A REPORT
TO THE
ARIZONA LEGISLATURE

Government Information Technology Agency

Year Ended June 30, 2003

STATE OF ARIZONA
OFFICE OF THE
AUDITOR GENERAL

Debra K. Davenport
Auditor General

The **Auditor General** is appointed by the Joint Legislative Audit Committee, a bipartisan committee composed of five senators and five representatives. Her mission is to provide independent and impartial information and specific recommendations to improve the operations of state and local government entities. To this end, she provides financial audits and accounting services to the State and political subdivisions, investigates possible misuse of public monies, and conducts performance audits of school districts, state agencies, and the programs they administer.

STATE OF ARIZONA
OFFICE OF THE
AUDITOR GENERAL

DEBRA K. DAVENPORT, CPA
AUDITOR GENERAL

WILLIAM THOMSON
DEPUTY AUDITOR GENERAL

July 23, 2004

Chris Cummiskey, Director and State CIO
Government Information Technology Agency
100 North 15th Avenue, Suite 440
Phoenix, AZ 85007

Dear Mr. Cummiskey:

In planning and conducting our audit of the State of Arizona for the year ended June 30, 2003, we considered the Government Information Technology Agency's internal controls over financial reporting as required by *Government Auditing Standards* (GAS), issued by the Comptroller General of the United States.

Specifically, we performed a limited review of state revenues collected through the Arizona @ Your Service Web portal.

There are no audit findings that are required to be reported by GAS. However, our audit disclosed internal control weaknesses that do not meet the reporting criteria. Management should correct these deficiencies to ensure that it fulfills its responsibility to establish and maintain adequate internal controls. Our recommendations are described in the accompanying report.

This letter is intended solely for the information of the Government Information Technology Agency and is not intended to be and should not be used by anyone other than the specified party. However, this letter is a matter of public record, and its distribution is not limited.

Should you have any questions concerning its contents, please let us know.

Sincerely,

Debbie Davenport
Auditor General

TABLE OF CONTENTS

INTRODUCTION
& BACKGROUND

The Office of the Auditor General has performed a limited review of state revenues collected through the Arizona @ Your Service (Portal) Web portal, managed by the Government Information Technology Agency (GITA). This review was conducted in conjunction with planning and performing the annual financial and compliance audit of the State of Arizona. The financial and compliance audit of the State is conducted under the authority vested in the Auditor General by Arizona Revised Statutes (A.R.S.) §41-1279.03.

GITA's role in electronic government

GITA was established in 1997 to plan and coordinate information technology for state government and provide related consulting services. One of its primary statutory responsibilities is to approve agencies' information technology projects, including electronic government projects, costing between $25,000 and $1 million, and monitoring the projects that are considered critical to the State. GITA has developed a project investment justification process to evaluate proposed agency projects. In addition, it has developed the *Arizona Enterprise Architecture* that describes a comprehensive framework for information technology projects, including electronic government services. GITA also provides staff support for the Information Technology Authorization Committee, which reviews and approves state agencies' information technology projects costing more than $1 million.

Arizona @ Your Service

In March 2001 GITA contracted with IBM to develop, deliver, maintain, and operate a Web-based portal, the Arizona @ Your Service Web portal. GITA's objective was to establish a user-friendly "one-stop shopping" Web site for citizens, businesses, and other government entities. The portal functions as an interactive information and transaction system. Users can access electronically delivered state government services and informational Web sites. Under the contract, IBM is responsible for:

- Developing a Web-based portal that provides multiple search options so users can locate government services and information.

- Assisting in developing portal applications that electronically deliver services and information to users.

- Developing processing applications that can support revenue-generating electronic government services.

- Maintaining the Portal's hardware, software, and telecommunications facilities.

- Marketing the Portal's availability to citizens, businesses, and employees.

Subscription and convenience fees paid by portal users and application development and transaction fees paid by state agencies fund IBM's costs for Portal development, operation, maintenance, and marketing. The Portal hosts four applications, only one of which generates state revenue. This application, the Department of Transportation's Motor Vehicle Records Request System, sells individual and commercial driver's license records to insurance companies and other authorized entities for a convenience fee. Non-revenue-generating applications include issuing permits for the Department of Environmental Quality, collecting DUI information for the Governor's Office of Highway Safety, and a geographic information system.

