

**DRAFT 4.2**

# **COUNTY OF SAN MATEO**



## **COUNTYWIDE INFORMATION TECHNOLOGY STRATEGIC PLAN 2011- 2015**

**COUNTY OF SAN MATEO**  
**STRATEGIC DIRECTION FOR INFORMATION TECHNOLOGY**  
***Expanding Possibilities...Creating Solutions***  
**2011 – 2015**

**Foreword**

San Mateo County is committed to improving the effectiveness and efficiency of government services through the use of Information Technology (IT). It is the intent of San Mateo County to judiciously invest in IT in order to improve service delivery to the community we serve. The evolution of IT is creating opportunities for the County to not only improve efficiencies and lower costs, but to also re-engineer business processes. San Mateo County is committed to improving service and outcomes by implementing technologies and industry-proven processes that will make government services more efficient, more transparent and more available to the community we serve.

**Vision**

By the year 2015, residents and businesses in San Mateo County will be able to conduct the majority of their routine business with the County via automation. Many government services will be available 24 hours a day, 7 days a week. IT will facilitate coordinated services from the County that focus on the resident and are not constrained by departmental or geographic boundaries. The IT Strategic Plan (ITSP) contributes to our shared vision of a collaborative community, where leaders forge partnerships, engage and inform the community and approach issues with fiscal accountability and concern for future impact.

**Background**

San Mateo County has the responsibility and privilege of providing a wide and diverse range of programs and services to approximately 708,000 County residents. In order to provide these services, the County is organized into 21 departments with more than 5,000 full and part-time employees. San Mateo County provides a wide variety of programs and services for its residents ranging from vocational rehabilitation services to the issuance of building permits. In addition to providing County services, the County is the provider of many state mandated programs such as CalWORKs. San Mateo County's service spectrum is immense. Our current ITSP was adopted in 2008, had a three year time horizon and needs to be updated to reflect new IT opportunities as well as new County priorities. An assessment of the current ITSP shows that over 75% of the items recommended in the plan are either completed or in progress.

**Applicability**

The development of this Countywide IT plan was a collaborative effort involving all County departments as well as all levels of staff. As such, it represents the high-level IT goals and specific action steps the County will take over the next four years. Because IT evolves quickly and the needs of the County are changing, this IT plan will be reviewed and updated annually. The intent of this Countywide IT Strategic Plan is to A) provide a framework for IT decision making, B) bring attention to emerging IT the County should consider going forward, C) to call out specific action steps the County should take over the next few years and D) support a process in which cross-departmental and Countywide IT initiatives can be recommended. This Countywide IT Strategic Plan is not a substitute for departmentally-specific IT Plans that may provide sharper focus on the programmatic needs of a department.

## **Environmental Assessment**

### **Structural Budget Deficit**

San Mateo County continues to work through our structural budget deficit. During these uncertain and difficult financial times, investments in IT must be prudent, practical and supported by strong financial analysis.

### **Countywide Initiatives**

The County is in the middle of many organization-wide initiatives to both address the structural budget deficit and position the County for improved performance in the future. Many of these initiatives need IT in order to be successful. These include a review of space utilization, review of tele-work and hoteling opportunities, the creation of a Business Process Redesign cohort to review and redesign business processes, analysis of administrative and internal support functions such as fiscal/HR/purchasing/IT to identify opportunities to consolidate and share resources across departments, and, Web Site redesign to make more County services and information accessible and available online.

### **Changing Demographics**

As the population in San Mateo County changes, so do the County's demographics. The number of households in San Mateo County that have and use computers and/or web-enabled mobile devices is growing. County government faces the challenge of delivering cost effective solutions to residents that will likely expect government services to be commensurate with the services they receive from private businesses – namely services that are available when it is convenient for the customer and available via their home computer or wireless device. Concurrently, the fastest growing population in San Mateo County is residents over 60 years of age. Some of our residents may wish to interact with the County via automation while other residents may prefer to interact with the County via telephone or in person so providing service choices is important. Based on the latest census data, 25 percent of San Mateo County residents are Hispanic, 25 percent are Asian and 33 percent are foreign born. Additionally, 44 percent speak a language other than English at home. Effectively reaching our diverse community is a priority for the County and will be accomplished in several ways to include offering language choices on our web sites as well as our telephone-based call services.

