



City and County of San Francisco
Civil Grand Jury 2011-2012

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SAN FRANCISCO'S CITY TECHNOLOGY NEEDS A CULTURE SHOCK

June 2012

Superior Court of California, County of San Francisco
Civic Center Courthouse
400 McAllister Street, Room 008
San Francisco, CA 94102
(415) 551-3605

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THE CIVIL GRAND JURY

California state law requires that all 58 counties impanel a Grand Jury to serve during each fiscal year (Cal. Const., Art. I, § 23; Cal. Penal Code, § 905). In San Francisco, the presiding judge of the Superior Court impanels two grand juries. The Indictment Grand Jury has sole and exclusive jurisdiction to return criminal indictments. The Civil Grand Jury scrutinizes the conduct of public business of county government.

The function of the Civil Grand Jury is to investigate the operations of the various officers, departments and agencies of the government of the City and County of San Francisco. Each civil grand jury determines which officers, departments and agencies it will investigate during its term of office. To accomplish this task the grand jury is divided into committees which are assigned to the respective departments or areas which are being investigated. These committees visit government facilities, meet with public officials, and develop recommendations for improving City and County operations.

The 19 members of the Civil Grand Jury serve for a period of one year from July 1 through June 30 the following year, and are selected at random from a pool of 30 prospective grand jurors. During that period of time it is estimated that a minimum of approximately 500 hours will be required for grand jury service. By state law, a person is eligible if a citizen of the United States, 18 years of age or older, of ordinary intelligence and good character, and has a working knowledge of the English language.

Applications to serve on the Civil Grand Jury are available by contacting the Civil Grand Jury office:

- by phone (415) 551-3605 (weekdays 8:00 a.m. - 4:30 p.m.).
- in person at the Grand Jury Office, 400 McAllister St., Room 008, San Francisco, CA 94102.
- by completing an online application (available at <http://www.sfsuperiorcourt.org/index.aspx?page=312>), and mailing it to the above address.

**CITY AND COUNTY OF SAN FRANCISCO
CIVIL GRAND JURORS
2011-2012
(AS OF DATE OF PUBLICATION)**

	Umung Varma, Foreperson	
Helen Blohm	Sharon Gadberry	Mort Raphael
Mark Busse	Ossie Gomez	Jack Saroyan
Mario Choi	Arlene Helfand	Earl Shaddix
Matthew Cohen	Lewis Hurwitz	Jack Twomey
Kay Evans	Todd Lloyd	Gregory Winters
Allegra Fortunati	Jean Ninos	Sharon Yow

WITNESSES

With regard to witnesses who provide testimony to the Civil Grand Jury to aid it in its investigation, **California Penal Code § 929** provides that:

As to any matter not subject to privilege, with the approval of the presiding judge of the superior court or the judge appointed by the presiding judge to supervise the grand jury, a grand jury may make available to the public part or all of the evidentiary material, findings, and other information relied upon by, or presented to, a grand jury for its final report in any civil grand jury investigation provided that the name of any person, or facts that lead to the identity of any person who provided information to the grand jury, shall not be released. Prior to granting approval pursuant to this section, a judge may require the redaction or masking of any part of the evidentiary material, findings, or other information to be released to the public including, but not limited to, the identity of witnesses and any testimony or materials of a defamatory or libelous nature.

The intention of the California State Legislature in enacting **Penal Code § 929** is to encourage full candor in testimony in Civil Grand Jury investigations by protecting the privacy and confidentiality of those who participate in an investigation of the Civil Grand Jury.

REQUIRED RESPONSES

California Penal Code § 933(c) provides deadlines for responding to this report:

No later than 90 days after the grand jury submits a final report on the operations of any public agency . . . the governing body of the public agency shall comment to the presiding judge of the superior court on the findings and recommendations pertaining to matters under the control of the governing body, and every elected county officer or agency head for which the grand jury has responsibility . . . shall comment within 60 days to the presiding judge of the superior court . . . on the findings and recommendations pertaining to matters under the control of that county officer or agency head and any agency or agencies which that officer or agency head supervises or controls. In any city and county, the mayor shall also comment on the findings and recommendations. All of these comments and reports shall forthwith be submitted to the presiding judge of the superior court who impaneled the grand jury.

California Penal Code § 933.05 provides for the manner in which responses to this report are to be made:

- (a) For purposes . . . as to each grand jury finding, the responding person or entity shall indicate one of the following:
 - (1) The respondent agrees with the finding.
 - (2) The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefor.
- (b) For purposes . . . as to each grand jury recommendation, the responding person or entity shall report one of the following actions:
 - (1) The recommendation has been implemented, with a summary regarding the implemented action.
 - (2) The recommendation has not yet been implemented, but will be implemented in the future, with a timeframe for implementation.
 - (3) The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a timeframe for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency when applicable. This timeframe shall not exceed six months from the date of publication of the grand jury report.
 - (4) The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefor.

EXECUTIVE SUMMARY

The City and County of San Francisco spends approximately \$250 million on technology each year, about 3.6% of a \$6.8 billion budget. However, San Francisco's citywide technology governing structure is ineffective and poorly organized, hampered by a hands-off Mayor, a weak Committee on Information Technology, an unreliable Department of Technology, and a departmentalized culture that only reinforces the City's technological ineffectiveness. This organizational dysfunction has led to noncompliance with Administrative Code requirements and City policies, wasteful spending, and duplicative efforts among City departments. This ineffectiveness is typified by the continued existence of seven separate email systems, nine data centers, and multiple wide area networks. Stalled completion of various inter-departmental projects, one of which is now 15 years old and way over budget, gives further evidence of dysfunction. The City lacks detailed technology budget and staffing plans as well as other reports with citywide perspectives. Technology managers in the City are almost unanimous in their criticism of the hiring process, which slows the recruitment of highly qualified candidates in a competitive market.

Prior Civil Grand Juries, various City agencies, and consulting firms paid by the City have issued multiple reports identifying issues with the functioning of technology in the City. These reports repeat remarkably similar recommendations. Time after time after time, the recommendations are ignored. The earliest of these reports is eerily relevant to current issues. Why conduct these assessments if we never learn from them?

The picture is not totally bleak. In 2009, the City established a review process for the purchasing of equipment and professional services contracts. Last year, it published a five-year technology plan, presenting project-based priorities for the City. While a good start, this plan and process do not adequately address a technology anchored in software decades out-of-date.

For any real progress to be made, the Mayor must provide the same leadership in meeting the internal technological needs of City government that he has shown in establishing San Francisco as an "innovative capital." The Jury recommends that the two positions of City Chief Information Officer and Director of the Department of Technology be separated, as they are fundamentally different positions. Further, we recommend the introduction of a functional, working relationship between the City Chief Information Officer and the departmental technology units, including shared authority for staffing and budgets. To increase visibility, the City Chief Information Officer should construct a consolidated technology budget and author a comprehensive annual report on the state of technology in the City. The Charter needs revision to allow technologists to be hired in a more efficient, expeditious manner. Given the history of half-

hearted attempts to accomplish positive change, the Civil Grand Jury asks that what comes from our report not be “déjà vu, all over again.”

BACKGROUND

Today, the technology industry is touted as a major component of San Francisco’s economic future. During the past two years alone, over 250 tech firms have either been established or have relocated their operations into San Francisco. The Mayor, with much fanfare, has made technology a central part of his administration’s vision. In a recent *sfgate.com* article, author Casey Newton states:

Technology is San Francisco’s fastest-growing sector, and now occupies more office space in the city than any other industry.... This year nearly 1 in 4 non-government office jobs in San Francisco – 22.3 percent – are in tech.¹

The larger world is witnessing a speed of change like no other due to technological advances. Not only can technology streamline government processes, but it also creates new forms of cooperation and coordination through virtual teams² and fluid organization.³ The field of technology is rapidly expanding and changing with the latest innovations. New technologies are constantly being introduced, and it is impossible to predict what the field might look like even five years from now. Management of these changes requires an up-to-date, agile organization and skilled employees able to keep up with the fast pace. The time is ripe for the City and County of San Francisco (City) to take the next step in creating a more efficient and effective technology arena to improve government operations, attract well-trained information and communication technology (ICT)⁴ professionals, and act as a showcase that proves that San Francisco not only talks the talk, but walks the walk.

Since the turn of the 21st Century, the structure and functioning of technology management within the City has been examined and evaluated a number of times. At the behest of Mayor Willie Brown, Liza M. Lowery, a former Executive Director of the Department of Technology [DT, previously called the Department of Telecommunications and Information Systems (DTIS)],⁵ evaluated the organization of ICT in the City. In her February 2002 report *An Enterprise Approach to IT: A Proposal to Centralize Information Technology Management & Resources*, Lowery laid out a transition plan to achieve a more centralized management of ICT under a City Chief Information Officer (City CIO). Modeled after such departments as Police (SFPD), Fire, and Controller, this structure would provide a single point of authority, and standardize policies and procedures. Under this plan, DT would manage ICT services that did not require business unit specific expertise, including, among others, network infrastructure, telecommunications systems, wireless infrastructure and services, desktop support, disaster

preparedness, security and privacy protection, technology refresh, email, electronic government (e-gov), and geographic information systems (GIS).

Lowery's report also outlined various barriers and constraints to the plan. These barriers included stove-piped funding, legacy contracts, fear of change or losing control, lack of training, workforce recruitment, mandated use of or links to state/federal systems, issues of privacy/security, matching staffing and resources to business needs, bringing departmental ICT staff into DT, and fostering the commitment of DT staff to departmental missions. Lastly, the report recommended that the Controller measure DT service delivery and performance to collect baseline data to capture quantitatively the effectiveness of the proposed changes. The report recommended that the Controller continue these surveys only "if trust in the new [DT] is lacking."

The 2005–2006 Civil Grand Jury issued the report, *San Francisco's Information Technology Highway: Potholes and Possibilities*. It castigated both DT for not delivering on services in a timely manner and the Committee on Information Technology (COIT) for failing to meet regularly and for ceasing to function properly in guiding long-term policy. The report again called for the creation of a City CIO position with increased oversight of departmental ICT plans, contracts, and software and hardware inventory. The report also recommended the centralization of services such as network and communications infrastructure, desktop management, email, and helpdesk functions. It further recommended the revitalization of COIT as a citywide policy and planning body that would have the authority to compel compliance with the policies and projects it promoted.

In 2006, the Controller issued a report⁶ finding that 61% of DT's clients would not continue to use its services if given autonomy over their own operations.⁷ Among the recommendations included were the development of a customer service evaluation and improvement plan and the implementation of a project management approach that would ensure accountability.

In 2007, the then Budget Analyst (now the Budget & Legislative Analyst for the Board of Supervisors) conducted an audit.⁸ This report pointed out that waste from purchasing tech equipment at the departmental level, rather than negotiating citywide contracts, guaranteed higher costs and caused incompatibility between and among departments' systems. It also chronicled the slow progress in major technology projects and the need for COIT to develop project management standards and tools to guide project implementation. The Budget Analyst called attention to the absence of a citywide ICT staffing plan, leading to ICT staff skills not matching business needs. This audit highlighted the fact that no one entity was responsible for citywide ICT security, contributing to inconsistent and inadequate system security at the departmental level. In responding to the Budget Analyst's recommendations, the then "City CIO" and Executive Director of DT noted that

[w]hile most of the recommendations make good business sense, the report puts the responsibility of implementation of these recommendations either with COIT and/or [DT]. However, it does not address the overarching fact that neither COIT nor [DT], by administrative code, or practical application, have the authority over citywide technology staff, project[s], budgets, policy or performance.⁹

The 2008–2009 Civil Grand Jury issued a Continuity Report¹⁰ following up on the 2005-2006 Jury report. That Jury found that some positive changes had occurred in City technology, including the creation of the City CIO position. The Jury further found that the City CIO was fostering a cooperative attitude among departments concerning technology issues. However, the Jury found that improvements were still needed, specifically concerning centralized purchasing of ICT equipment and services.

In 2010, the Board of Supervisors amended the Administrative Code¹¹ revitalizing COIT. As part of its duties, COIT, along with the City CIO, would develop a five-year ICT plan as well as review and approve budgets, projects, and staffing plans for all City departments. Additionally, the legislation removed the City CIO as Chair of COIT, though the City CIO continued to sit on that body as a permanent member. The amendment also gave the City CIO the authority and responsibility to implement COIT policies and plans citywide, and veto authority over ICT purchases and contracts. There was progress made, but mainly on paper.

