IJIS Institute

Technology Adoption in Public Safety, Justice and Law Enforcement:
ROADMAP FOR SUCCESS

Acknowledgements

This document is a product of the IJIS Institute; a private nonprofit alliance working to promote and enable technology in the public sector and expand the use of information to maximize safety, efficiency, and productivity.

IJIS Mission

To drive public sector technology innovation and empower information sharing to promote safer and healthier communities.

IJIS Technology and Architecture Committee

Tom Carlson
Tom Carlson Consulting

Steve O'Connor
NG9-1-1and Communications Center Operations

Collin Evans
Analysts International Corporation

Anil K. Sharma
IBM

Barbara Holmes
National Center for State Courts

Gerald L. Ward
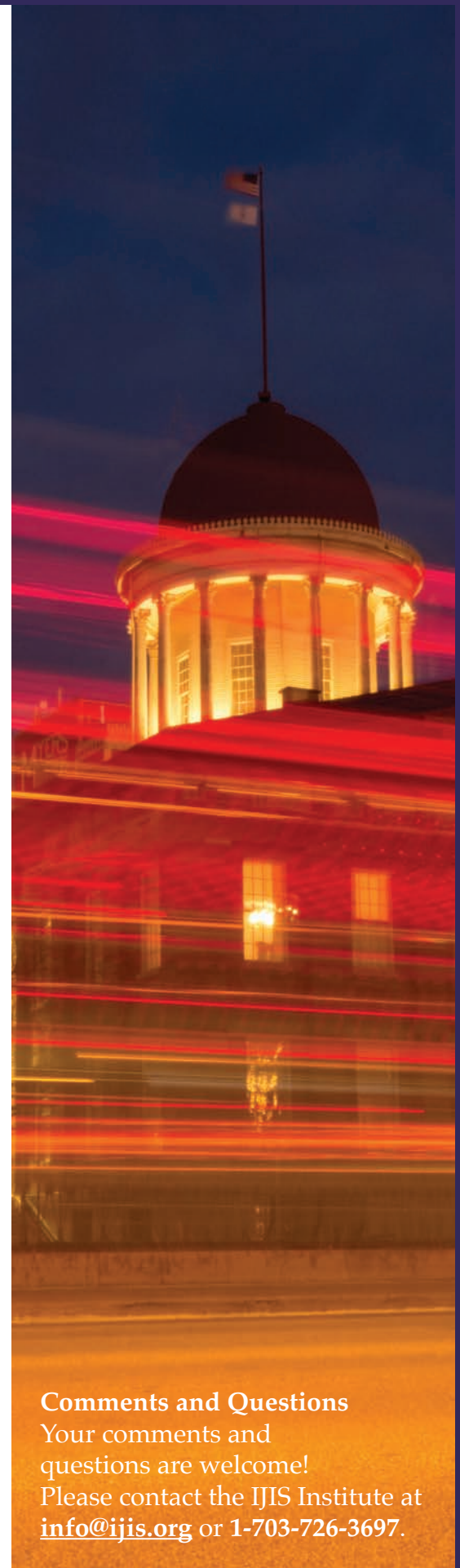*MTG Management Consultants L.L.C.*

Bob Kaelin
MTG Management Consultants L.L.C.

Cory Woods
County of Nevada

Dave McClure
Police Executive Research Forum

Comments and Questions
Your comments and questions are welcome! Please contact the IJIS Institute at **info@ijis.org** or **1-703-726-3697**.

Table of Contents

Table of Exhibits

1 # Introduction

The IJIS Institute's Technology and Architecture Committee (ITAC) is chartered with providing information to industry and practitioners regarding technologies, architectures, and standards that enable the successful adoption of technology in order to better meet their operational missions. Technology adoption is a discipline that crosses the criminal justice (Law Enforcement, Corrections, Courts), homeland security and public safety (Fire, EMS, Emergency Management) domains. The ITAC has developed this position paper on technology adoption for the benefit of our practitioners in these specific domains.

The organization of this paper is as follows:
- Section 2 provides a background with respect to some of the current activities with other Government entities in this space
- Section 3 presents an adoption roadmap. This section is the essence of the document.
- Section 4 discusses next steps.

2 # Current Activities in the Government Market

Most public sector organizations utilize a variant of the Capital Planning and Investment Control (CPIC) framework to help manage and govern technology adoption.