### **Service Constrained by Organizational Structure / Process**

In many cases today, it is very difficult for residents and businesses to know who within County government provides the services they seek. In certain instances, multiple departments are involved in the delivery of a service, requiring a resident to travel around San Mateo County, going from department to department, in order to complete the entire transaction.

### **Uncoordinated Selection and Use of Technology**

San Mateo County spends millions of dollars annually on technology. The County's technology investments are often made with a departmental focus rather than with a broader countywide perspective. The inconsistent selection and use of technology can result in duplication of effort and excess cost to the County as a whole. The inconsistent selection and use of technology can also create barriers to data sharing and technology use that lead to a higher cost of ownership and decrease the benefits from a technology investment.

## **Technology Skills and Training of Workforce**

The County's reliance on technology increases each year. The County has made significant investments in IT systems that are now used daily for a variety of essential administrative and program functions. For the County to be effective and efficient, its workforce must be adequately trained in the use of technology. At this point in time, there is not a comprehensive technology training program in the County, and the technology skills of the County workforce vary greatly from department to department.

The challenges listed above are challenges to the County's goal of efficient and effective delivery of services to the public, and, often make the work County staff does more difficult. San Mateo County is recognized as an innovative and collaborative County and we will rely upon this spirit of innovation and collaboration as we work together with residents. While we face challenges, we should view these challenges as opportunities to leverage IT to work smarter, develop new service delivery methods and to continue to provide a high-level of service to the residents of San Mateo County.

### **Emerging Trends in Technology**

A number of existing, new and / or developing technologies will be vital tools for San Mateo County as we endeavor to provide the community we serve with the high level of service they should expect from The County. Technologies that will be critical to the County include:

#### **Web Technologies**

Web technologies, both the Internet and Intranet, will be the foundation for the delivery of electronic services to our residents. The County will utilize web technologies to deliver services to residents, businesses and employees. This technology will allow users to access information and services via computers, wireless devices, telephones and other devices that are web-enabled. Business partners will interact with the County via Internet connections that provide confidential and secure business transactions. Emphasis will be placed on supporting the mobile web visitor to include geo-locate support, way-finding technologies and "light-site" development. The County's new web presence should have the ability to host and distribute video content without regard to video format (support all media players). When used in combination with many of the other technologies listed in this section, the County will be able to provide improved access to government services and information, freeing up limited staff time to provide more direct services to the community we serve.

#### **Social Media**

Social media can be an effective and efficient way for local government to communicate and interact with the large cyber-community. It should support the way we communicate and collaborate with residents. Social networking improves interactivity between local government and the public, and, it reaches populations that do not consume traditional media. The County should use social networking to enhance our communication strategies. All government communication tools should be used in ways that maximize transparency as well as maintain the security of the network. The application of social media in local government must be done thoughtfully and in a manner that minimizes risk while maximizing engagement.

### **Workflow Automation / Collaboration Tools**

Workflow automation will move information through a work process electronically. As processes are re-engineered in order to facilitate greater efficiencies and / or service levels, the ability to quickly move information through the process will be critical. Workflow automation will use IT tools to move vital information through each step in a process. The County will implement automated workflow processes in order to move information where it is needed in the most efficient way possible.

### **Document Management / Imaging**

The use of Document Management / Imaging technologies will be expanded to facilitate greater levels of document storage and retrieval. The County currently utilizes a large amount of space to store paper documents. A coordinated implementation of Document Management / Imaging technology will decrease the amount of storage space needed, improve access to information, and facilitate data sharing.

### **Kiosk Technology**

Many routine County services can be provided by a kiosk. Examples include applying for a County position and accessing County web services. Kiosks can be placed throughout the County to provide access to information and services without having to come to a County facility. Kiosks can also be used to help a resident locate the nearest County facility providing the service they are searching for.

