	\$450,000	\$	\$	\$

	Status	Comment
Schedule		Proof of Concept: 25% complete - contract in final review with Tribridge and CAT Booking module configuration, training & user feedback: FY2019-20 Expansion to other modules: FY2020-21
Scope		Proof of Concept scope limited to booking module Scope expansion to be based on lessons-learned during Booking Module phase.
Budget		Proof of Concept with booking module: on budget (\$250,000) Expansion to other modules: \$1,500,000 Other GF Funding from maintenance cost savings over three years; current vs future JMS

Risks	<ul style="list-style-type: none">• Migration of legacy data• Operation of two case managements systems during FY 2020-21• Balancing competing priorities associated with phased approach to implementation
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Learning Management System

Public Works
Julia Dawson

Learning Management System

Project Objective

- Implement an easy to use Learning Management System (LMS) that offers employees and managers self service registration, tracking, and reporting and for instructors to manage course delivery for professional and personal development training.
- System must offer pre-developed content that supports the department's identified position competencies as well as the ability to upload custom content and integration to other training service providers.



Problem Definition

Current State	Public Works and GSA does not have a systematic way to deliver and track employee training. GSA and Public Works training programs provide more than 40 unique in-person training courses annually and one required online training. GSA currently uses Survey Monkey to track employee training time and YouTube for the video training, which is insufficient to meet our needs.
Future State	Procure a Software as a Service (SaaS) solution that would allow the department to track training, view required online video training, access a vendor created catalog of training courses, and integrate to other free training courseware sites.



Learning Management

Primary Users

- Public Works employees
- Administrative Services employees

Major Stakeholders

- Public Works
- Administrative Services



Learning Management System

Primary Performance Measures

- % of GSA and UPW classes managed through the system per year
- % of employees who used the system for non-mandatory training
- Number of completed trainings



Learning Management System

Recent Accomplishments

- Public Works and GSA has completed its requirements documentation
- Funding has been included in FY 2019-20 departmental budget to procure an off-the-shelf system
- RFP will be completed in the spring based on the completed requirements



Learning Management System

PHASE	DATES	DESCRIPTION
Phase 1	July 2018-June 2019	Research SaaS learning management systems. Document and develop requirements. Complete and issue an RFP for a SaaS solution.
Phase 2	July 2019-June 2020	Evaluate RFP responses. Select a product and negotiate agreement for licensing and integration services. Work with subject matter experts to define scope of work and implementation plan.
Phase 3	July 2020-June 2021	Target September 2020 for Go Live.



Learning Management System

PROJECT BUDGET	FY 2019-20	FY 2020-21
Number of FTE	2.5	2.5
FTE Classifications	1053, 0922, 0932,1822	1053, 0922, 0932,1822
Salary & Fringe		
Software Licensing	156,000	156,000
Hardware		
Professional Services	130,000	70,000
Materials & Supplies		
Contingency/Other	20,000	10,500
Total Project Cost	306,000	236,500





5. Discussion: Subcommittee Budget Recommendations



6. Public Comment