State agencies are not required to use the services provided by the contract with IBM. Instead, they may develop their own electronic government services or contract with other vendors. These separately developed services operate independently of the Portal, but can be linked to it. While reviewing state revenues collected through the Portal, auditors noted that state agencies have implemented revenue-generating electronic government services that are linked to the Portal. See the Other Pertinent Information section on page 11 for a description of some of the separately developed services in operation. GITA reviews and approves these projects if they cost more than $25,000 through its project investment justification process.

Audit scope and methodology

This review was performed in conjunction with the annual financial and compliance audit of the State of Arizona. Generally accepted auditing standards require auditors to obtain an understanding of the entity's internal controls and determine whether they have been placed in operation. However, the scope of work for this review was limited to obtaining an understanding of key administrative controls because of the relative insignificance of revenues currently generated through the Portal. This report includes two findings and recommendations in the following areas:

- GITA should negotiate an amendment to the IBM contract during the April 2005 renewal to require a third-party assurance review by an independent auditor.

- GITA should work with the State Procurement Office (SPO) to develop standard contract terms and conditions requiring third-party assurance reviews. These terms and conditions should be included in all state agency contracts for third-party processing services. Furthermore, GITA should make approval of agency electronic government projects contingent upon including these terms and conditions in proposed contracts. Also, GITA should work with the Information Technology Authorization Committee to ensure vendor contracts include standard terms and conditions requiring third-party assurance reviews.

This report also presents other pertinent information on pages 11 through 13 related to electronic government services offered by the Department of Transportation, Department of Economic Security, and Department of Game and Fish. Information is also presented on the development of electronic government services in five other states.

Auditors used a variety of methods to obtain an understanding of key administrative controls established for revenues generated through the Portal. These included interviewing GITA personnel, reviewing the IBM contract, and reviewing GITA's related policies, standards, and procedures. Auditors also utilized the *Risk Assessment Guidebook For Electronic Commerce/Electronic Government* issued by the National Electronic Commerce Coordinating Council in order to identify key administrative control issues.

Auditors interviewed personnel from the Department of Transportation, Department of Economic Security, and Department of Game and Fish to evaluate the development of electronic government services within the State and determine the significance of revenues generated. These departments have elected to develop or contract for electronic government services that are linked to the Portal, but operate independently of it. Auditors also examined the related policies, procedures, standards, and contracts for these departments.

Auditors interviewed representatives from Indiana, Pennsylvania, Texas, Virginia, and Washington to determine how these states manage and fund electronic government services. These states were chosen based on their top ranking in *Government Technology Magazine's* "2002 Best of the Web Competition Results." Auditors also reviewed relevant literature to obtain a better understanding of how state and local governments currently manage electronic government services.

RECOMMENDATION 1

The Web portal contract should be amended to require an independent assurance review

GITA must ensure that IBM administers the State's electronic government services in a well-controlled and secure manner. IBM collects, processes, and transmits confidential and sensitive financial and nonfinancial information on the State's behalf through the Portal. As a result, the State has become dependent on controls established by IBM to ensure the security and integrity of this information. The current contract between GITA and IBM does not require that an assurance review be performed by an independent third-party to evaluate IBM's controls related to the State's Portal. Such reviews are generally performed by independent auditing firms and are an effective means of ensuring that electronic government services are delivered in a well-controlled and secure manner. Professional standards have been developed to provide guidance for third party assurance reviews conducted by independent auditing firms. GITA should review this guidance and negotiate an amendment to the IBM contract to require an external assurance review.

Electronic government services must be delivered in a controlled and secure manner

The success of the Portal is dependent upon IBM delivering electronic government services in a well-controlled and secure manner. As a service provider, IBM has become an integral part of the State's information technology systems. Through the Portal, it collects, processes, and transmits confidential and sensitive financial and nonfinancial information. This information must be sufficiently secured to ensure public confidence and the integrity of the State's information.