Since 2010, COIT has developed a five-year ICT plan.¹² A CIO review process is in place, allowing the City CIO to monitor departmental purchases and professional services contracts in order to keep them consistent with COIT-approved projects. The City CIO's veto authority over ICT purchases and contracts helps to keep departments in check. Through negotiated rates and consolidated master contracts, it is thought the City will save money. For instance, in 2011-12, the City estimated it avoided spending \$3 million due to the City CIO rejecting departmental server purchases, leading to their virtualization. However, this cost avoidance is not highlighted in detail, by department, and not carried through to subsequent budget planning and analysis.

The number of studies, reviews, and recommendations in such a short period reflects the City's struggle with ways to design and implement an approach to how it manages its technology needs. Creating more effective ways to integrate the special needs of large departments with the everyday needs of the entire City is a challenge, but a challenge that needs to be met. The City is heavily invested in what currently exists, yet it faces duplication of services and equipment. Recommendations for improvement abound, but there is little authority exercised for their implementation, continuing the City's history of financial waste and inefficient technology operations.

Many of the recommendations of these prior reports are still serious issues today. The Jury found that: ICT governance citywide is limited by the lack of leadership; there are no reporting relationships among departmental ICT units and the City CIO; and, there is a passive-aggressive organizational culture. The City lacks data tracking and evaluation methods to chart the success or failure of technology consolidation initiatives. There is a need for an ICT staffing plan that addresses the classification of ICT personnel and the streamlining of hiring processes for technologists.

Given the history of half-hearted attempts to accomplish positive change, the current Jury asks that what comes from our report not be “*déjà vu*, all over again.”

METHODOLOGY AND APPROACH

The Jury conducted over forty interviews with senior officials from the Office of the Mayor, the Board of Supervisors, the Office of the Controller, Office of City Administrator, Civil Service Commission, Human Resources (DHR), Capital Planning Committee, the Port, the Sheriff, and Department of Technology (DT). We also spoke with ICT professionals from the Public Utilities Commission (PUC), Department of Public Health (DPH), the Airport (SFO), SF Municipal Transportation Agency (SFMTA), Human Services Agency (HSA), Police Department (SFPD), General Services Agency (GSA), Department of Building Inspection (DBI), and the Information Technology Professionals Chapter of the International Federation of Professional and Technical Engineers Local 21 [IFPTE/AFL-CIO] (Local 21). We reviewed the Charter, Administrative Code, Department of Technology and COIT plans and proposals, audits and reports from the Office of the Controller and the Budget Analyst, prior Civil Grand Jury reports from San Francisco and Santa Clara counties, journal and newspaper articles, and documents from various departments and their websites. In addition, members of the Jury attended numerous COIT meetings and subcommittee meetings, including Planning & Budget, Architecture & Standards, and Performance & Resources. We also toured the data center at 200 Paul Street and computer facilities within various departments.

DISCUSSION

I. The Structure of San Francisco City Technology

A. Department of Technology

DT was formed by the 1997 merger of the Information Systems Division of the Office of the Controller with the Department of Electricity and Telecommunications under the Office of the

City Administrator. It came about at a time of rapid growth and of increasingly sophisticated technology equipment and program design, coupled with greater demands in City government for planning, analyses, and reports.

The department's current services include cable franchise administration, telecommunications network infrastructure, GIS, Interactive Web and New Media Services, citywide email, the Public Safety radio system, SF Government TV, technical training, help desk and desktop support, and server hosting, among others. DT previously offered custom software development for other City departments, but has given up this service to concentrate on infrastructure.

During its early days, the work of the fledgling technology unit did not satisfy the growing immediate needs of the larger City departments, some of which had already mature ICT units. Larger departments, with their unique data requirements, found that DT's services failed to meet schedules, lacked quality, and were costly, making its services uncompetitive with their own technology operations. Outside vendors were less expensive than DT, and in-house staff was more efficient and attuned to departmental needs. To this day, most CIOs from the larger departments believe their own ICT staffs and operations are superior to those at DT. The latest client satisfaction survey, conducted by DT and completed in 2010, measured DT's quality and timeliness of service in twelve different categories of service, from help desk/desktop support to DT mainframe services. Other dimensions included the helpfulness of DT's staff, overall satisfaction, and improvement made over the past year. DT did not receive an excellent rating for any service category by a majority of respondents, and only a "satisfactory" rating for its reproduction and mail services and voice/data network.

Some senior managers within DT seemed unaware of this survey. However, the consequences of these low ratings have been severe. Not only has it encouraged departments to take over the management of their own ICT needs, but it has also caused budget cuts for DT. Over the last 2-3 years, DT's budget has dropped from \$95 million to \$72 million. Their staff has also decreased by 70 positions to 213 full-time employee equivalents (FTEs), accounting for both full-time and part-time employees.

B. Committee on Information Technology (COIT)

The Administrative Code¹³ establishes COIT, outlines its composition, and sets its purpose and duties, including the following:

It is the policy of the City to coordinate and direct the use of [ICT] technologies by City Departments and to provide the most cost-effective and useful retrieval and exchange of information both within and among City Departments and from City Departments to the people of San Francisco.¹⁴

COIT, founded in 1996, is composed of five permanent members: the Mayor, the President of the Board of Supervisors, the Controller, the City Administrator, and the City CIO. However, to our knowledge, the current Mayor has personally attended only one COIT meeting (in May 2012), sending a representative at all other times. In addition, a non-permanent group of eight department heads, recommended by the COIT Chair (currently held by the City Administrator) and approved by the permanent members, sit on COIT. Serving two year terms, these eight represent five major service areas: General Administration and Finance;¹⁵ Public Protection;¹⁶ Health, Human Welfare and Neighborhood Development;¹⁷ Culture and Recreation;¹⁸ and Public Works, Transportation, and Commerce.¹⁹ Currently, the heads of DHR, DPH, PUC, Public Library (SFPL), Department of Emergency Management (DEM), the Airport, SFMTA, and HSA serve on COIT. Although these department heads represent the major service areas, it is unclear to the Jury whether they regularly communicate with the other departments within their respective areas, rather than merely serving the interests of the departments they each head. COIT is served by DT staff who cumulatively constitute the equivalent of one full-time employee.

Another Administrative Code provision requires that:

There will be two additional non voting [sic] members of COIT selected by the voting members of COIT. These individuals cannot be employees of the City and County of San Francisco and shall have expertise in fields of ICT innovation and advances, emerging ICT applications, and public policy issues related to ICT.²⁰

COIT has yet to choose these last two non-voting members. There is a concern among its members that appointing anyone from the corporate sector might be a conflict-of-interest. No consideration has been given to finding a member from academia or the foundation/non-profit sector, thereby losing a different, and possibly more innovative, perspective for COIT.

Under the Administrative Code, it is the duty of COIT to

review and approve the recommendations of the City CIO for (i) the five-year City ICT plan..., (ii) ICT plans, budgets, projects and staffing plans for City Departments; and (iii) ICT standards, policies and procedures to enable successful development, operation, maintenance, and support of the City's ICT.²¹

COIT is charged with monitoring compliance of policies and approved projects, with particular attention to ensuring cost-effective and useful approaches. At COIT and its subcommittee meetings, departmental presentations for proposed or on-going projects are made. There are procedures in place for the review and approval of the five-year City ICT plan, for

approving and monitoring *projects* within that plan and others valued at \$100K and above, and for approving ICT standards, policies, and procedures generally.

There is no indication that COIT reviews recommendations about operational ICT plans, budgets, projects, or staffing plans for City departments. COIT also does not monitor compliance with adopted standards, policies, and procedures on a regular basis. Additionally, there is no citywide ICT budget plan. ICT costs, including personnel and other expenses, are buried within departmental budgets, when submitted to the Mayor's Budget Office and the Board of Supervisors.²² Finally, most COIT members see their work on COIT as policy-making only, without significant follow-through for implementation. To COIT members, the only citywide plan needed and required is a biennial plan derived from the rolling five-year ICT plan. It is also unclear how COIT policies and project initiatives are transmitted to departments. Generally, the feeling is, "when COIT speaks, no one listens." While directives from the Mayor could provide punch for COIT decisions and City CIO actions, so far the current Mayor has issued none, in contrast to Mayors Brown and Gavin Newsom.

C. City Chief Information Officer (City CIO)

The Administrative Code creates the position of the City CIO and vests that position "with the authority and responsibility to develop recommendations and *implement* COIT standards, policies, and procedures for all City Departments."²³ (Emphasis added.) The City CIO also serves "as the Director of the Department of Technology with responsibility for making recommendations regarding development, implementation, maintenance, operation, and support of all citywide ICT."²⁴

Since 1996, four DT Directors have used the title of "CIO." The City is also rich with CIOs, with at least ten spread throughout departments and agencies in the City. None of them has any reporting relationship to the City CIO, responding only to the demands of their own departments.

According to the Administrative Code,²⁵ the City CIO's duties include consulting with City departments on their ICT staffing needs and developing an ICT staffing plan for review and approval by COIT. While the Jury has requested a copy of a staffing plan several times, it does not seem to exist. The City CIO does not consult with departments on their staffing needs.

D. Department ICT Units and the Other CIOs

Roughly two-thirds of the 49 departments in the city have an organized group of technologists within their departments. They support the users and applications specific to their department's business needs. In addition, they often support their department's infrastructure (servers and other hardware, networking equipment, WAN services, websites, and telephones). Departmental ICT groups are headed by CIOs or ICT Managers who report, directly or

indirectly, to a department head, with no reporting relationship to the City CIO. The departments with the largest ICT groups are:

Department	Number of ICT FTEs	Total ICT Budget
Department of Technology (DT)	213 ²⁶	\$21,953,243
Department of Public Health (DPH)	173	\$42,718,566
Public Utilities Commission (PUC)	94	\$20,756,369
Human Services Agency (HSA)	69	\$17,065,127
San Francisco Airport (SFO)	69	\$14,955,790
Controller/eMerge	60	\$15,494,402
Metropolitan Transit Authority (SFMTA)	42	\$12,194,418
Police (SFPD)	38	\$16,591,152
GSA – Public Works	31	\$8,656,148
GSA – City Administrator	20	\$6,309,246

Table 1. ICT FTE and Budget Distribution

The independent growth of departmental ICT units has led to the point where today ten of the City’s 49 departments account for 81% of all funds budgeted to technology citywide, while DT accounts for a mere 9.3% (see Table 2).²⁷ Though independence allows these larger departments to tailor their technology requirements for their own unique needs, it also establishes hurdles to managing both coordinated systems and achieving economies of scale for the efficient and effective use of equipment, staffing, and finance citywide.

Section 22A.5 of the Administrative Code requires all departments to coordinate “ICT procurement and staffing” with the City CIO, and to “develop procurement and staffing plans consistent with the ICT plan.”²⁸ Departments must also cooperate with citywide efforts to standardize ICT resources. The CIO review process seeks to ensure procurement coordination, but the process is sometimes resented by departmental CIOs. There seems to be no recognition of the staffing obligations among most departmental CIOs, and, as a result, no staffing plan citywide exists. Generally, there is little coordination or cooperation as required by the Administrative Code.