### **IT Security**

IT Security technologies continue to be essential to the County's effort to ensure the confidentiality, integrity and availability of our systems and the resultant data they store. Cyber threats have become more sophisticated and more common; no longer is just an attachment to an email threatening. Today even opening an email can infect a PC or the County network. While the County has a good track-record relative to IT security, we must not become complacent. We must employ the latest versions of IT security tools to include anti-virus, anti-spam, internet filtering and encryption. By doing so, the County will be ready to respond to the ever-changing IT security challenges we will face as we expand our web presence and provide increased mobile services.

### **Integrated Voice Recognition (IVR)**

Integrated Voice Recognition technology will be used by San Mateo County to provide electronic services to residents and employees who do not have computers or prefer not to use on-line services. Using a common touch-tone telephone, resident and employees will have access to many of the same services the County delivers to computer users via the Web.

### **Enterprise Database**

Databases are the common collection point for client data. Large scale, interoperable databases will be established and countywide reporting technologies developed to support aggregate reporting and to facilitate data sharing between County departments.

### **Decision Support**

County leadership is routinely confronted with decisions that have broad and lasting effects. The problems to be resolved are often very complex. Decision support systems will, when combined with Enterprise Databases, allow the County to use evidence-based analysis to help them make an informed decision.

### **Geographic Information Systems (GIS)**

“Where” is becoming a prevalent adverb used by executives when analyzing business information. GIS provides a powerful tool that allows users to view a wide variety of information (physical description, land use, financial, demographics, etc) all tied to a location. When integrated with information in an Enterprise Database, GIS tools will provide users with the ability to integrate information in existing systems to include Criminal Justice and Health with location, providing new and insightful data not currently available to the County.

### **File Server and Storage Technologies**

New technologies in the server environment will allow the County to consolidate computing power and to reduce licensing, hardware and support costs. This consolidation of computing power will streamline the server support function, allowing the County to more effectively utilize its existing technology personnel. Technologies such as virtual servers and mass storage devices will be powerful tools for the County as it focuses on controlling technology costs, managing our carbon footprint and improving computing reliability, security and performance.

### **Video Technologies**

Video Technologies will allow the County to deliver information and services in a new and easily accessed medium. For example, expanded Video Conferencing technology will allow the County to conduct meetings without the need for the participants to all be in a single location. Video-Web technologies will provide tools that will allow employees to participate in training and information sharing with other employees from their office computer. Streaming Video technologies will provide the residents of San Mateo County with the ability to view Board of Supervisor meetings from their home computers. Moving forward, the County must expand the use of video technologies to include supporting commercial video conferencing applications that extend beyond our private network. Supporting video conferencing technologies should be a consideration when acquiring IT edge equipment to include network appliances and PC's.

### **Strategic Goals**

San Mateo County seeks to maximize the investment of each dollar spent on IT. To accomplish this, the County will make appropriate investments in technology in order to:

- 1) Increase access to and availability of County Services
- 2) Provide County staff with enabling technologies
- 3) Realize Efficiencies and Cost Savings

### **Action Steps**

The County will focus its collective attention on the action steps below to achieve the strategic goals identified in this IT Plan.