Public confidence and trust are vital—To ensure the long-term success of electronic government services, the State must maintain the confidence and trust of

the public. Citizens must feel confident of the privacy and security of their personal information before they will use electronic government services on a continuing basis. The State will not realize the economies and efficiencies of delivering services electronically unless public confidence is maintained. Therefore, to adequately protect the public, GITA must ensure that IBM's controls are sufficient to maintain online privacy and confidentiality.

Integrity of financial information must be protected—GITA must ensure that the integrity of the State's financial transactions processed through the Portal is protected. The Portal consists of infrastructure (facilities, equipment, and networks), software (systems, applications, and utilities), people (developers, operators, users, and managers), procedures (automated and manual), and data (transaction streams, files, databases, and tables). IBM's controls must be sufficient to maintain adequate security for the Portal's infrastructure and software. In addition, controls must be adequate to ensure the processing integrity of financial transactions. The State's ability to monitor and report financial transactions processed through the Portal could be negatively impacted if IBM fails to develop, implement, and maintain effective controls.

Ultimately, the growth in electronic government services will significantly impact the State's finances as citizens conduct more business through the Portal. When this occurs, the State's financial auditors will not be able to provide an audit opinion on the State's financial statements without reviewing the Portal service provider's controls and transaction data. The State's audit opinion may be negatively impacted if auditors conclude that the Portal service provider has not established effective controls. Therefore, to protect the integrity of the State's financial information, GITA should ensure that IBM's controls are sufficient to maintain adequate security and processing integrity before the Portal becomes more significant to the State's revenues. Assurance reviews conducted by independent auditors are an effective means of ensuring that IBM's controls are sufficient to protect the public and maintain the integrity of financial information. However, the current contract with IBM does not require such a review.

The IBM contract does not require a third-party assurance review

The current contract with IBM does not require that periodic assurance reviews be conducted by independent auditors. During its evaluation of vendor proposals for the Portal, GITA requested that the Office of Auditor General review and comment on audit and control concerns for the proposals submitted. The Office expressed concerns that some vendor proposals did not specifically provide for independent assurance reviews. The original Request for Proposal required independent assurance reviews, with the resulting reports being submitted to the State. However, these requirements were omitted from the final contract negotiated with IBM. While the contract allows GITA access to IBM's premises and records to inspect and test the materials (for example, programs, documentation, reports, etc.) used to provide services, GITA has not conducted such a review because it lacks resources.

Given GITA's limited resources, it should negotiate an amendment to the IBM contract to require an independent assurance review. An assurance review of IBM's controls for the State's Portal should focus on key areas such as online privacy, confidentiality, security, and processing integrity. Assurance reviews are an effective means of ensuring that a vendor administers electronic government services in a well-controlled and secure manner. They are also cost-effective as the fees associated with such a review can be allocated over all of the vendor's customers using the same facilities and/or services. Furthermore, the State's auditors can rely on an adequately performed assurance review when conducting the annual financial statement audit, which avoids the cost of conducting audit work at the vendor's place of business. GITA should review available professional standards when developing the amendment to the IBM contract.

Professional guidelines have been developed for assurance reviews of service providers

The American Institute of Certified Public Accountants (AICPA) issued guidelines in its Statement on Auditing Standards No. 70 for independent auditors to follow when reviewing the control activities of service organizations. GITA should review these guidelines when developing the amendment to the IBM contract. IBM meets the definition of a service organization, as it provides services that are an integral part of the State's information technology systems. The extent of work an auditor is engaged to perform at a service organization depends upon the level of assurance required by the user organization, such as the State. The assurance review can determine if controls are in place, or it can also determine if controls are operating effectively. GITA would need to determine the level of assurance it requires to effectively monitor whether IBM has developed, implemented, and is maintaining adequate controls for the Portal. In addition, it must also consider the level of assurance required by the State's financial auditors.

Recommendation

GITA should negotiate an amendment to the IBM contract during the April 2005 renewal to require an assurance review by an independent third party. These reviews should include assurance on key areas such as online privacy, confidentiality, security, and processing integrity. Further, GITA should review professional guidelines issued by the AICPA when developing this contract amendment.