Some of the COIT permanent members seem unaware of departmental CIOs’ levels of resistance to, and ignorance of, COIT policies. Many of the departmental CIOs do not recognize

City and County of San Francisco
Civil Grand Jury 2011-2012

Dept	Department	FY 2011-12 Final Budget											U	V = T/U		
		L		M		N		O = M + N		P	Q	R			S	T = P+Q+R+S
		IT Full Time Equivalents	IT Salaries (character 001)	IT Fringe Benefits (character 013)	IT Job Classes	Non-IT Job Classes	IT Salaries and Fringe	IT Job Classes	Non-IT Job Classes	Professional Services (object 027)	Materials & Supplies (character 040)	Equipment (character 060)	Other IT Subjects, incl. Licenses and Work Orders	Total IT Spending	Total FY 11-12 Budget (incl. transfers and recoveries)	IT Percent of Total Department Budget
ADP	Adult Probation	3.54	558,813	-	137,240	-	498,053	-	383,266	-	6,200	6,500	228,180	1,053,133	14,642,391	7.2%
AIR	Airport Commission	6.00	6,834,409	281,135	2,571,385	102,131	9,406,794	383,266	-	653,000	902,600	444,237	3,106,983	14,955,790	756,145,222	2.0%
ART	Art Commission	-	-	-	-	-	-	-	-	-	-	44,907	44,907	44,907	10,290,922	0.4%
AAM	Asian Art Museum	-	-	-	-	-	-	-	-	-	-	48,833	48,833	48,833	7,715,179	0.6%
ASR	Assessor/Recorder	7.00	570,082	-	234,976	-	805,058	-	-	972,651	54,000	60,474	2,432,183	20,706,507	11.7%	
PAB	Board of Appeals	-	-	-	-	-	-	-	-	-	3,850	-	8,256	12,066	925,289	1.3%
BOS	Board of Supervisors	3.00	251,774	-	106,784	-	358,558	-	-	21,514	7,088	-	107,904	107,937,744	4.6%	
CSS	Child Support Services	2.00	190,335	104,947	75,153	43,909	266,488	148,856	-	50,000	-	-	110,077	32,131,216	0.5%	
CFC	Children & Families Commission	-	-	-	-	-	-	-	-	-	-	-	56,467	336,346	0.3%	
CHF	Children, Youth & Their Families	2.00	202,166	-	77,713	-	279,879	-	-	-	-	-	396,681	1,394,058	2.1%	
CAT	City Attorney	7.00	720,129	277,248	235,260	846,311	997,377	846,311	-	2,785	69,258	-	322,322	24,604,398	5.1%	
CPC	City Planning	-	-	-	-	-	-	-	-	-	-	-	7,988	824,261	1.0%	
CSC	ChildService Commission	-	-	-	-	-	-	-	-	-	-	-	1,338,122	4,041,009	40.6%	
CON	Controller	13.00	1,238,324	130,306	473,408	49,029	1,711,732	179,335	-	615,000	196,820	-	2,611,356	11,453,393	70.5%	
CON	eMerge	47.11	4,837,369	377,687	1,758,682	132,483	6,588,051	510,670	-	871,993	232,575	638,748	81,764	11,620,236	7.7%	
USD	County Education	1.00	54,875	-	26,889	-	81,764	-	-	1,050,000	-	-	590,912	3,678,743	47,902,607	8.3%
DBI	Department of Building Inspection	13.77	1,481,633	-	556,198	-	2,037,831	-	-	-	-	-	1,046,238	3,613,339	43,548,861	0.3%
ECD	Department of Emergency Management	18.50	1,726,641	121,485	671,705	47,280	2,398,346	168,765	-	-	-	-	9,759	9,759	3,520,652	2.8%
WOM	Department on the Status of Women	-	-	-	-	-	-	-	-	-	-	-	377,098	1,133,943	40,655,171	0.3%
DAT	District Attorney	3.00	292,119	68,859	113,729	30,722	405,848	99,581	-	-	251,416	-	66,126	91,126	32,510,310	0.3%
ECN	Economic & Workforce Development	-	-	-	-	-	-	-	-	-	-	-	25,000	9,126	15,239,788	1.7%
REG	Excesses	3.00	256,185	-	104,954	-	361,139	-	-	289,802	39,040	-	90,722	780,703	17,596,746	1.1%
ENV	Environment	1.00	95,168	-	132,743	-	228,911	-	-	-	75,000	-	304,181	1,739,344	8.3%	
ETH	Ethics Commission	1.00	86,398	-	38,251	-	124,649	-	-	92,616	-	-	41,837	256,102	8,349,344	3.1%
FAM	Fire Arts Museum	-	-	-	-	-	-	-	-	-	-	-	78,032	15,623,172	0.5%	
FIR	Fire Department	3.00	310,801	140,630	119,359	51,078	430,160	191,708	-	100,000	102,271	150,000	2,869,756	30,252,668	1.3%	
GEN	General City Responsibility	-	-	-	-	-	-	-	-	-	-	-	3,934,765	575,153,399	0.7%	
ADM	General Services Agency - City Administrator	20.15	2,886,123	-	798,850	-	2,886,973	-	-	638,466	-	-	2,789,807	6,309,246	251,499,218	2.5%
DPW	General Services Agency - Public Works	31.00	3,159,720	272,891	1,189,841	110,107	4,392,211	382,998	-	291,771	522,690	554,140	2,573,538	8,656,148	128,967,748	6.7%
HSS	Health Services System	3.00	280,469	-	110,818	-	391,287	-	-	-	-	-	161,905	553,192	6,462,314	8.6%
HRD	Human Resources	4.00	361,652	-	144,505	-	506,157	-	-	-	-	-	258,950	763,107	72,892,526	1.0%
HRC	Human Rights Commission	-	-	-	-	-	-	-	-	-	-	-	103,642	103,642	5,841,478	1.8%
DSJ	Human Services Agency	69.00	5,976,622	302,159	2,418,608	106,302	8,398,230	408,461	-	801,205	-	-	3,761,582	17,065,127	693,555,992	2.5%
JUV	Juvenile Probation	6.00	586,184	-	227,414	-	813,598	-	-	21,920	-	-	330,087	1,165,605	33,725,350	3.5%
LLB	Law Library	-	-	-	-	-	-	-	-	-	-	-	16,310	16,310	751,048	2.2%
MTR	Mayor	1.00	-	-	-	-	-	-	-	-	-	-	217,441	217,441	14,746,751	1.5%
MTA	Municipal Transportation Agency	42.00	4,057,720	-	1,562,905	-	5,620,625	-	-	956,153	260,944	-	5,376,680	12,194,418	780,567,111	1.6%
POL	Police	38.00	3,982,723	1,783,983	1,508,332	564,967	5,491,055	2,248,950	-	936,625	461,000	-	7,335,522	16,591,152	461,807,191	3.6%
PRT	Port	8.00	760,329	693,000	288,853	275,607	1,046,182	908,667	-	486,471	-	-	1,521,390	4,022,710	78,752,159	5.1%
PDR	Public Defender	3.00	332,465	-	123,667	-	456,132	-	-	-	-	-	406,403	934,927	25,942,106	3.6%
DPH	Public Health	173.21	16,329,533	-	6,312,811	-	22,642,344	-	-	7,645,803	632,160	-	11,798,259	42,718,566	1,577,277,867	2.7%
LIB	Public Library	13.00	1,197,379	130,306	475,785	49,029	1,673,164	179,335	-	34,284	-	-	1,661,638	86,469,190	5,666	
PUC	Public Utilities Commission	93.54	9,151,616	1,412,476	3,658,394	497,406	13,410,010	1,909,882	-	-	-	-	3,417,091	20,756,369	818,564,434	2.5%
REC	Recreation and Park Commission	8.00	756,075	-	298,055	-	1,054,130	-	-	-	-	-	1,329,906	2,447,348	17,822,235	1.9%
RNT	Rent Arbitration Board	-	-	-	-	-	-	-	-	-	-	-	43,876	43,876	5,955,352	0.7%
RET	Retirement System	10.77	1,121,832	140,630	427,336	51,078	1,549,168	191,708	-	35,109	-	-	1,451,817	3,543,712	19,258,888	18.4%
SHP	Shelf	3.00	349,549	-	124,606	-	474,155	-	-	-	-	-	1,944,242	2,418,397	176,600,812	1.4%
TTX	Treasurer/Tax Collector	18.00	1,814,493	-	700,471	-	2,514,964	-	-	-	-	-	2,208,074	28,546,424	165,566	
WAR	War Memorial	-	-	-	-	-	-	-	-	-	-	-	88,320	106,320	12,095,983	0.9%
	Subtotal (includes work orders to DT)	746.59	72,655,227	6,310,102	27,821,794	2,236,234	100,477,021	8,546,336	100,477,021	20,053,268	6,358,170	3,820,099	67,261,195	206,516,089	7,628,558,640	2.7%
	10% Sep & Attrition Adjustment															
	Total	746.59	65,899,704	5,679,092	25,039,615	2,012,611	90,429,219	7,691,718	100,477,021	20,053,268	6,358,170	3,820,099	67,261,195	195,617,754	7,628,558,640	2.6%
TIS*	General Services Agency - Telecom & Inf. Services	102.0	9,816,210	1,693,302	3,773,486	-	13,609,696	-	-	1,758,593	10,157	826,813	5,747,984	21,953,243	74,183,448	29.6%

Table 2. CCSF FY 2011-12 Final IT Budgets by Department

Note: Position data does not include job classes in emp.org B2A-9991 (One Day Adjustment), 9993 (Attrition Savings), 9995 (Positions Not Filled), STEP (Step Adjustments)

that COIT policies are citywide policies and that they are required to conform to them. In interviews, departmental CIOs talk as if they have a choice to comply or not, as they see fit. This is particularly true of the large enterprise departments²⁹ where some cite their Charter sections as giving them the right to decide whether to participate in citywide initiatives.

The Jury has been told that some departmental COIT members publicly vote “yea” on a new policy but then privately, along with their departmental CIOs, drag their heels in implementing that policy, particularly in server consolidation and website development. One interviewee noted that several of the departments are waiting for one to “drop the gauntlet,” refusing to go along with the full implementation of a mandated email conversion. Although several serve on various COIT subcommittees, departmental CIOs feel constrained in voicing their opposition publicly to policies and citywide projects. Many of their concerns center on their longstanding distrust of DT’s quality of service and reliability. Also, as far as the Jury can determine, there are no adverse consequences for any implicit foot dragging or lack of cooperation. Neither COIT in its project approval process, nor the Mayor and the Board of Supervisors in their budget process, have tied project approvals or budget requests to demonstrable cooperation on consolidation efforts.

E. Consolidation and Other Technology Initiatives

Consolidation initiatives are projects where the City seeks to combine redundant systems and duplicative services, and at the same time update technology across departments to improve effectiveness and efficiencies at a lower cost. The importance of consolidation initiatives and upgrades to various out-of-date citywide and interdepartmental systems cannot be emphasized enough. As one interviewee said, the City “cannot govern well with the technology we have.” The Jury itself experienced a problem with the old technology when we requested reports. Expecting they could be generated in a few days’ time, instead it took months.

The cost savings potential of consolidated and new systems is enormous. For instance, the State of California, through its ICT consolidation efforts, is expected to save \$3 billion through FY2014.³⁰ Denver saved \$1.2 million in licensing costs alone through one of its consolidation efforts.³¹

The Jury examined several projects that are representative of the problems the City is trying, without much success, to grapple with:

Email: Currently, there are seven different email systems in use by the City. Not all can adequately communicate with the others. Besides Lotus Notes, which is used throughout the City, six departments have their own email systems: PUC, SFPL, DPW, SFMTA, the Airport, and HSA. Since 2009, COIT and DT have been working on an initiative to integrate all City departments to a single “cloud-based”³² system, Hosted Microsoft Exchange. At the time of this

report, only 2,700 employees out of the 26,000 in the City have migrated to this system. Several departments initially accepted Microsoft Exchange, but have since raised issues concerning special security and privacy requirements. The Jury was told that this project would garner considerable savings, but no one has ever been able to supply an actual figure or any report that outlines the basis for any savings claims. Interviewees who are technically savvy, but still use Lotus Notes and are not stakeholders in the email conversion issue, show a sense of amazement that there is even an issue here.

Data Center Consolidation and Virtualizing Servers: This consolidation effort is seen by some interviewees as the most successful so far. Currently, nine departments maintain their own “data centers,” of which only one is under the control of DT. The COIT plan is to shrink that number to four centers at the PUC, the Airport, DEM, and at a DT center in the Bayview, and moving 450 servers into these spaces. This project is said to be 30-40% complete. The COIT plan also calls for reducing the number of servers by 50% through virtualization. DT expects a reduction of up to 75%. So far, about 750 servers out of the nearly 2000 have been virtualized. Departments have been more “cooperative” in this effort for two reasons. First, three of the four centers would not be under DT’s exclusive control. Secondly, the City CIO review process has caught departments who have tried to purchase new data servers and redirected them to virtualization. Departments, therefore, have no choice in the matter. However, the project has apparently garnered considerable savings, with DT quoting \$3 million in cost avoidance in the last year alone.

eMerge: Project eMerge is a “human capital management system” designed to be a citywide vehicle for payroll, human resources, and benefits administration for all current and retired City employees. The system would replace outmoded applications and improve manual and redundant business processes and systems. eMerge is considered to have an advantage in its development in that the Controller’s Office is its “Executive Sponsor.”³³ Originally estimated as a two-and-a-half year project of the Department of Human Resources, it was restarted and moved to the Controller’s Office due to project management issues. eMerge is now starting its fifth year of development. The system is currently in testing, with completion of the core system expected at the end of FY2011-2012. Because its funding is covered by the Controller’s Office, COIT does not monitor its progress closely, and it is not a significant part of the ICT plan.