**Action Steps**

<b><u>Action Steps</u></b>	<b>Countywide Strategic Goal</b>		
	<b>Increase access to and availability of County Services</b>	<b>Provide staff with enabling technologies</b>	<b>Realize Efficiencies and Cost Savings</b>
<b>The County will align IT investments* to the strategic goals of the Countywide IT Strategic Plan. The County will:</b>			
<ul style="list-style-type: none"> <li>Add a sentence to an IT-related Board memo that identifies which IT strategic goal(s) their recommendation aligns with</li> </ul>	●	●	●
<b>The County will develop a new web presence. The County will:</b>			
<ul style="list-style-type: none"> <li>Increase the quality, consistency and quantity of on-line information and services available to the community we serve</li> </ul>	●		●
<ul style="list-style-type: none"> <li>Seek public input on what County services or information the residents would like available on-line</li> </ul>	●		
<ul style="list-style-type: none"> <li>Ensure security and confidentiality of information and on-line transactions</li> </ul>	●		
<ul style="list-style-type: none"> <li>Implement web technologies and processes that simplify the posting and managing of web content and services</li> </ul>	●	●	●
<ul style="list-style-type: none"> <li>Offer services in a variety of ways to ensure everyone; regardless of ability, ethnicity, or experience with technology has access to County information and services</li> </ul>	●		●
<b>The County will provide IT standards, guidelines and staff training. The County will:</b>			
<ul style="list-style-type: none"> <li>Establish, promote and publish Countywide IT standards through an intuitive and transparent process</li> </ul>		●	●
<ul style="list-style-type: none"> <li>Expand its T-related course curriculum to ensure County staff have access to IT training in support of the technologies the County uses</li> </ul>		●	
<ul style="list-style-type: none"> <li>Establish and maintain a coordinated approach to business process redesign</li> </ul>		●	●
<ul style="list-style-type: none"> <li>Produce guidelines, published procedures and templates for commonly used IT processes</li> </ul>		●	●
<b>The County will develop and implement an interoperable, secure, adaptive and accessible IT environment. The County will:</b>			
<ul style="list-style-type: none"> <li>Prioritize the implementation of interoperable applications and processes that facilitate the concept of collecting information once and sharing information with other County departments that have the need and right to use it</li> </ul>	●		●

\* Medium to large IT projects are defined as any IT project that may impact multiple County departments, a user community greater than 50 or cost in excess of \$50,000 (RFP trigger).

<ul style="list-style-type: none"> <li>Develop, maintain and support comprehensive Information Security policies and procedures</li> </ul>	●		●
<ul style="list-style-type: none"> <li>Promote and support mobile computing. Any expansion of the County's communication infrastructure as well as the procurement of PC or desktop computing equipment will require support for mobile computing, location independent computing, hotel'ing and tele-working</li> </ul>		●	●
<ul style="list-style-type: none"> <li>Provide an IT infrastructure that will support the collection, storage, and easy access to multi-media, including text, audio, images, maps, and video</li> </ul>	●	●	
<ul style="list-style-type: none"> <li>Will develop a technology roadmap, schedule and budget for implementing Voice over Internet Protocol (VoIP) and related network convergence technologies</li> </ul>		●	●
<ul style="list-style-type: none"> <li>Strengthen our partnerships with local agencies to provide County information and services to residents by adding a County IT presence via County kiosk or other modality to non-County sites</li> </ul>	●		
<p><b>The County will utilize technology to control costs.</b>  <b>The County will:</b></p>			
<ul style="list-style-type: none"> <li>Implement digitizing and content management technologies to reduce the cost associated with managing and storing paper documents</li> </ul>		●	●
<ul style="list-style-type: none"> <li>Consolidate like technologies to eliminate unnecessary redundancies</li> </ul>			●
<ul style="list-style-type: none"> <li>Will migrate applicable elements of its IT infrastructure to cloud-based solutions</li> </ul>			●
<ul style="list-style-type: none"> <li>Conduct a Cost benefit Analysis (CBA) for every medium to large IT project *</li> </ul>			●
<ul style="list-style-type: none"> <li>Standardize specifications for PC's, Notebook computers, File Servers, Mass Storage Devices, Data-Base software and other core infrastructure equipment and software. IT hardware and software County departments should acquire is listed in <u>Exhibit A</u> and will be updated annually</li> </ul>			●
<ul style="list-style-type: none"> <li>Investigate Open Source software solutions as a means of reducing ongoing software maintenance costs</li> </ul>			●
<ul style="list-style-type: none"> <li>Focus on implementing proven, "off-the-shelf" solutions wherever possible and avoid customized IT solutions</li> </ul>			●
<ul style="list-style-type: none"> <li>Where feasible and prudent, the County will seek to establish public / private partnerships for the procurement, implementation and support of technology</li> </ul>	●		
<ul style="list-style-type: none"> <li>Will continuously review IT replacement cycles to determine if the useful life of IT can be extended</li> </ul>			●