RECOMMENDATION 2

Agency contracts should require independent assurance reviews

GITA should ensure that state agency contracts for electronic government services require independent assurance reviews. While reviewing state revenues collected through the Portal, auditors noted that other state agencies are contracting with vendors for electronic government services. These services were linked to the Portal, but operated independently of it. For example, the Department of Game and Fish has contracted with Systems Consultants Incorporated (SCI) for an electronic government service that allows the public to purchase state hunting and fishing licenses over the Internet. Through this contract, SCI has, like IBM, become an integral part of the State's information technology systems. SCI collects, processes, and transmits confidential and sensitive financial and nonfinancial information on behalf of the Department of Game and Fish. The Department's contract with SCI does not require that an assurance review be performed by an independent auditor. Furthermore, the Department has not reviewed SCI's controls since the contract was awarded in July 2000.

One of GITA's primary statutory responsibilities is to approve agency information technology projects, including electronic government projects costing between $25,000 and $1 million. To fulfill this requirement, GITA has developed a project investment justification process. Statute allows GITA to establish conditional approval criteria for proposed projects. GITA should work with the State Procurement Office (SPO) to develop standard contract terms and conditions requiring independent assurance reviews of vendors providing electronic government services. Furthermore, GITA should make approval of agency electronic government projects contingent upon including these terms and conditions in proposed contracts. Also, GITA should work with the Information Technology Authorization Committee (ITAC) to ensure vendor contracts for electronic government projects costing over $1 million include terms and conditions requiring independent assurance reviews.

Recommendation

GITA should work with SPO to develop standard contract terms and conditions requiring third-party assurance reviews for applicable information technology vendors. Furthermore, GITA should make approval of agency electronic government projects contingent upon including these terms and conditions in proposed contracts for third-party processing services. Also, GITA should work with ITAC to ensure vendor contracts include standard terms and conditions requiring third-party assurance reviews.

OTHER PERTINENT INFORMATION

The information contained in this section is provided as additional background on how electronic government operates in Arizona and other states.

Electronic government in Arizona

Auditors interviewed personnel from the Department of Transportation (ADOT), Department of Game and Fish, and Department of Economic Security (DES) to evaluate the development of electronic government within the State and determine if significant revenues are being generated through these systems. Each of these departments has implemented services that are linked to, but operate independently of, the Arizona @ Your Service Web portal. The services developed by ADOT and Game and Fish were implemented prior to the development of the State's Portal. Revenues generated through these services are growing steadily and are significant to both departments, but are not yet significant to the State's revenues. Electronic government services implemented by DES are expected to begin operating by May 2004.

- **Arizona Department of Transportation**—ADOT contracted with IBM to implement ServiceArizona in November 1997. This electronic government service allows users to complete a variety of transactions such as vehicle registration renewals, driver's license address changes, and voter registration. By contract, IBM earns user convenience fees and other transaction-based fees that are paid by ADOT for providing the service. For example, A.R.S. §28-5101 guarantees a minimum of $5 per transaction for a single-year vehicle registration renewal. However, the fee earned could be higher, as vendors receive a $1 registration fee plus $4 or 2 percent of each vehicle license tax payment, whichever is greater. Therefore, when the vehicle license tax is greater than $200, the vendor earns more than $5 on the transaction. Fees for other types of transactions vary depending on statutory requirements and the contract terms. During the period June 2002 through July 2003, ADOT received $139,797,175 from transactions processed through ServiceArizona. IBM received $7,706,613 in fees and reimbursements during this same period.

- **Department of Game and Fish**—In July 2000, the Department contracted with Systems Consultants Incorporated (SCI) to implement and maintain an electronic government service that allows users to purchase state hunting and fishing licenses over the Internet. This service also allows hunters to apply for the State's annual big game draw. A.R.S. §17-338 authorizes the Department to impose additional fees for services provided through the Internet. During the period September 2002 through August 2003, the Department sold approximately $890,000 worth of hunting and fishing licenses over the Internet. The contract with SCI provides for varying transaction fees depending on the service provided. For example, SCI earns 5 percent of the value of each fishing license sold (the same commission as all other license vendors) plus a $2 convenience fee assessed to the user.

  The Department is also implementing a watercraft registration renewal service for the Internet. This service will be self-funded through fees assessed on the value of each renewal and convenience fees assessed to the user. A contract was awarded to SCI in September 2003 to develop, operate, and maintain this service.