The Justice Tracking Information System (JUS.T.I.S): This ongoing effort is supposed to replace a 35-plus year-old mainframe applications system and create a hub for sharing data among the several City departments that handle criminal justice issues [SFPD, the Sheriff, Juvenile Probation, the District Attorney’s Office (DA), the Public Defender’s Office, the San Francisco Superior Court, and Adult Probation]. These departments, along with the Mayor’s Office, the City Administrator, the Commission on the Status of Women, DEM, and DT, form the JUS.T.I.S. Governance Council. Initiated in 1997 and still not fully developed, the original project was expected to be completed in three years at a cost of \$15 million. Ten years later, and

still incomplete, costs have swelled to \$25.5 million, 70% more than expected.³⁴ The program was moved from DT to the Office of the City Administrator and assigned an Executive Sponsor in March 2011. Because it has existing funding, JUS.T.I.S is not included in the five-year ICT plan. There is a great deal of confusion about the status of this project, with some noting that “the project is completed” while others say that the project is “not finished, with no end in sight.”

Future consolidation initiatives could include telephony (done except for PUC and Airport systems), as well as disaster recovery, desktop support, networks, security services, and help desks. However, none of these systems are consolidated, and they are not on COIT’s agenda. While there is a citywide consolidation policy for departmental websites, in practice it is not being followed. SFO, PUC, Environment, Arts Commission, Grants for the Arts, SFMTA, and SFPL do not use standard website development software.

F. Organizational Structures for Technology

The structure of the organization that provides technology services throughout the City plays a major role in determining its effectiveness and cost. As a result, the Jury looked at various organizational structures outlined in previous reports, from “centralized” to “distributed.” The “centralized” structure has all technologists reporting to a single head of technology for the entire organization. Some may work together in a central department. Others may work on projects for another department, and even be physically located in that department, but they still report in a solid-line relationship to a single head of technology. From interviews, this was the least desirable and is considered an unworkable situation. Many technological needs are unique to individual departments, such as billing in DPH and coordinating air traffic at SFO, and they each require tailored systems best managed at the departmental level.

Equally undesirable is the “distributed” structure where technologists are attached exclusively to individual departments in a solid-line reporting structure to the department head. The “distributed” technologists work exclusively on the projects of interest to their department. Even common systems, such as email, networking and servers, would be developed independently within each department.

For some time, the City has been evolving toward a more workable “hybrid” structure that would consolidate those needs that can be met citywide under DT, while maintaining unique business functions under departmental control. This process is not going well. Part of the problem is the historical independence of departments. The other issue is that one person plays the dual roles of both City CIO and the Director of DT.

In the current “hybrid” model, there is no real connection or reporting structure between the City CIO and the departmental CIOs and ICT managers, in spite of the City CIO being charged with the “authority and responsibility to ... implement COIT standards, policies, and procedures

for all City Departments.” There have been and continues to be informal “lunch” meetings of some departmental CIOs, but these meetings lack structure, do not involve the City CIO, and do not provide for any formal relationship among them or with the City CIO. They are also infrequent and insufficient for the sharing of information, airing policy concerns and suggestions, and cultivating a citywide focus on ICT. The cooperative attitude encouraged by the Budget Analyst’s report in 2007, and apparently seen by the 2008-2009 Jury, no longer exists. If there truly was a cooperative attitude three years ago, its existence today is spotty at best.

Some CIOs and ICT managers are not ready to cooperate fully with a City CIO who is also Director of DT. Many see DT, historically and presently, as badly managed and housing a less skilled staff than their own. Dissociating the role of the City CIO from DT would help, along with establishing a new reporting relationship among the City CIO and the various departments with ICT groups.

Neither a “centralized” organization with the City CIO responsible for all technology, nor a completely “distributed” approach with department CIOs/ICT managers focused only on their department needs, would foster cooperation. Instead, a dotted-line relationship between department CIOs/ICT managers and the City CIO for all citywide technology is most appropriate. A dotted-line reporting structure is a style of management where an individual has two reporting superiors (bosses) – one functional and one operational. This is commonly seen in project management where an engineer, for example, reports to the chief engineer functionally, but reports to the project manager on operational project issues. Here, departmental CIOs/ICT managers would report to the City CIO while at the same time remain employees of their current departments and reporting to the departmental executives.

Under this system, departmental managers would continue to be administratively in charge of their CIOs and would continue to hold them responsible for department specific systems and programs. They would also look to their own CIOs to integrate citywide systems and programs into their departments. At the same time, departmental CIOs would join with their colleagues in a collaborative effort under the City CIO’s leadership, applying citywide interests in creating efficient and effective systems and programs for use throughout the City. The departmental CIOs would keep their departmental heads informed of their efforts while reporting departmental concerns to the City CIO.

The roles of City CIO and of Director of DT are fundamentally different jobs. The latter leads the department and improves its operations. The former is more strategic in leading ICT departmental managers toward finding common technological elements among them with an eye to building better, less costly, and more efficient technology citywide.

Finally, departmental CIOs/ICT managers need to refocus their interests from departmental to a more citywide view in their work. There must be a trusting relationship between the City

CIO and the department CIOs/ICT managers, one built on respect, cooperation, and effective communication. Only an individual with the appropriate authority, *including the ability to have input into departmental ICT staffing at the senior level and departmental budgets*, can accomplish this coordination. The City CIO should be vested with the full support of City leaders and the tools necessary to implement his authority as mandated in the Administrative Code, including having separate staff.

Given the City's history in technology, this may take some time and effort, but continuing with the current organizational structure only leads to inefficient and ineffective citywide technology operations.

G Findings

F1. Delegating the attendance of COIT meetings by the Mayor to a representative sends a negative message to department heads and CIOs that internal citywide technology issues are not a high priority for the Mayor.

A response is requested from the Mayor and the Board of Supervisors.

F2. The Department of Technology continues to be perceived by many of its customers as providing unsatisfactory service in terms of quality, reliability, timeliness, and cost.

Responses are requested from the Board of Supervisors, the Chair of COIT, the Controller, the City CIO, and the departmental CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F3. There are consequences to the Department of Technology for failing to deliver timely and high quality services, including the Mayor and Board of Supervisors continually cutting DT's budget.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, and the City CIO.

F4. Another consequence to the Department of Technology for unsatisfactory service is the reluctance of departments to participate in citywide initiatives and to give up their operational independence.

Responses are requested from the Mayor, the Board of Supervisors, the Chair of COIT, the City CIO and the departmental CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the

Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F5. COIT policies and citywide consolidation initiatives are not communicated to Department Heads and CIOs effectively by the Mayor and COIT.

Responses are requested from the Mayor, the Board of Supervisors, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F6. COIT is not in compliance with the Administrative Code by failing to find and appoint two non-voting, non-City employee members.

Responses are requested from the Mayor, the Board of Supervisors, the City Attorney, the Chair of COIT and the City CIO.

F7. The current citywide ICT organizational structure hinders the City CIO from fully using the established “authority and responsibility necessary to ... implement COIT standards, policies, and procedures for all City Departments.”

Responses are requested from the Mayor, the Board of Supervisors, the Chair of COIT, and the City CIO.

F8. The strategic role of the City CIO and the operational role of the Director of DT are two fundamentally different and equally full-time jobs.

Responses are requested from the Mayor, the Board of Supervisors, the Department of Human Resources, the Chair of COIT, and the City CIO.

F9. Departmental CIOs have no formal forum to communicate with each other or coordinate common technology issues.

Responses are requested from the Board of Supervisors, the Chair of COIT, the Controller, the City CIO, and the departmental CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F10. The lack of a functional reporting relationship between the City CIO and the departmental CIOs is a fundamental weakness in implementing common citywide programs.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the City CIO, and the departmental CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F11. Allowing common ICT functions to be addressed and performed on a department-by-department basis has led to duplication of effort and unnecessary spending.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the City CIO, and the departmental CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F12. The five-year ICT plan does not include: (1) ongoing operational activities, and (2) projects currently in progress with prior funding.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the JUS.T.I.S Governance Council.

F13. There are no consolidated citywide ICT budget and staffing plans.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

H. Recommendations

R1. The Mayor regularly attend COIT meetings to communicate his interest and support of internal citywide technology and move it forward within City government.

Response is requested from the Mayor.

R2. The Budget Analyst or the Controller perform a management audit evaluating the Department of Technology's functions to determine if the Department adequately communicates with other departments, and how to alleviate the Department's barriers to better performance.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, Budget Analyst, the City CIO, and the departmental CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

R3. Policies and citywide consolidation initiatives adopted by COIT be communicated as Mayoral Directives to Department Heads and CIOs.

Responses are requested from Mayor, the Chair of COIT, and the City CIO.

R4. COIT appoint two non-voting, non-City employee members to sit on COIT without further delay.

Responses are requested from the Mayor, the Board of Supervisors, the City Attorney, the Chair of COIT and the City CIO.

R5. The City CIO develop consolidated citywide comprehensive ICT budget and staffing plans, reviewed and approved by COIT, and take the lead in its presentation to the Mayor's Budget Office and the Board of Supervisors.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Department of Human Resources, the Chair of COIT, the City CIO, and Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

R6. Subsequent to COIT approval of the ICT budget and staffing plans, COIT and the City CIO monitor adherence to these plans.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Department of Human Resources, the Chair of COIT, the City CIO, and Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

R7. The City CIO position be elevated in authority, responsibility, and accountability by creating functional “dotted-line” relationships between the City CIO and the departmental CIOs.

Responses are requested from Mayor, the Board of Supervisors, the Controller, City CIO, and Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

R8. Provide staff support to both the City CIO and COIT.

Responses are requested from Mayor, the Board of Supervisors, the Controller, City CIO, and Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

R9. Amend Administrative Code, Section 22A.4 and 22A.7, to separate the position of City CIO from the Department of Technology.

Responses are requested from the Mayor, the Board of Supervisors, the Chair of COIT, and the City CIO.

R10. Amend Administrative Code, Sections 22A.4 and 22A.7, to create the separate position of Director of DT, appointed by and reporting to the City CIO.

Responses are requested from Mayor, the Board of Supervisors, the Chair of COIT, and the City CIO.

II. A Dearth of ICT Information

The Jury, in conducting this investigation, found a dearth of in-depth information about technology in the City, including: technology usage; staffing requirements; and overall costs.

A. Technology Reporting

ICT planning and reporting is focused on individual projects. Even the recent five-year ICT Plan is focused on projects, including consolidation initiatives, but contains little citywide data on costs, personnel, or equipment. Individual departments create and maintain information on their own ICT plans. COIT also collects this information. However, none of this information is consolidated or used for later citywide analysis. The lack of hard, comprehensive financial information has discouraged decision-makers, particularly those in the top leadership positions,

from tackling technology issues citywide or seeing its potential in furthering City programs and reducing costs. Sound management and accountability require such data. Little attempt has been made over the years to track, analyze, and evaluate the costs related to ICT. No citywide comprehensive ICT annual report is made to the Mayor or Board of Supervisors, other than a presentation of ICT project plans for budget proposals and hearings. The structure of ICT citywide does not make this data visible to the public or to decision-makers.

B. Asset Management

While departments often keep track of the equipment and software they own, there is no citywide ICT asset management system to track hardware and other equipment, software, and licenses. The lack of citywide information hampers the ability of COIT and the City CIO to identify duplication in, and opportunities to share, equipment and licenses. An inventory would provide City leaders critical information from when to upgrade software to developing a standard schedule for equipment replacements across departments, large and small. Furthermore, an inventory would allow the City to track the life expectancies of critical computer systems and determine a replacement schedule, and budget for the highest-priority systems.

C. Human Resource Management

There also is no effort to systematically catalog the skill sets of ICT personnel to ensure that skills match the business needs of departments or that appropriate training opportunities are offered. With this data, it would be easier to exchange or temporarily transfer department ICT staff for short-term assignments, foster a more creative work environment, and provide a better approach to resolving ICT problems.