Exhibit 1. Capital Planning and Investment Control Process Example
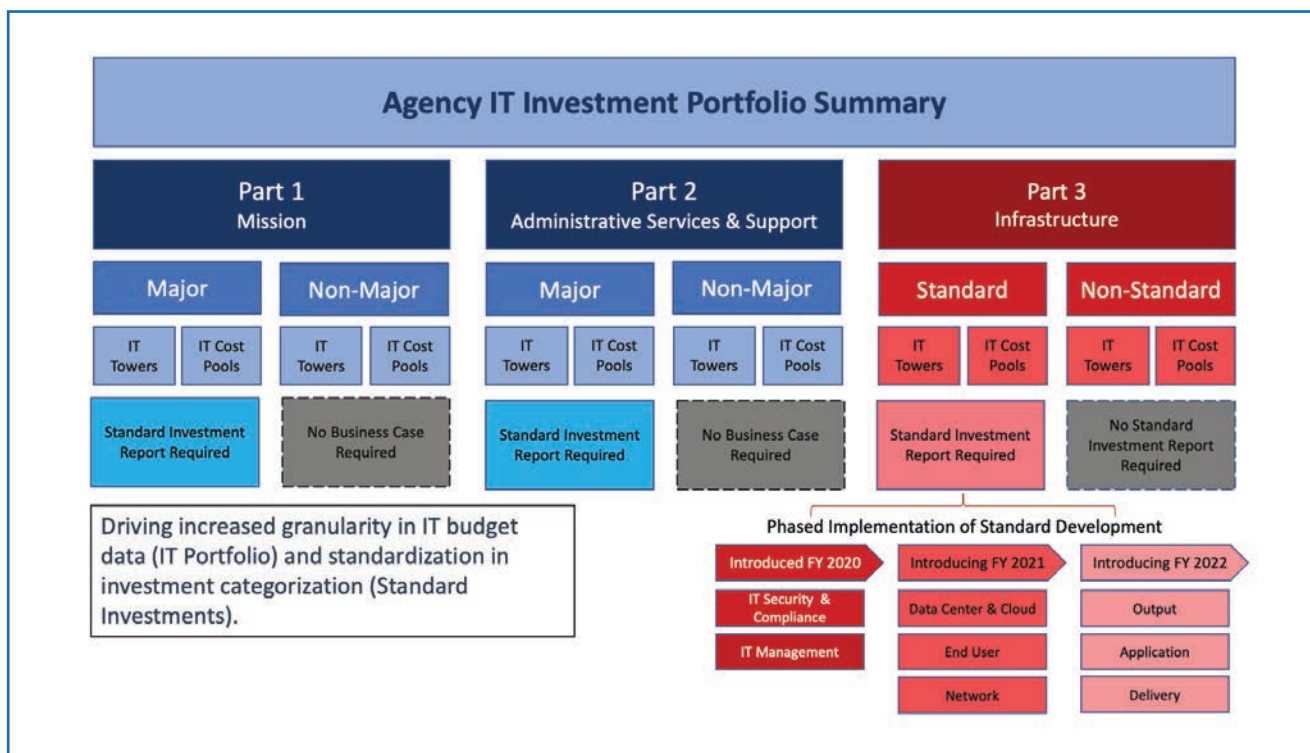
A representative process from OMB is provided at: https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/assets/egov_docs/fy19_it_budget_guidance.pdf.

3   Adoption Roadmap

As an organization looks to adopt and utilize new technologies, it needs to go through a set of steps to ensure that the technology acquisition, adoption and ongoing operations will be smooth across the entire organization. These steps cross mission, financial, policy, operational and personnel domains, and are detailed in the paragraphs that follow.

The approach taken below is one that, given a specific technology under consideration, walks the reader through the set of steps required to successfully adopt said technology in a public sector organization.

Exhibit 2. Technology Adoption Roadmap

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Assess Your Current Mission Needs and Gaps	Assess Target Technology	Assess Organizational Readiness	Develop Business Case	Develop Governance Structure and Operations Plan	Develop Technology Implementation Plan

3.1   Step 1: Assess Your Current Mission Needs and Gaps

Public sector organizations have specific, well defined missions and associated needs. As the landscape changes, gaps are created in the organization's capability to execute its stated mission. The idea here is to identify such performance gaps – gaps that a set of technologies or capabilities may address. Some of the drivers of mission gaps could include:

- An organization's need to be more effective and efficient in order to meet budgetary constraints.

- Changing mission and strategies. An organization may have expanded its mission for any number of reasons such as organizational changes, organizational consolidation, changing social & economic climate, etc.

- New legal landscape that requires additional capabilities. New legislative or executive mandates may require an organization to perform additional functions.

- New technologies that change the mission. For example, in the cybersecurity space, new hacker capabilities/tooling may require law enforcement to adopt additional tooling in order to be effective.

- A related technology adoption may require additional capabilities/functions in order to successfully support that technology. For example, wide adoption of a new DNA fingerprinting technology may require additional data storage and storage management.

The above list is not an exhaustive list but an illustration of some of the possible drivers. The key focus of this step is to clearly understand what the gaps are in an organization's ability to effectively deliver on its mission.

3.2 Step 2: Assess Target Technology

Once an organization is able to articulate the gaps and needs, the organization is ready to assess a potential technology's ability to fill those gaps. The process for assessing a potential technology's ability to meet an organization's needs is often unique to an organization. Organizational leaders need to ensure that a potential technology's ability to meet one or more gaps is assessed and that they agree with this assessment.