- **Department of Economic Security**—DES has developed and implemented electronic government services to provide services to clients, employers, business partners, and other governments. For example, DES has services that allow clients to file unemployment insurance claims over the Internet or through an interactive voice response system. Another Internet service that allows employers to file quarterly unemployment insurance tax reports is being enhanced to allow them to also pay the tax amounts due. DES anticipates that this enhancement will be operational by May 2004.

Electronic government in other states

Organizational structure—Auditors interviewed officials from Indiana, Pennsylvania, Texas, Virginia, and Washington to determine how they are managing and controlling the growth of electronic government services. Four of these five states have contracted with vendors to develop, operate, and maintain their electronic government services. Based on the interviews, auditors identified three different models these states are using to manage and control the growth of electronic government services.

- One state uses a *centralized model* in which a single agency is responsible to contract for and coordinate all electronic government services. All services must operate through the portal.

- Three of the states have adopted a *decentralized model* and allow departments to develop or contract for services that are linked to the portal, but operate independently of it. Electronic government services in Arizona are developing in this manner.

- One state uses a *hybrid model* in which some departments are required to operate their electronic government services through the portal (for example, small licensing boards). Departments not required to use the portal are not permitted to duplicate services available through the portal (for example, payment processing).

Portal funding—While interviewing other state officials, auditors inquired about how these states were funding their electronic government initiatives. Auditors also conducted a literature search to determine if there were other funding mechanisms that have been implemented by state and local governments. Generally, governments use appropriations, convenience or transaction fees, or a combination of both to fund electronic government services. Some governments have implemented a self-funding model in which a convenience or transaction fee is added to transaction types that the government has identified that users will be willing to pay. The fee amount is set to support the costs associated with operating the electronic service without discouraging online usage. Often, the fees generated from these services are sufficient to fund all electronic government services. Other governments have added convenience or transaction fees to all related activities, regardless of whether the transaction is conducted online or over-the-counter. However, some governments believe that adding transaction or convenience fees is a disincentive for using online services. These governments fund all services through appropriations.

AGENCY RESPONSE

JANET NAPOLITANO
GOVERNOR

CHRIS CUMMISKEY
DIRECTOR

STATE OF ARIZONA
GOVERNMENT INFORMATION TECHNOLOGY AGENCY
100 N. 15th Avenue, Suite 440
Phoenix AZ 85007

M E M O R A N D U M

To: Office of the Auditor General
         Debbie Davenport, Auditor General

From: Government Information Technology Agency
         Chris Cummiskey, Director, State CIO

Date: May 25, 2004

Re: Response to Management Letter Recommendation One

The Government Information Technology Agency (GITA) agrees with the statement from the Management Letter:

> To ensure the long-term success of electronic government services, the State must maintain the confidence and trust of the public. Citizens must feel confident of the privacy of their personal information before they will use electronic government services on a continuing basis. The State will not realize the economies and efficiencies of delivering services electronically unless public confidence is maintained.

GITA also agrees with the assessment that Portal does not process a significant amount of financial and non-financial information at this time. However, GITA anticipates that the number of transactions will increase over the next few years. The decision has not been made at this time to extend the IBM contract for the 5th and final year, or to re-solicit the web portal contract in 2005.

There are some financial constraints relating to the termination of the IBM Portal contract, which may complicate the inclusion of a third party audit in the final year of the contract. Basically, the State will not be able to amortize the cost of an independent third party audit of the Web Portal activities over the final year of the contract. GITA is available to discuss the details of these constraints with the Office of the Auditor General if necessary.

Because GITA understands the importance of protecting the State's financial and non-financial information, GITA staff is working with IBM to complete a first party audit of the web portal during the current contract term. The cost of this type of audit will be significantly lower than a third party audit, and GITA believes it will be sufficient to protect the State during the final year of the contract. If an arrangement cannot be made to complete the audit during the current term, GITA will work with the State Procurement Office to make a first party audit from IBM a requirement for contract extension.

GITA will dedicate staff to working with the IBM internal auditors to:

- Define the scope of the audit
- Monitor the activities of the audit
- Review the results of the audit
- Seek additional information and changes as necessary

GITA welcomes the involvement of the Office of the Auditor General in this process.