D. IT Spending

There are 49 departments in the body of San Francisco City government for which ICT financial budgets are identified and reported by the SF Controller's Office (see Table 2). The 2011-12 summary table includes information on all City ICT budgets (ICT staff, non-ICT staff doing ICT work, professional services, materials and supplies, equipment, and licenses and work orders) totaling \$196 million. These figures represent merely what is budgeted, not what is actually spent. Several departments have been able to reallocate monies toward the funding of ICT projects from other sources within their budgets but are not reflected in the Controller's summary. Some personnel and costs outside of ICT job classifications, which COIT funds and which DT considers to be part of technology, are not included, such as: new media, telephony, and radio personnel. A more accurate accounting of ICT costs is estimated to be closer to \$250 million according to those interviewed by the Jury.

In the Controller's chart, ten departments account for 81% of total ICT spending. However, this information is a summary and cannot be used to determine savings that might be captured, particularly due to consolidations and system upgrades.

E. Reporting and Measures

As mentioned in Lowery's 2002 report, *An Enterprise Approach to IT*, as well as by interviewees, there is a need for an accurate baseline assessment of where the City is in terms of ICT performance and expenditures, both at DT and at the departmental levels. The report suggested a survey³⁵ of every City department. Besides measuring quantitative data such as system uptime and help call response time, both at DT and the departmental level, the survey should include:

- what ICT services the departments have now;
- how the departments currently ensure they receive timely and high quality ICT service and support;
- how the departments currently measure success of ICT services and projects;
- how and why the departments currently split their ICT dollars between their departments, DT, and outside contractors;
- how departments rank their current level of satisfaction with services the departments receive from DT;
- how departments rank their current level of satisfaction with their internal ICT services; and
- what departments see as missing critical ICT services.

An ICT needs assessment for smaller departments has not been conducted. This survey is as needed today as it was in 2002, and would be invaluable in assessing improvements in customer service and in tracking projected and actual long-term savings, once consolidations and other ICT systems are in place. Comparative data can be used to benchmark ICT expenditures, to capture areas of concern and to identify successes and how to exploit them.

F. Findings

F14. Although COIT, DT, and a City CIO, address technology on a citywide basis, technology is not treated as a distinct citywide organizational entity.

Responses requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F15. There is no comprehensive annual reporting on the state of technology within City government presented to the Mayor or the Board of Supervisors.

Responses requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F16. There is a scarcity of consolidated citywide data in the technological arena, separate from departmental budgets.

Responses requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F17. COIT concentrates on the design and implementation of individual projects rather than citywide costs and savings stemming from these projects.

Responses requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F18. There is a need for a citywide ICT asset management system.

Responses requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F19. There is a need for a citywide database of ICT personnel.

Responses requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F20. There is no effort to gather and utilize comprehensive quantitative data to track how ICT currently functions.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F21. The ICT 5-year plan is not a strategic plan and does not calculate how changes in ICT systems would impact City operations and costs.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

G. Recommendations

R11. The City CIO work with the Controller to conduct a survey, including, but not limited to, performance data, client satisfaction, decision-making and evaluation criteria, inventory of services, and needs assessment, first for baseline figures and then annually to measure improvement over the baseline figures.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

R12. The City CIO report annually on the state of technology in the City to the Mayor and the Board of Supervisors.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

R13. The City CIO and the Controller create a citywide asset management system for ICT equipment.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

R14. The City CIO and DHR create a citywide skills database for personnel, to catalog such skills as programming languages, web development, database, networking, and operating systems.

Responses are requested from the Mayor, the Board of Supervisors, the Department of Human Resources, the Chair of COIT, the City CIO, and the departmental CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission, and Local 21.

III. The Need for a Citywide Staffing Plan

As noted earlier, the Administrative Code, without much definition, requires an ICT staffing plan. This plan should address, among other things, two major issues: the classification of ICT personnel, whether Permanent Civil Service (PCS) or Permanent Exempt (PEX), and the need for a more streamlined hiring process.

A. Classification of Positions

Most tech positions within the City are filled as PCS. However, technology is a dynamic field, and it is hard to predict even within five years' time what that technology is going to look like and what skill sets are going to be needed. There is a constant need for training, and not all employees can be retrained to fit the changing business needs of ICT units. This becomes a problem within the department, not just for managers but also for motivated colleagues whose morale is affected by significantly less motivated co-workers.

Under PCS, employees acquire certain rights to their positions, and there is less flexibility to hire new employees, move employees around on an "as needed" basis, or terminate them. Under PEX, however, employees are considered "at will" and serve at the pleasure of their appointing officer. Department heads have more discretion in the use of the "merit system" for exempt positions. Under the Charter,³⁶ 19 categories of employment are exempt from civil service. These

are divided into three groups. Group I consists of such positions as elected officials, heads and deputy heads of agencies and departments, and members of commissions and other advisory committees. Group II includes such named positions as attorneys, physicians, dentists, the law librarian, the actuary of the Employee's Retirement Board, and other positions that were designated exempt under the 1932 Charter, long before information technology became a professional category. Group III includes temporary and seasonal appointments and those hired for special projects or for professional services with limited term funding (generally approved for up to three years of employment). Currently, approximately 15% of all active ICT employees are Group III exemptions.³⁷ But, it is a sometimes arduous approval process to create such positions in the City and can involve appeals by unions to the Civil Service Commission.

The last time the Charter was changed to expand exempt categories was in 1999. Under Proposition E, the City created SFMTA and added their managerial positions as another category of exempt appointments. It is time to make another Charter change to add technologists as a Group II exemption category from civil service. This category could include computer operators, LAN administrators, database administrators, programmers, and ICT project managers and analysts. As departmental technology changes, employees can be offered training opportunities, or, as "at will" employees, be terminated to more nearly match changing business needs with staff skills.

B. Hiring Practices

Another issue is the City's ICT-position hiring practices. With more private firms moving into the City, competition for the best ICT talent will only increase. Hiring processes are not designed to meet the need to make timely job offers. For some managers, this has meant they are not getting the best people. The process for hiring a PCS employee is cumbersome and drags on for several months. First, DHR is involved in posting the positions and screening the applicants for education, experience, and certification qualifications. Local 21 is also involved with testing and ranking procedures. An applicant list is then created, with the top three scorers sent to the hiring department to interview. However, priority is given to former employees who have been laid off. These positions are posted for three months; if a suitable candidate is not found, the position is posted for another three months, and a new list is created. There is also always the possibility that even though the position had been previously approved, the Mayor may declare a hiring freeze. This hiring process for PCS positions has sometimes gone as long as eight months before a candidate is able to come onboard.

Hiring PEX employees is a much faster process. Job descriptions are written by the respective departments and are posted by DHR. Candidates that have the requirements are interviewed by the respective departments. If a candidate is accepted by the departmental CIO and the department head, an offer is made. This hiring process can take approximately 2-3 months.

C. Findings

F22. City ICT managers are experiencing a growing difficulty in hiring technologists with “cutting edge” knowledge, skills, and experience.

Responses are requested from the Mayor, the Board of Supervisors, the Department of Human Resources, the City CIO, and the departmental CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission, and Local 21.

F23. Relying on Permanent Civil Service as a standard way of hiring technologists is too slow and cumbersome for the business needs of ICT units.

Responses are requested from the Mayor, the Board of Supervisors, the Department of Human Resources, the City CIO, and the departmental CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission, and Local 21.

F24. Relying on Permanent Civil Service as a standard way of hiring technologists prevents the city from attracting top talent from the private sector.

Responses are requested from the Mayor, the Board of Supervisors, the Department of Human Resources, the City CIO, and the departmental CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission, and Local 21.

D. Recommendations

R15. Revise the Charter so that all vacant and new technology positions be classified as Group II exempt positions.

Responses are requested from the Mayor, the Board of Supervisors, the Department of Human Resources, the City CIO, and the departmental CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF

Police Department, the Department of Public Health, and the Public Utilities Commission, and Local 21.

R16. The City CIO be involved, with department heads, in hiring decisions for their highest level ICT personnel.

Responses are requested from the Mayor, the Board of Supervisors, the Chair of COIT, the City CIO, and the Department of Human Resources.

R17. The City CIO be included, with department heads, in the performance review process of senior ICT personnel in all departments.

Responses are requested from the Mayor, the Board of Supervisors, the Chair of COIT, the City CIO, and the Department of Human Resources.

R18. Pending revision of the Charter, the Mayor develop methods for speeding up the hiring process for ICT personnel.

Responses are requested from the Mayor, the Board of Supervisors, the Chair of COIT, the City CIO, the Department of Human Resources, and Local 21.

IV. A Culture in Need of Change

The iPhone Dictionary App defines “culture” as “the sum total of ways of living built up by a group of human beings transmitted from one generation to another.” With that definition in mind, and after extensive interviews with department heads and technology managers, attending numerous meetings, and reading reports and regulations, it is clear that the City believes that operating departments require a high level of independence. In turn, the City gives its operating departments a wide range of latitude in carrying out their missions. While important in providing services to the public, that culture of independence stands as a hurdle to the introduction of important technological improvements which can lead to citywide cost savings and more efficient operations. A high level of independent department behavior can co-exist with meaningful citywide efficiencies. Technology culture is in need of change.

In an October 2005 *Harvard Business Review* article titled, “The Passive-Aggressive Organization,” the authors stated that:

Healthy companies are hard to mistake. Their managers have access to good, timely information, the authority to make informed decisions, and the incentive to make them on behalf of the organization which promptly and capably carries them out.³⁸

When good, timely technology information is available in the City, it is found mainly at the department and project level. Though COIT has the authority to focus its attention on citywide efficiencies, it spends most of its efforts on review and evaluation of project proposals. Attempts to gather and consolidate data for citywide projections and analyses, therefore, are rare. Without citywide data, informed decisions are limited to departments and projects, with little consideration given to citywide concerns. This is accepted because it is part of the City's culture.

The authors list three failings found in organizations that slide into passive-aggressive behavior. They are used to describe an organization's quiet but tenacious resistance, in every way but openly, to corporate directives. These three failings demonstrate the Jury's concerns stemming from the culture around citywide technology. First is "Unclear Scope of Authority." While the Administrative Code gives the City CIO the authority to implement COIT policy, this authority is seldom applied. For instance, department heads have reversed their initial commitments to a citywide email system, claiming that special security and reliability cannot be assured. Moreover, neither COIT nor the City CIO has enforcement tools, or the inclination to develop such tools, to ensure compliance with citywide policies such as standardized email systems, websites, centralized data centers, and server virtualization. As a result, exceptions to established policy are granted and opportunities for costs savings and operational efficiencies are lost. It is accepted because it is part of the City's culture.

Secondly, the authors identify "Misleading Goals" as a factor in organizational failure. The basic goal of city *government* is to provide for its people in the most effective way it can. The basic goal of a city *department* is to carry out its mission in the most effective way it can. Though it might be assumed that all of San Francisco government works with unified goals, citywide goals are at times in conflict with departmental goals. The priorities of a department are, by their nature, narrower than that of the City. Department heads place significantly greater importance on the successful performance of their agencies than on managing for citywide efficiency and effectiveness through the use of technology. They are judged on departmental performance. They know that City administrators rely foremost on departmental success and will not press department heads to take a greater citywide view. We have learned of the unique technology requirements placed on several City departments, such as SFO, Police, DPH, and HSA. Those requirements have led to unchallenged department demands for special treatment at the expense of efficiencies to citywide operations. That need not be. However, it is accepted because it is part of the City's culture.

The third organizational failure is "Agreement without Cooperation." Our report has shown that department heads who sit on COIT can agree with the introduction of a particular citywide project and later ask for an exemption for their department, even though it reduces economies of scales and other efficiencies. And, they get away with it. Interviewees have made such comments as, "We work for the department and not for the City as a whole," "San Francisco does not like

authoritarian leadership,” or just “We don’t want to be mean.” It is accepted because it is part of the City’s culture.

The Administrative Code requires COIT to include two people from outside City government as active members of its body.³⁹ This was done in part to expand COIT’s capacity to create policies and programs that would take advantage of the most advanced technology offerings and thinking. With San Francisco and Silicon Valley so rich in technology expertise, not to mention the nearby universities, such additions should prove very useful and easy to attract. Adding outsiders to COIT deliberations helps to change the City’s existing culture. However, little, if anything, has been done to meet this requirement, again allowing the status quo to remain embedded in the City’s technology culture.