### **Conclusion**

Moving forward, IT investments should be aligned with the strategic goals outlined in this document. Additionally, countywide and/or cross departmental IT initiatives will be reviewed and preliminarily ranked by the County's IT Steering Committee, The Information Management Planning Council (IMPC) and will then be presented to Executive Council and the Board Finance and Operations Committee prior to submitting to the full Board for funding consideration.

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## **EXHIBIT A**

### **IT HARDWARE AND SOFTWARE STANDARDS FY 2011-12**

- PC Dell Model 790 Small Form Factor I-5 2600 3.1GHz Processor, 4 GB RAM, 320 GB hard drive, Windows 7 Professional 32 bit OS
- Virtual Desktop Instance (VDI): Wyse P20 Terminal with running Windows 7 32 Bit OS VMWare View Version 4.6
- Office Automation: Microsoft Office 2010 Standard
- Database software: Oracle 11.G-R2 and above, Microsoft SQL Server 08-R2 and above, etc.
- Network Operating System: Microsoft Active Directory 08 and above
- Printer Black and White: HP P4014 Color: HP CP3525dn

**Proposed FY 2011-12 Countywide IT Initiatives**

**EXHIBIT B**

Priority Ranking	IT Initiative \ Idea	Brief Description of Initiative	Approximate Cost (1 time)	Savings Projections \ Efficiency Opportunity \ Benefit
1	Implement ATKS 24x7 Advanced Scheduler Module at SMMC	Implement the Advanced Scheduler module (currently County owned) of ATKS for 24x7 departments. This will improve time card coding by standardizing application of MOU rules, automating employee time data entry and improving staff scheduling capabilities.	\$4,500,000	An independent Cost Benefit Analysis (CBA) was completed in June, 2011. Results indicated ongoing post implementation annual savings of approximately \$4MM per year.  A Controller's Office CBA resulted in a very conservative estimate of a 49 month payback period, 6 year IRR of 16.6% and ongoing post implementation cost savings of approximately \$1MM per year.
1	Provide staging and storage environment for Board agenda materials.	In support of the vendor-based work flow solution for redesigning the agenda review process, leverage the County's Electronic Content Management (ECM) platform for submissions and archival.	\$50,000	Will standardize the location of Board materials while simplifying access of Board materials for both County staff and the community we serve
1	Implement a Master Address Database (MAD)	MAD will support property-reporting workflows required by County staff using an upgraded Property Review Application. In addition, staff will be able to maintain address data using the GeoMedia address maintenance tool, and departmental business systems will be able to use web services to validate addresses using an openly accessible address validation API.	\$195,000	By centralizing addresses in a single and complete source record the County can reduce duplicate effort, streamline existing address driven workflows and provide a high level of standardization across many County systems.

**EXHIBIT B**

Priority Ranking	IT Initiative \ Idea	Brief Description of Initiative	Approximate Cost (1 time)	Savings Projections \ Efficiency Opportunity \ Benefit
1	Criminal Justice Systems interoperability Cost benefit Analysis (CBA)	Determine savings associated with created a high level of integration of County criminal justice systems	\$125,000	This CBA will identify where savings can be achieved through greater interoperability of our criminal justice systems. This savings will offset the 1 time costs of implementing case management systems for the County's criminal justice departments – Probation, The Sheriff's Office and The DA's Office as well as the Courts.
1	Improve County web presence	Improve or replace the County's Content Management System (CMS)	TBD	Will simplify the posting of web content thereby reducing the time and cost of posting content while also improving the web experience of the community we serve.
1	Web content language translation	Translate primary web content into Spanish and other languages commonly used in our County.	TBD	Will make the County's eGov environment a helpful resource for all San Mateo residents.