



Statewide IT Investment Summary and Analysis

FISCAL YEARS 2010-2011

TACTICAL
PLANNING



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Organization of the Statewide IT Investment Summary and Analysis Report

The biennial Statewide IT Investment Summary and Analysis Report for the planning period for fiscal years 2010-2011 consists of five sub-reports. These are:

Executive Summary
Enterprise IT Planning
Strategic IT Planning
Tactical IT Planning
IT Project Planning

A series of appendices details the supporting data and analysis. Appendices are listed under "Contents" for a particular sub-report.

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O verview

This sub-report of the Statewide IT Investment Summary and Analysis Report presents and analyzes information and concerns stated in the agency IT plans from a tactical IT planning perspective.

The tactical planning section of agency IT plans documents activities and conditions that affect the IT environment in the areas of planning for application and infrastructure maintenance.

Application and infrastructure maintenance planning have been separated from IT project planning because of distinct differences. Figure T-1 describes the differences between an IT project and the two types of maintenance activities.

IT Project	Infrastructure Maintenance	Application Maintenance
<ul style="list-style-type: none"> ▪ Activity has a definite beginning and end. ▪ Activity is unique or non-routine for the agency. ▪ Activity is complex for the agency. ▪ Activity is undertaken to create a new IT capability or enhance an existing system. ▪ Activity consumes constrained resources (money, people, equipment, etc.) available to the project. 	<ul style="list-style-type: none"> ▪ Activity is routine and needs to occur on a regular basis. ▪ Activity is undertaken to maintain existing service levels for the user community. ▪ Activity is undertaken to maintain physical computing infrastructure or systems software (operating systems, compilers and utilities for managing computer resources). ▪ Activity involves purchased software package and ongoing maintenance thereof (whether externally or internally maintained). 	<ul style="list-style-type: none"> ▪ Activity is routine and needs to occur on a regular basis. ▪ Activity is undertaken to maintain existing service levels for the user community. ▪ Activity is undertaken to maintain application software developed in-house or end-user programs developed using databases, spreadsheets, word processing, etc.

Figure T-1. IT Activity Characteristics

This sub-report contains three major sections, as follows:

- **Application Maintenance.** Analysis of IT project duration data.
- **Infrastructure Maintenance.** Routine activities to maintain functionality of an agency's existing infrastructure.
- **Consolidated Observations.** The more critical issues from a tactical perspective of agency plans.

1 Application Maintenance

Application maintenance includes all agency IT activities routinely performed to maintain the functionality of current application software. Application maintenance also includes adding to or enhancing the capabilities and functionalities of existing applications, unless this activity is being treated as a project by the agency.

The following sections outline common application maintenance activities identified by agencies, divided into legacy application maintenance activities and Internet/Web environment maintenance.

1.1 Legacy Application Maintenance

1.1.1 APPLICATION MAINTENANCE ACTIVITIES

- Managing major software upgrades and routine enhancements of programs to gain efficiencies or comply with changes in legislation or requirements.
- Testing and installing routine maintenance releases for software patches, regulatory compliance, and minor improvements.
- Update applications to correct errors.
- Update applications to respond to enhancement requests.
- Modify applications to maintain compatibility with hardware and operating system improvements.
- Modify applications to allow use of newer application development tools.
- Purchase, analyze, and install new versions of customizable COTS.
- Install required patches for COTS software.
- Extending the use of applications to additional employees.
- Maintain applications in real time to reduce downtime.

1.1.2 SOFTWARE PACKAGES

- Maintaining software used for application development.

- Monitor and resolve issues with software version maintenance.
- Purchase of software to facilitate the development process.
- Purchase needed database software.
- Maintain software licensing.

1.1.3 DATA MAINTENANCE

- Support bi-directional interfaces between applications across agencies.
- Daily performance monitoring of databases.
- Maintain the data repository for reporting purposes.
- Work with other agencies to share data.
- Provide database administration support for testing, development, and production environments.
- Data cleansing and validity checking.

1.1.4 MATURATION OF MAINTENANCE ENVIRONMENT

- Increased usage of automated management of business rules and process workflows.
- Separation of data management functions from applications into separate data management tools for data storage and retrieval, report writing, and data exchange.

1.2 Internet/Web Environment Maintenance

The following activities are involved in Internet/Web environment application maintenance:

- Update the agency's public web site.
- Expanding the use of the extranet to allow clients to access tools, and to submit information electronically.
- Develop new web-enabled functionality as requested by users.
- Supply 24/7 support to online applications.
- Migrating in-house developed applications to a more secure, robust, and web-accessible platform.
- Re-design and re-write legacy in-house applications to utilize web-based technology.