We recognize the difficulty in changing culture, but we believe the gains that can be made far outweigh the effort required. Culture change is less a matter of managing than it is of leading in a new direction, with visionaries that clearly embrace the changes to be made. Changing culture requires inspiration and direction from the highest organization level to demonstrate its seriousness and motivate progress. This is a role that can be played only by the Mayor. Prior to his election, our current Mayor served as a member of COIT in his capacity as former head of DPW and City Administrator. This experience should serve well to move internal citywide technology forward. Thus far, he has shown little inclination to do that. The absence of such leadership dilutes the sense of importance and urgency that is required. Leadership must be consistent, forceful, and visible.

Culture, commonly defined, means “the way things are done around here.” The City can continue to follow the path of least resistance by not changing “the way things are done around here.” Or, the City can take bold steps toward a more cooperative, City-focused culture. The Jury, after extensive study, believes the City can, and should, do better and focus more on City needs and values, while not losing sight of the importance of department strengths. Success can be achieved if the Mayor brings the passion he exhibits toward technology external to City operations to bear on the internal issues facing us.

A. Findings

F25. City technology culture is based in the belief that operating departments focus on their individual missions at the expense of citywide needs.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F26. The cooperative attitude among departments and DT previously found by an earlier Civil Grand Jury has faded.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F27. A department-first perspective, not the citywide perspective intended in the Administrative Code, results in a lack of coordination and communication between and among the different departments.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F28. A department-first perspective, not the citywide perspective intended in the Administrative Code, results in duplication of common technology services and products.

Responses are requested from the Mayor, the Board of Supervisors, the Controller, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F29. Department Heads and CIOs do not view the authority granted COIT and the City CIO in the Administrative Code as governing their own plans and actions.

Responses are requested from the Mayor, the Board of Supervisors, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F30. Neither COIT nor the City CIO behave as if they fully believe in their authority to enforce policy and consolidation initiatives.

Responses are requested from the Mayor, the Board of Supervisors, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department

of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

F31. There are no severe or immediate consequences resulting from City departments failing to abide by agreements to implement citywide initiatives or meet established timelines for completion.

Responses are requested from the Mayor, the Board of Supervisors, the Chair of COIT, the City CIO, and the Department Heads and CIOs or IT Directors from the Airport, the Department of Emergency Management, the General Services Agency, the Department of Public Works, the Human Services Agency, the SF Municipal Transportation Agency, the SF Police Department, the Department of Public Health, and the Public Utilities Commission.

B. Recommendations

R19. The Mayor provide consistent, passionate, and aggressive leadership in the field of citywide technology, fostering progress, and garnering agreement among departments toward a more cooperative and cohesive culture.

Response is requested from the Mayor.

CONCLUSION

From its early days in the City, technology implementation has moved forward following a path of least resistance. Large City departments at first, in need of the benefits of computers, and later distrustful of the leadership and skills of centralized authority, successfully developed their own, individual, technology units. To this day, most technology leaders in large departments complain that the services provided by DT are slow, costly, and often poorly conceived, thus making it reasonable to go it alone. Communications between and among departments, the City CIO, and COIT, are poor and limited. Departments find it difficult to feel part of a large, cohesive technology system. Often, the City CIO and DT management present little data to describe how recommendations are formulated. Power Point presentations substitute for on-going dialogue. The pros and cons of alternative courses are not presented. COIT's monthly meetings last only an hour or two; the real work is done in its sub-committees. Even then, policies are not implemented. Those outside this process do not gain the same sense of participation, which only adds to the cultural misconception that COIT's efforts hold lower organizational priorities than that of the departments whose leaders sit on COIT.

Attempts over the years to generate greater participation faced hurdles from leaders wary of losing control of their successful technological achievements. There has been widespread skepticism concerning the performance of citywide consolidation initiatives. Though organizational design has been modified with the revitalization of COIT, the formal establishment of a City CIO, and the creation of a CIO review process, little else has been done to modify the manner in which technology is carried out. Lack of confidence in citywide efforts continues, and, coupled with vested interests in maintaining the organizational status quo, culture change faces a difficult future.

The structure and culture of technology must be modified so that the 2010 Administrative Code changes can be implemented as intended. The Mayor must assume a stronger role in COIT and the position of City CIO must be elevated and removed from the day-to-day operational management of DT. The departmental CIOs/ICT managers should functionally report to the City CIO, and the new head of DT should concentrate on improving that unit's performance under the City CIO.

The City CIO must also take a more strategic role and active involvement with the budgeting and staffing of the tech units in every City department. Along with COIT, the City CIO must generate citywide ICT reports and plans that make projects and initiatives more meaningful in terms of savings and effectiveness. Lastly, staffing of ICT units and the hiring process must be changed. This move would be beneficial to both the City and the employee.

Some of our recommendations repeat those of earlier reports. This is most noticeable in recommendations about communication, and the lack of authority and information. But when a Jury sees that previous recommendations have apparently fallen on deaf ears, sometimes the best we can do is join in the chant and continue saying what has been said before. After all, "where there's a will, there's a way."

ENDNOTES

- ¹ Casey Newton, “Allure of city itself a factor in S.F.’s tech boom,” on sfgate.com, April 15, 2012.
- ² “A **virtual team** (also known as a **geographically dispersed team** or GDT) is a group of individuals who work across time, space and organizational boundaries with links strengthened by webs of [communication technology](#)...Virtual teams allow companies to procure the best talent without geographical restrictions.” From: http://en.wikipedia.org/wiki/Virtual_team. Accessed on 5/20/12.
- ³ “Sometimes called the flexible organization, the benefits of this corporate non-structure are based on agility rather than stability. In a fluid organization model, projects are handled by the best employees for the job and not by the employee’s job description. Individual skills sets are emphasized rather than titles or length of time with the company.” From: <http://www.fluidorganization.com>. Accessed on 5/20/2012.
- ⁴ ICT (Information and Communication Technology) is used instead of the more common IT (information technology) to carry forward its usage in the Administrative Code and in the five-year ICT Plan.
- ⁵ In this report, we refer to the Department of Technology (DT) no matter what the department was called in the past. Past names include the Department of Telecommunications and Information Systems (DTIS), formed from the merger of the Information Systems Division (ISD) within the Office of the Controller and the Department of Electricity (DET).
- ⁶ Office of the Controller, City Services Auditor, *The Department of Telecommunications and Information Services Needs to Simplify Its Rate Model, Improve Customer Service, and Revamp Performance Measures*, November 17, 2006.
- ⁷ *Ibid.*, p. 11.
- ⁸ San Francisco Budget Analyst, *Management Audit of San Francisco’s Information Technology Practices*, October 3, 2007.
- ⁹ Attachment to Letter from former Director of DT to Budget Analyst, p. 5 at end of *Management Audit of San Francisco’s Information Technology Practices*, 2007.
- ¹⁰ 2008-2009 San Francisco Civil Grand Jury, *Continuity Report: What Has Happened to Recommendations Made By Prior Juries*, Section on Information Technology, page 7.
- ¹¹ City and County of San Francisco Administrative Code, Chapter 22A, Approved 7/23/2010.
- ¹² <http://www.sfcoit.org/Modules/ShowDocument.aspx?documentid=829>
- ¹³ San Francisco Administrative Code, § 22A.3.
- ¹⁴ *Ibid.*, § 22A.1(G).
- ¹⁵ **Government Administration and Finance** Major Service Area includes Assessor/Recorder, Board of Supervisors, Building Inspection, City Administrator, City Attorney, City Planning, Civil Service Commission, Committee on Information Technology, Controller’s Office, Department of Technology, Elections, Ethics Commission, Health Service System, Human Resources, Mayor, Retirement System, and Treasurer/Tax Collector.
- ¹⁶ **Public Protection** Major Service Area includes Adult Probation, District Attorney, Emergency Management, Fire Department, Juvenile Probation, SF Police Department, Public Defender, and Sheriff Department.

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¹⁷ **Health, Human Welfare, and Neighborhood Development** Major Service Area includes Child Support Services, Children and Families Commission, Children, Youth and Their Families, County Education Office, Department of Public Health, Environment, Human Rights Commission, Human Services Agency, Rent Arbitration Board, and the Commission on the Status of Women.

¹⁸ **Culture and Recreation** Major Service Area includes Academy of Sciences, Arts Commission, Asian Art Museum, Fine Arts Museum, Law Library, Public Library, Recreation and Park Commission, and the War Memorial.

¹⁹ **Public Works, Transportation and Commerce** Major Service Area has three representatives on COIT and includes Airport, Board of Appeals, Office of Economic and Workforce Development, SF Municipal Transportation Agency, Port, Public Utilities Commission, and Department of Public Works.

²⁰ San Francisco Administrative Code, § 22A.3(f)

²¹ *Ibid.*, § 22A.3(c).

²² However, the Controller does prepare an annual departmental summary of technology employees and budgets of limited usefulness.

²³ San Francisco Administrative Code, § 22A.4(a)(2).

²⁴ *Ibid.*, § 22A.4(a)(3).

²⁵ *Ibid.*, § 22A.4(c).

²⁶ The 213 FTE for the Department of Technology conflicts with the 102 FTE indicated on the Controller's 2011-12 Budget Chart, because the Controller does not count the job classes for media services, radio, and telephony as ICT staff.

²⁷ <http://www.sfcoit.org/modules/showdocument.aspx?documentid=1013>

²⁸ San Francisco Administrative Code, § 22A.5(3).

²⁹ Enterprise departments are agencies within City government that generate their own revenue or are funded with special funds, rather than by general fund revenues.

³⁰ <http://www.govtech.com/policy-management/Official-California-IT-Consolidations-Estimated-Savings.html>. Accessed on 6/1/2012.

³¹ <http://www.denvergov.org/HomePage/Facts/tabid/395097/Default.aspx>. Accessed on 6/1/2012.

³² From *Wikipedia* as accessed 5/25/2012: Cloud computing is a marketing term for technologies that provide computation, software, data access, and storage services that do not require end-user knowledge of the physical location and configuration of the system that delivers the services.

³³ Executive Sponsor: A champion for a project, providing leadership at a high level that can bring departments together.

³⁴ San Francisco Budget Analyst, *Management Audit of San Francisco's Information Technology Practices*, October 3, 2007, pages 27 and 37. The recent development costs figure given to the Jury of \$23 million, is not consistent with the earlier Budget Analyst's report.

³⁵ Liza M. Lowery, *An Enterprise Approach to IT: A Proposal to Centralize Information Technology Management & Resources*, City and County of San Francisco, February 2002, p. 35-36.

³⁶ City and County of San Francisco Charter, Article X, § 10.104.

³⁷ Figure comes from a report generated by DHR on April 9, 2012.

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³⁸ Gary I. Neilson, Bruce A. Pasternack, and Karen E. Van Nuys, “The Passive-Aggressive Organization,” *Harvard Business Review* 83 (October 2005). <http://hbr.org/2005/10/the-passive-aggressive-organization/ar/1>. Accessed 5/18/2012.

³⁹ San Francisco Administrative Code, § 22A.3(f).