At the time of the next solicitation of the Web Portal service contract (either in April of 2005 or April of 2006), GITA will advise SPO to utilize the recommended solutions that will have been developed relating to independent assurance reviews of IT contracts with third-party vendors. These solutions will be explored by GITA in response to Management Letter Recommendation 2 and with input from stakeholders and will outline the processes necessary to protect the State's financial and non-financial information and business processes.

STATE OF ARIZONA
GOVERNMENT INFORMATION TECHNOLOGY AGENCY
100 N. 15th Avenue, Suite 440
Phoenix AZ 85007

M E M O R A N D U M

To: Office of the Auditor General
        Debbie Davenport, Auditor General

From: Government Information Technology Agency
        Chris Cummiskey, Director, State CIO

Date: July 7, 2004

Re: Response to Management Letter Recommendation Two

Background

The Office of the Auditor General has recommended that GITA work with the Department of
Administration, State Procurement Office (SPO) to develop standard contract terms and conditions
requiring third-party assurance reviews for applicable information technology vendors.

GITA agrees that a secure and controlled operating environment should be a fundamental
requirement for any outsourced processes (including eligibility and service applications) utilizing
electronic data of a sensitive and confidential nature.

Discussion

While GITA agrees with the assessment of the problem and subsequent conclusion that a secure
environment for outsourced data and business processes is necessary, the agency does not have
enough information at this time to determine whether implementation of Recommendation 2 is
feasible and whether GITA is the correct agency to implement the requested solution. Third-party
assurance reviews, while optimum, are a costly approach and may not be necessary in all cases.
The challenge is to adequately protect the State's outsourced data and business processes while
minimizing the costs of these protections. GITA believes that in many cases up-front planning and
proper project management can be a more cost-effective approach to protecting the State than
mandating assurance reviews of completed projects. The decision to require an assurance review
should be made based on a risk assessment that takes into account project cost, sensitivity of data,
and other factors.

GITA's major roles are to assist agencies in their IT planning process and to oversee projects as
agencies implement them. As part of our agency mission, GITA endeavors to ensure that
information technology projects are well planned and managed from the conceptual phase through

implementation. In this capacity, GITA works to protect the State's data and data processes and is always looking to improve its operations to be even more effective.

Since it is not part of GITA's statutory powers or mission to manage procurement, SPO will ultimately have to implement any changes to contracting procedures. However, GITA staff is willing and able to set standards and make recommendations to procurement staff on matters within our statutory purview.

Contemplated Approach

GITA and the State have several mechanisms already in place and available to ensure that the State's data is protected, that outsourced application processes work properly, and that individuals' privacy is maintained. An information gathering process whereby GITA conducts an assessment of these mechanisms, will provide all stakeholders with a better idea about what is necessary to move forward.   This process is intended to give the agency a better idea about which types of projects need assurance reviews and when reviews are not necessary. GITA's assessment will begin with an analysis of the tools that are currently available to the State throughout the various phases of a project.

Planning Phase:
At the project planning level, the State's Enterprise Architecture program and related policies, standards, and procedures partnered with the Project Investment Justification (PIJ) process set the building code for safe and secure data. GITA will review these programs to determine if any modifications could potentially make the State's data more secure.

Implementation Phase:
During the implementation phases, GITA oversees IT projects to make sure that they are completed on time and on budget. In addition, GITA is currently implementing a Statewide Quality Assurance (QA) program to ensure that agencies have adequate management processes in place make certain that the delivered product meets or exceeds the State's needs. As GITA develops QA goals and standards, the program will become an important part of agency planning and organization along with project management and monitoring.

Control Phase:
GITA will review the current practices in the control phase of projects. In the cases where assurance reviews are deemed necessary, there are several entities available for reviewing IT projects, including:
o   The Office of the Auditor General
o   Auditors within Executive Branch Agencies
o   Internal Auditors at Outsource Vendors
o   Third-Party Auditors

Each of these audit entities provides distinct advantages and disadvantages that will be evaluated during the assessment period.

At the completion of the assessment period, GITA will be in a better position to make recommendations as to the types of projects that require assurance reviews and what levels of review are appropriate.