3.3 Step 3: Assess Organizational Readiness

Once an organization's gaps are articulated and it has been determined that the specific technology under consideration fills one or more of the gaps, the organization now needs to assess its ability to acquire, deploy, sustain, and maintain the specific technology. This organizational readiness assessment is done through different organization dimensions:

- People / Personnel
- Business Processes
- Data Collection Processing & Retention
- Locations / Facilities
- Supporting Technologies
- Policies and Regulations
- Ongoing Operational Funding

These are discussed in the paragraphs that follow.

3.3.1 Assess Personnel Readiness and Needs

The objective of this task is to assess the "people and personnel" dimension of the organization and address elements such as:

- Will we need additional personnel to support this new technology? If so, how many and with what skill sets?

- What additional training programs, if any, will we need to put into place?

- Will we need to create a new sub-organization/unit in order to support this new technology? If so, what will that need to look like?

- Have we exceeded the "tolerance threshold" for how much innovation our staff can "absorb" in a given timeframe? Are our people "burning out"?

3.3.2 Assess the Changes that May be Needed to Current Processes

The objective of this task is to assess the "process" dimension of the organization and address elements such as:

- Will we need additional processes to support this new technology? If so, what are those processes and what functions will they perform?

- If this technology is replacing an existing technology, will additional processes need to be created to address the "negative space" created by adopting this new technology?

3.3.3

Assess Data Needs

The objective of this task is to assess the "data" dimension of the organization and address elements such as:

- What additional data elements will be required to support this new technology?

- How will data be collected and/or processed?

- Do we have sufficient capacity to handle/manage this new data? If not, what will be needed? What options are available for the additional capacity?

- If this technology is replacing an existing technology, have we addressed the input/out put data needs of the organization? In other words, if certain data sets/elements were being utilized by the prior technology, have we addressed this specific data need?

3.3.4

Assess Potential Locations and Facilities Changes and Needs

The objective of this task is to assess the "location" dimension of the organization and address elements such as:

- Will we need additional facilities to support this new technology? If so, how many and what functions will they perform?

- Do we have sufficient project facilities to address the technology adoption and operational/ongoing facilities needs?

3.3.5

Assess Supporting Technologies Needs

The objective of this task is to assess the "supporting technologies" dimension of the organization and address elements such as:

- What additional supporting technologies will be required to support this new technology?

- Have we accounted for the supporting technologies in our current delivery capability? In our current funding profile? If not, what is needed?

3.3.6

Assess Need for Policy and Regulations Changes

The objective of this task is to assess the "policy and regulations" dimension of the organization and address elements such as:

- What additional policies and/or regulations are required to support this new technology?

- Have we accounted for these yet? Are the policy makers/organizational executives aware of what directives need to be issued?

- Do policy changes drive additional needs? Require additional budgets?

3.3.7 **Assess Operational Funding Requirements and Sources**

The objective of this task is to assess the "operational funding" dimension of the organization and address elements such as:

- What additional policies and/or regulations are required to support this new technology?

- Have we accounted for these funds? Do we have approvals?

- Have we included these additional funds in our budget planning process and subsequent budget requests?

3.4 ## Step 4: Develop Business Case

Once the organization has been assessed and a decision is made to move forward, a business case needs to be developed. All of the elements of step 3 provide the necessary input into the business case. Additional care is needed to address the organization's policies with respect to the content of business cases. Some of these are:

- What problem are we trying to solve?
- What are the available alternatives?
- What implementation options are being proposed?
- What is a milestone schedule for implementation?
- What types of resources are needed for both implementation and operations?
- What does the summary of the cost/benefit analysis based on the current state look like?
- What are the high-level risks?
- What is the summary of the spend plan?

3.5 ## Step 5: Develop Governance Structure and Operations Plan

As the technology implementation is being completed, the operational management teams would develop an operations plan along with the a governance structure for the technology. All of the elements of step 3 provide the necessary input into the operations plan and governance. Typically, the Operations Plan addresses:

- Program definition and scope;
- Personnel needs and management;
- Non-personnel resources;
- Operational support and maintenance;
- Program risks and risk management plan; and,
- Program budget management.

3.6

Step 6: Develop Technology Implementation Plan

Once the leadership has approved the business case, provided the associated funding needed, and the governance is in place, the organization needs to develop an implementation plan. The scope of such a plan is to define and detail both management of the implementation as well as the implementation steps. This is the Project Management Plan (PMP) for implementation. Typically, the PMP addresses:

- Project Scope;
- Project Schedule;
- Resources;
- Project Budget & Cost; and,
- Project Risks.

4

Summary and Looking Forward

Understanding the challenges inherent in implementing a new technology is significant. Defining the requirements, addressing policy, operational and solution needs must represent a comprehensive yet simple methodology. This paper contains a six-step roadmap for successful technology adoption in a public sector organization. Done successfully, the process described herein, reduces the overall technology adoption risks by identifying technology dependencies, associated costs, personnel needs, facilities requirements, and planning efforts. It also addresses ongoing operational needs of the organization. As a next step, public sector organizations need to take each of these steps and detail them with the specific legal, procedural and organizational policies and constraints.