RESPONSE MATRIX

Pursuant to **Penal Code § 933.05**, the Civil Grand Jury requests responses as follows:

I. The Structure of San Francisco City Technology

Respondent	Findings												
	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13
Mayor	X		X	X	X	X	X	X		X	X	X	X
Board of Supervisors	X	X	X	X	X	X	X	X	X	X	X	X	X
Controller		X	X						X	X	X	X	X
City Attorney						X							
Department of Human Resources								X					
COIT Chair		X	X	X	X	X	X	X	X			X	X
City CIO		X	X	X	X	X	X	X	X	X	X	X	X
Department Head - SFO					X								X
Department Head - DEM					X								X
Department Head - GSA					X								X
Department Head - DPW					X								X
Department Head - HSA					X								X
Department Head - SFMTA					X								X
Department Head - SFPD					X								X
Department Head - DPH					X								X
Department Head - PUC					X								X
Departmental CIO - SFO		X		X	X				X	X	X		X
Departmental IT Manager - DEM		X		X	X				X	X	X		X
Departmental IT Director - GSA		X		X	X				X	X	X		X
Departmental IT Director – DPW		X		X	X				X	X	X		X
Departmental CIO - HSA		X		X	X				X	X	X		X
Departmental CIO - SFMTA		X		X	X				X	X	X		X
Departmental CIO - SFPD		X		X	X				X	X	X		X
Departmental CIO - DPH		X		X	X				X	X	X		X
Departmental CIO - PUC		X		X	X				X	X	X		X
JUS.T.I.S Governance Council												X	

I. The Structure of San Francisco City Technology

Respondent	Recommendations									
	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
Mayor	X	X	X	X	X	X	X	X	X	X
Board of Supervisors		X		X	X	X	X	X	X	X
Controller		X			X	X	X	X		
City Attorney				X						
COIT Chair			X	X	X	X			X	X
City CIO		X	X	X	X	X	X	X	X	X
Budget Analyst		X								
Dept. of Human Resources					X	X				
Department Head - SFO					X	X	X	X		
Department Head - DEM					X	X	X	X		
Department Head - GSA					X	X	X	X		
Department Head - DPW					X	X	X	X		
Department Head - HSA					X	X	X	X		
Department Head - SFMTA					X	X	X	X		
Department Head - SFPD					X	X	X	X		
Department Head - DPH					X	X	X	X		
Department Head - PUC					X	X	X	X		
Department CIO - SFO		X			X	X	X	X		
Department IT Manager - DEM		X			X	X	X	X		
Department IT Director - GSA		X			X	X	X	X		
Department IT Director - DPW		X			X	X	X	X		
Department CIO - HSA		X			X	X	X	X		
Department CIO - SFMTA		X			X	X	X	X		
Department CIO - SFPD		X			X	X	X	X		
Department CIO - DPH		X			X	X	X	X		

II. A Dearth of ICT Information

Respondent	Findings							
	F14	F15	F16	F17	F18	F19	F20	F21
Mayor	X	X	X	X	X	X	X	X
Board of Supervisors	X	X	X	X	X	X	X	X
Controller	X	X	X	X	X	X	X	X
COIT Chair	X	X	X	X	X	X	X	X
City CIO	X	X	X	X	X	X	X	X
Dept. of Human Resources								
Department Head - SFO	X	X	X	X	X	X	X	X
Department Head - DEM	X	X	X	X	X	X	X	X
Department Head - GSA	X	X	X	X	X	X	X	X
Department Head - DPW	X	X	X	X	X	X	X	X
Department Head - HSA	X	X	X	X	X	X	X	X
Department Head - SFMTA	X	X	X	X	X	X	X	X
Department Head - SFPD	X	X	X	X	X	X	X	X
Department Head - DPH	X	X	X	X	X	X	X	X
Department Head - PUC	X	X	X	X	X	X	X	X
Departmental CIO - SFO	X	X	X	X	X	X	X	X
Departmental IT Manager - DEM	X	X	X	X	X	X	X	X
Departmental IT Director - GSA	X	X	X	X	X	X	X	X
Departmental IT Director - DPW	X	X	X	X	X	X	X	X
Departmental CIO - HSA	X	X	X	X	X	X	X	X
Departmental CIO - SFMTA	X	X	X	X	X	X	X	X
Departmental CIO - SFPD	X	X	X	X	X	X	X	X
Departmental CIO - DPH	X	X	X	X	X	X	X	X
Departmental CIO - PUC	X	X	X	X	X	X	X	X
Local 21								

II. A Dearth of ICT Information

Respondent	Recommendations			
	R11	R12	R13	R14
Mayor	X	X	X	X
Board of Supervisors	X	X	X	X
Controller	X	X	X	
COIT Chair	X	X	X	X
City CIO	X	X	X	X
Dept. of Human Resources				X
Department Head - SFO	X	X	X	
Department Head - DEM	X	X	X	
Department Head - GSA	X	X	X	
Department Head - DPW	X	X	X	
Department Head - HSA	X	X	X	
Department Head - SFMTA	X	X	X	
Department Head - SFPD	X	X	X	
Department Head - DPH	X	X	X	
Department Head - PUC	X	X	X	
Departmental CIO - SFO	X	X	X	X
Departmental IT Manager - DEM	X	X	X	X
Departmental IT Director - GSA	X	X	X	X
Departmental IT Director - DPW	X	X	X	X
Departmental CIO - HSA	X	X	X	X
Departmental CIO - SFMTA	X	X	X	X
Departmental CIO - SFPD	X	X	X	X
Departmental CIO - DPH	X	X	X	X
Departmental CIO - PUC	X	X	X	X
Local 21				X

III. The Need for Citywide Staffing Plan

Respondent	Findings			Recommendations			
	F22	F23	F24	R15	R16	R17	R18
Mayor	X	X	X	X	X	X	X
Board of Supervisors	X	X	X	X	X	X	X
COIT Chair					X	X	X
City CIO	X	X	X	X	X	X	X
Department of Human Resources	X	X	X	X	X	X	X
Departmental CIO - SFO	X	X	X	X			
Departmental IT Manager - DEM	X	X	X	X			
Departmental IT Director - GSA	X	X	X	X			
Departmental IT Director - DPW	X	X	X	X			
Departmental CIO - HSA	X	X	X	X			
Departmental CIO - SFMTA	X	X	X	X			
Departmental CIO - SFPD	X	X	X	X			
Departmental CIO - DPH	X	X	X	X			
Departmental CIO - PUC	X	X	X	X			
Local 21	X	X	X	X			X

IV. A Culture in Need of a Change

Respondent	Findings						
	F25	F26	F27	F28	F29	F30	F31
Mayor	X	X	X	X	X	X	X
Board of Supervisors	X	X	X	X	X	X	X
Controller	X	X	X	X			
COIT Chair	X	X	X	X	X	X	X
City CIO	X	X	X	X	X	X	X
Department Head - SFO	X	X	X	X	X	X	X
Department Head - DEM	X	X	X	X	X	X	X
Department Head - GSA	X	X	X	X	X	X	X
Department Head - DPW	X	X	X	X	X	X	X
Department Head - HSA	X	X	X	X	X	X	X
Department Head - SFMTA	X	X	X	X	X	X	X
Department Head - SFPD	X	X	X	X	X	X	X
Department Head - DPH	X	X	X	X	X	X	X
Department Head - PUC	X	X	X	X	X	X	X
Departmental CIO - SFO	X	X	X	X	X	X	X
Departmental IT Manager - DEM	X	X	X	X	X	X	X
Departmental IT Director - GSA	X	X	X	X	X	X	X
Departmental IT Director - DPW	X	X	X	X	X	X	X
Departmental CIO - HSA	X	X	X	X	X	X	X
Departmental CIO - SFMTA	X	X	X	X	X	X	X
Departmental CIO - SFPD	X	X	X	X	X	X	X
Departmental CIO - DPH	X	X	X	X	X	X	X
Departmental CIO - PUC	X	X	X	X	X	X	X

Respondent	Recommendations
	R19
Mayor	X

APPENDIX

Glossary of Terms

*** Note: Most glossary terms are from Wikipedia: The Free Encyclopedia.

http://en.wikipedia.org/wiki/Main_Page.

Administrative Code: One of approximately sixteen codes (Admin, Fire, Health, Park, Planning, etc.) that makes up the San Francisco Municipal Code. Along with the City Charter, they are the laws that govern the structure and government of the City and County of San Francisco. [Administrative Code Link](#)

Application: Application software, also known as an application or an app, is computer software designed to help the user to perform specific tasks. Examples include enterprise software, accounting software, office suites, and graphics software and media players.

http://en.wikipedia.org/wiki/Application_software.

Asset Management System: IT asset management (ITAM) is the set of business practices that join financial, contractual and inventory functions to support life cycle management and strategic decision making for the IT environment. Assets include all elements of software and hardware that are found in the business environment. http://en.wikipedia.org/wiki/IT_asset_management.

At Will: At will employment is a doctrine of American law that defines an employment relationship in which either party can break the relationship with no liability.

http://en.wikipedia.org/wiki/At-will_employment.

Baseline or Baseline Assessment: A configuration of software, hardware, or a process that is established and documented as a point of reference for future comparisons.

<http://en.wiktionary.org/wiki/baseline>. As an example, baseline budgeting is a method of developing a budget which uses existing spending levels as the basis for establishing future funding requirements. They serve as a benchmark for assessing possible changes in policy.

http://en.wikipedia.org/wiki/Baseline_%28budgeting%29.

Benchmark: Benchmarking is the process of comparing one's business processes and performance metrics to industry bests or best practices from other industries. Dimensions typically measured are quality, time and cost. In the process of benchmarking, management identifies the best firms in their industry, or in another industry where similar processes exist, and compare the results and processes of those studied (the "targets") to one's own results and processes. <http://en.wikipedia.org/wiki/Benchmarking>.

Budget Analyst: A financial or budget analyst is a person who performs financial analysis as a core part of the job. http://en.wikipedia.org/wiki/Financial_analyst. In San Francisco, the Budget & Legislative Analyst is an office of the Board of Supervisors and provides independent fiscal & policy analyses, special studies and management audit reports on City departments and programs to the San Francisco Board of Supervisors. <http://www.sfbos.org/index.aspx?page=3703>.

Cable Franchise Administration: A cable television franchise fee in the United States stems from a community's basic right to charge for use of the property it owns. The cable television franchise fees represent part of the compensation a community receives in exchange for the cable operator's occupation and the right-of-way use of public property. A franchise fee is not a tax; it is a rental charge. Franchise fees are governed under Section 622 of the Cable Communications Act of 1984. Section 622, states that municipalities are entitled to a maximum of 5% of gross revenues derived from the operation of the cable system for the provision of cable services such as Public, educational, and government access (PEG) TV channels. http://en.wikipedia.org/wiki/Cable_television_franchise_fee. In San Francisco, the Cable Franchise Fee is administered by the Department of Technology, which also provides San Francisco Government TV. <http://www.sfgovtv.org/>.

Centralized: Centralization is the process by which the activities of an organization, particularly those regarding planning and decision-making become concentrated within a particular location and/or group. In political science, centralization refers to the concentration of a government's power into a centralized government. Centralization and decentralization also refer to where decisions are made in the chain of command. <http://en.wikipedia.org/wiki/Centralization>.

Charter: The primary document, similar to a Constitution, governing the structure of government of the City and County of San Francisco. [SF Charter Link](#).

Civil Grand Jury: The Civil Grand Jury scrutinizes the conduct of public business of County government. Its function is to investigate the operations of the various officers, departments and agencies of the government of the City and County of San Francisco. Each Civil Grand Jury determines which officers, departments and agencies it will investigate during its term of office. <http://www.sfcourts.org/index.aspx?page=212>.

Chief Information Officer or CIO: Chief information officer (CIO) is a job title commonly given to the most senior executive in an enterprise responsible for the information technology and computer systems that support enterprise goals. In San Francisco, there is a City CIO, who has responsibilities across the City. Several large departments within the City (DPH, Airport, Port, SFMTA, HSA, etc.) have a CIO. http://en.wikipedia.org/wiki/Chief_information_officer.

CIO Review Process: A process in San Francisco, whereby all IT spending, regardless of which particular departmental budget the funds come from, must be reviewed by the City CIO. The

purpose of this review is to gain an understanding of how SF spends money on technology, and to assure that spending is wasteful, and in line with City Policies.

City CIO: See **Chief Information Officer**.

Civil Service Commission: The Civil Service Commission oversees the merit system for the City and County of San Francisco. The Civil Service Commission establishes Rules and policy, hears appeals on examinations, eligible lists, minimum qualifications, classification, discrimination complaints, future employment with the City and other merit system matters, provides Rules and policies interpretation, reviews and audits merit system operation, approves contracting out based on the scope of services, and conducts training and outreach on the merit system. <http://www.sfgov3.org/index.aspx?page=230>.

COIT or Committee on Information Technology: COIT sets the overall direction of technology in the City. The purpose of COIT is to provide guidance and oversight to all City departments and agencies in the procurement, implementation and operation of technology to ensure a consistent high level of service to customers. Objectives of COIT include the following: Approve an annual citywide technology budget that supports the strategic business goals of the City; Ensure that department and citywide technology projects are supported by sound financial analyses and support the City business objectives; Ensure that citywide standards, policies, and procedures are developed, implemented, and maintained for all City departments; Ensure that technology project management methods, forms, and reporting are developed, implemented, and maintained; Ensure that the most appropriate use and allocation of technology resources are used including labor, hard/software, and services contracts. <http://www.sfcoit.org/index.aspx?page=609>.