1.3 Comparison to Previous Biennium: Application Maintenance Activities

Application maintenance activities did not change significantly between the planning period for fiscal years 2008-2009 and the planning period for fiscal years 2010-2011.

- Supporting bi-directional interfaces between applications across agencies were mentioned more often in FY10/11.
- Fiscal constraints were also mentioned more often in FY10/11 than in FY08/09.
- Agencies want to utilize the web environment as much as possible, but have to heavily prioritize these efforts given the current fiscal constraints.

2 Infrastructure Maintenance

The IT infrastructure includes certain hardware and software; telephone networks, local area networks (LANs), wide area networks (WANs), and other networks; certain security measures; and help desks. The IT infrastructure also includes electronic equipment that depends on telecommunication or IT networks. Thus, infrastructure maintenance includes all agency IT activities routinely performed to maintain the functionality of the current IT infrastructure, such as maintaining physical computing resources and updating system software.

2.1 Infrastructure Maintenance Activity

Infrastructure maintenance involves upgrades in the current computing infrastructure to sustain existing service levels for the user community. Divided according to the type of infrastructure component, sections 2.1.1 through 2.1.6 outline the common infrastructure maintenance activities identified by agencies.

2.1.1 HARDWARE RESOURCES

- Monitor, maintain, and replace servers.
- Upgrade existing systems to keep up with rapidly changing technology.
- Purchase hardware related to application development.
- Purchase and maintain needed database hardware.
- Maintain hardware licensing/maintenance contracts.
- Maintain compliance with computer and peripheral hardware standards.
- Replace hard drives and network SAN.
- Replace desktops. PCs, laptops, tablets, mobile printers, and handhelds.

2.1.2 SYSTEM SOFTWARE

- Complete system software upgrades for servers and computers.
- Purchase various software contracts to support system surveillance, diagnostic testing, error resolution,

performance, and database support.

- Purchase upgrades to PC operating systems.
- Consolidate PC operating system versions.

2.1.3 COMMUNICATION AND NETWORKING

- Monitor and maintain network routers, switches, firewalls, VPN, remote access, T1 lines, Ethernet circuits, and cables.
- Update/replace network storage.
- Improve/maintain telecommunications.
- Maintain LAN & WAN connectivity services.
- Maintain e-mail services.
- Supporting VoIP through network.
- Assess network infrastructure for reliability, performance, serviceability, end of life, and compatibility with future architectural direction of the enterprise platform.

2.1.4 SECURITY AND DISASTER RECOVERY ENVIRONMENT

- Testing strategies and security implementations.
- Secure applications by migrating them to platforms supported at an enterprise level.
- Update/upgrade applications to address security concerns.
- Maintain scheduled virus sweeps and scheduled backups.
- Maintain antivirus licenses.
- Expand use of encryption, security and integration with wireless devices.
- Continue to identify and mitigate security risks for firewall support, malware/spyware, and data removal.
- Maintain disaster recovery & business resumption plans.
- Maintain Uninterruptible Power Supply (UPS) equipment.

2.1.5 HELP DESKS AND OFFICE EQUIPMENT

- Purchase/Maintain/Replace copiers, scanners, work group printers.
- Provide customer support for technical issues through Help Desk operations including troubleshooting hardware and software problems, installation of hardware, software, operating systems, program applications, updates, and patches.

2.2 Comparison to Previous Biennium: Infrastructure Maintenance Activities

The Infrastructure Maintenance Activities did not change dramatically between the planning periods for fiscal years 2008-2009 and fiscal years 2010-2011, except in the area of security. The following areas experienced security improvements:

- Applications - Agencies addressed security concerns by updating applications and migrating them to enterprise level secured platforms, and by strictly enforcing testing strategies and security implementations.
- End-User Devices – End-user devices, particularly wireless devices, were made more secure by expanding the use of encryption security software.
- Data – Data was made more secure through better practices governing the physical devices storing data, and sanitizing the operational environment by maintaining scheduled virus sweeps and antivirus licenses.
- Operating Environment – Physical and virtual workspaces were made more secure through the identification and mitigation of security risks, targeting and removing computing risks (e.g., malware and spyware), and improving the security on physical devices (e.g., firewalls).

3 Consolidated Observations

The following summary of observations from this document highlights the more critical issues from a tactical perspective of agency plans. Each observation ends with a reference to the supporting report section.

- Supporting bi-directional interfaces between applications across agencies were mentioned more often in FY10/11. (1.3)
- Fiscal constraints were mentioned more often in FY10/11 than in FY08/09. (1.3)
- Security concerns were mentioned more often in FY10/11 than the previous biennium, mainly in the areas of applications, end-user devices, data, and operating environments. (2.2)

C ontact

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