COIT Architecture & Standards Sub-Committee: The Architecture Subcommittee of the COIT is responsible for advising the Committee on all issues relating to the City's technology architecture. <http://www.sfcoit.org/index.aspx?page=604>.

COIT Performance & Resources Sub-Committee: The quality assurance subcommittee of the COIT is responsible for advising the Committee on all matters relating to quality assurance. <http://www.sfcoit.org/index.aspx?page=605>.

COIT Planning & Budget Sub-Committee: The planning and budgeting subcommittee of the COIT is responsible for advising the Committee on all matters relating to technology planning and budgeting. <http://www.sfcoit.org/index.aspx?page=606>.

Communication Technology: Communication Technology, or Information and Communication Technology, is usually a more general term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers, middleware as well as necessary software, storage- and audio-visual systems, which enable users

to create, access, store, transmit, and manipulate information. In other words, ICT consists of IT as well as telecommunication, broadcast media, all types of audio and video processing and transmission and network based control and monitoring functions. [Communication Technology Link](#).

Consolidation: A form of centralization, but focusing only on those areas where a central organization can be more efficient at providing services that are common to many different groups. Examples include the managing of servers, databases, helpdesk, desktop support, local and wide area networking, telephony, etc.

Data Centers: A data center is a facility used to house computer systems and associated components, such as telecommunications and storage systems. It generally includes redundant or backup power supplies, redundant data communications connections, environmental controls (e.g., air conditioning, fire suppression) and security devices. http://en.wikipedia.org/wiki/Data_center.

Data Servers or Database Servers: A database server is a computer program that provides database services to other computer programs or computers. The term may also refer to a computer dedicated to running such a program. Database management systems frequently provide database server functionality. http://en.wikipedia.org/wiki/Database_server.

Decentralization: The process of dispersing decision-making authority down to the lower levels in an organization, relatively away from and lower in a central authority. In San Francisco, technology is highly decentralized.

Department Heads: Person who is in charge; "the head of the whole operation." <http://www.thefreedictionary.com/department+head>.

Departmental CIO or IT Managers: Similar to CIO, or Chief Information Officer. Departmental CIOs are the highest-ranking technology professional in an organization, such as, CIO-DPH, CIO-SFPD, CIO, etc. In this report of the Jury, we include the manager of an IT unit regardless of whether they possess the title of CIO. Generally, their responsibilities are limited to IT matters only within their organization.

Departmental ICT Units: A group of technologists headed by a Departmental CIO or other IT manager.

Desktop Management: The management and support of an individual user's computer(s). It can include installation and maintenance of software and hardware, administering user accounts, maintaining printers, etc.

Directive or Mayoral Directive: An order of the Head of the Executive Branch of government (the Mayor in the case of San Francisco) issued, under the authority of the office to administer all

departments within the Executive Branch, for departments to carry out some direction of the Mayor. The San Francisco Charter, Section 3.100 grants the mayor this authority. Example: <http://sfmayor.org/ftp/archive/209.126.225.7/executive-directive-09-06-open-data/index.html>.

Disaster Preparedness: Disaster recovery is the process, policies and procedures related to preparing for recovery or continuation of technology infrastructure critical to an organization after a natural or human-induced disaster. Disaster recovery is a subset of business continuity. While business continuity involves planning for keeping all aspects of a business functioning in the midst of disruptive events, disaster recovery focuses on the IT or technology systems that support business functions. http://en.wikipedia.org/wiki/Disaster_recovery.

Distributed: See **Decentralization**.

Dotted Line Relationship: A form of management in which a person has two managers - one primary, one secondary; generally separated into operational and functional activities.

Electronic Government or E-Gov: E-Gov is the provision of government information and services by means of the Internet and other computer resources. <http://www.thefreedictionary.com/e-government>.

eMerge: Project eMerge will provide improved human resources, benefits administration, and payroll services to the active, retired, and future workforce of the City through the implementation of Oracle's PeopleSoft Human Capital Management (HCM) 9.0 system. This project is being driven by the Controller's Office. The project started in April 2008 and was projected to take 2 ½ years. <http://www.sfcontroller.org/index.aspx?page=226>.

Enterprise Departments: Enterprise departments are agencies within City government that generate their own revenue or are funded with special funds, rather than by general fund revenues. SFMTA, Port, Airport, and PUC are Enterprise Departments. With the exception of SFMTA, these departments are self-supporting through fees they charge for their services. The City also has self-supporting departments, like the Department of Building Inspection.

Exempt: Employees are exempt from the civil service process. An exemption is granted usually because of the level of the position (e.g. department heads or deputy department heads), or because the duties are highly specialized (confidential secretary to a department head), or because the process by which the person achieved that particular classification constitutes a sufficient test (e.g. attorney, doctor). Employees in exempt positions are appointed by department heads, commissions, or the mayor, and serve at will. Benefits are similar to permanent civil service or provisional employees. Recruitment and selection for exempt positions is the responsibility of the person/commission that has the authority to appoint the candidate to the position.

Fluid Organization: In a fluid organization model, projects are handled by the best employees for the job and not by the employee's job description. Individual skills sets are emphasized rather than titles or length of time with the organization <http://www.fluidorganization.com>.

Full-Time Equivalent (FTE): One or more employees who cumulatively work 40 hours/week.

Functional Reporting Relationship: The normal, formal channels by which an employee is connected with coworkers, subordinates and superiors in order to perform the basic function. By defining the functional reporting relationship in an organization, one can determine who reports to whom. A functional reporting relationship could also refer to a situation where a manager has a dual reporting relationship---one to a functional head within the same function, and one to a general line manager. In this case, the functional reporting relationship is to the general manager. A functional reporting relationship of this sort is often called a "dotted line" reporting relationship.

Geographic Information Systems or GIS: A geographic information system is a system designed to capture, store, manipulate, analyze, manage, and present all types of geographical data. The acronym GIS is sometimes used for geographical information science or geospatial information studies to refer to the academic discipline or career of working with geographic information systems. In the simplest terms, GIS is the merging of cartography, statistical analysis, and database technology. http://en.wikipedia.org/wiki/Geographic_information_system.

Helpdesk: A help desk is an information and assistance resource that troubleshoots problems with computers or similar products. It provides a single point of contact for users to receive help on computer issues. The help desk typically manages its requests via help desk software, such as an issue tracking system. http://en.wikipedia.org/wiki/Help_desk.

Hybrid Model: A combination of Centralized and Decentralized IT Infrastructure. SF has a Hybrid Model.

Information and Communication Technology or ICT: For San Francisco, it refers to all technology use in the City, including security, access, infrastructure, communication and efficient computing. The City has a 5-year ICT Plan covering FY 2011-12 through FY 2015-16. <http://www.sfcoit.org/Modules/ShowDocument.aspx?documentid=829>.

Infrastructure: Information technology infrastructure is the integrated framework upon which digital networks operate. This infrastructure includes data centers, computers, computer networks, Database Management devices, the transmission media, including telephone lines, cable television lines, and satellites and antennas, and also the router. http://en.wikipedia.org/wiki/Information_technology_infrastructure.

Interactive Web And New Media Services: A service in the Department of Technology providing web and social media services.

Inter-Departmental Projects: A project that is either being developed by, or will be used by multiple departments. In San Francisco, eMerge and JUST.I.S are examples of inter-departmental projects.

Justice Tracking Information System (JUS.T.I.S.): The JUS.T.I.S. Program will integrate all City and criminal justice agencies' case management systems and replace a 35+ year old mainframe applications system. It will allow public safety departments to gather and share information with each other automatically through a centralized hub, expedite individual department processes and will result in a more efficient and effective criminal justice information system. The JUS.T.I.S. Governance Council was established by Administrative Code Section 2A.85 to provide policy direction and oversight. The City Administrator's Office is the executive sponsor of the program and the Department of Technology provides technical support. <http://www.sfgsa.org/index.aspx?page=4816>.

Licenses or Software Licenses: A software license is a legal instrument governing the usage or redistribution of software. All software is copyright protected, except material in the public domain. A typical software license grants an end-user permission to use one or more copies of software in ways where such a use would otherwise potentially constitute copyright infringement of the software owner's exclusive rights under copyright law. http://en.wikipedia.org/wiki/Software_license.

Local 21: The Information Technology Professionals Chapter of the International Federation of Professional and Technical Engineers, Local 21 [IFPTE/AFL-CIO] is the union that represents many of the IT workers in San Francisco. <http://ifpte21.net/>.

Mainframe Services: Powerful computers used primarily by corporate and governmental organizations for critical applications, bulk data processing, industry and consumer statistics, enterprise resource planning, and transaction processing. http://en.wikipedia.org/wiki/Mainframe_computer.

Major Service Area: San Francisco categorizes city departments in five different categories, including General Administration and Finance; Public Protection; Health, Human Welfare and Neighborhood Development; Culture and Recreation; and Public Works, Transportation, and Commerce.

Master Contracts: A master contract is a contract reached between parties, in which the parties agree to most of the terms that will govern future transactions or future agreements. A master agreement permits the parties to negotiate future transactions or agreements quickly, because they can rely on the terms of the master agreement, so that the same terms need not be repetitively negotiated, and to negotiate only the deal-specific terms. http://en.wikipedia.org/wiki/Master_contract.

Network Infrastructure: Network Infrastructure includes the physical hardware used to transmit data electronically such as routers, switches, gateways, bridges, and hubs, as well as the logical local area networks and WAN networks.

Permanent Civil Service (PCS): PCS may be full-time or part-time. The benefits to PCS positions include membership in the retirement system, health coverage, salary step increases based on union contract. An applicant will need to file an application, meet minimum requirements, and go through an examination process.

Permanent Exempt (PEX): See **Exempt**.

Professional Services Contracts: An agreement with a consultant for the rendering of professional services to the City. The contractor is not an employee of the City.

Project Management: Project management is the discipline of planning, organizing, securing, managing, leading, and controlling resources to achieve specific goals. A project is a temporary endeavor with a defined beginning and end, undertaken to meet unique goals and objectives. The temporary nature of projects stands in contrast with business operations.

http://en.wikipedia.org/wiki/Project_management.

Satisfaction Survey: Process of discovering whether customers/employees/business partners, etc., are satisfied with the products or services received from an organization. Customer answers to questions are used to analyze whether or not changes need to be made in business operations to increase overall satisfaction of customers.

Security: Information security means protecting information, and information systems and networks from unauthorized access, use or disruption.

Server: Another term for a computer that contains information accessed by many other computers simultaneously.

SF Government TV, SFGovTV, or SFGTV: SF Government TV provides a continuous archive of selected meetings and additional programming. They also provide video on demand via their website that lets you watch these programs online. See also Cable Franchise Administration.

<http://www.sfgovtv.org/index.aspx?page=8>.

Solid-Line Relationship: The typical organizational structure, where a person works directly for one person. See also Dotted-Line Relationship.

Stove-Piped Funding: A pejorative term for a system that has the potential to share data or functionality with other systems but which does not. The term evokes the image of stovepipes rising above buildings, each functioning individually. In San Francisco, the funding of ICT is within a department's budget, not within an overall citywide technology budget.

Technology Refresh: Tech Refresh is a pre-established schedule for updating software or hardware to keep up with the current technology.

Telecommunications Systems: Generally refers to voice and data transmission systems and networks.

Telephony: A term that simply means the telephone systems that support and organization. See also **Telecommunications Systems**.

Virtual Teams: A virtual team (also known as a geographically dispersed team or GDT) is a group of individuals who work across time, space and organizational boundaries with links strengthened by webs of communication technology. Members of virtual teams communicate electronically and may never meet face-to-face. http://en.wikipedia.org/wiki/Virtual_team.

Virtualization: Server virtualization is a specialized technology which uses a single server to appear as a unified system. In a virtualized server environment, special software is used to emulate the presence of many more servers, each having its own discrete environment. Virtualization is a popular trend in ICT.

Wide Area Networks or WAN: A Wide Area Network is a telecommunication network that covers a broad area and links organizations that are spread out. The organizations utilize WANs to relay data among employees, customers, and providers in various geographical locations. In essence this mode of telecommunication allows an organization to effectively carry out its daily function regardless of location. The public WAN is essentially your organization's connection to the internet. http://en.wikipedia.org/wiki/Wide_area_network.

Wireless Infrastructure and Services: Essentially a telecommunications network that is wireless rather than supported by a wired infrastructure. In San Francisco, the City is promoting and developing free wireless to citizens.

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