

**1. AUTHORITY**

The Government Information Technology Agency (GITA) shall develop, implement and maintain a coordinated statewide plan for information technology (IT) (A.R.S. § 41-3504(A (1))) including the formulation of policies to effectuate the purposes of the agency (A.R.S. § 41-3504(A (13))).

**2. PURPOSE**

The purpose of this policy is to identify the direction and implementation of Information Technologies for the state that are open systems architecture<sup>1</sup> and non-proprietary in scope to benefit the state and its citizens for delivery of benefits and services. The term “Information Technology” includes computers, network components and protocols, application systems, security systems, storage devices, ancillary equipment, software, firmware, and related resources that align with the framework of Enterprise Architecture (EA) for the State of Arizona.

**3. SCOPE**

This policy applies to all budget units. A budget unit is defined as a department, commission, board, institution or other agency of the state organization receiving, expending, or disbursing state funds or incurring obligations of the state including the Arizona Board of Regents but excluding the universities under the jurisdiction of the Arizona Board of Regents, the community college districts and the legislative or judicial branches. A.R.S. § 41-3501(2).

The Budget Unit Chief Executive Officer (CEO), working in conjunction with the Budget Unit Chief Information Officer (CIO), shall be responsible for ensuring the effective implementation of Statewide Information Technology Policies, Standards, and Procedures (PSPs) within each budget unit.

**4. POLICY**

Budget units shall develop, acquire, and/or implement the following computer hardware systems, software systems, application systems, operating systems, security systems, and networking systems that achieve budget unit and statewide strategies and initiatives supporting the Statewide Enterprise Architecture<sup>2</sup>. All technologies shall have the following open systems architecture qualities when managing and supporting business services and data/information for the State.

**4.1 Open Systems Architecture**

<sup>1</sup> Open systems architecture is an industry based framework utilizing the OSI Model that identifies the layered hierarchical structure for communications. Enables each communications layer to be implemented without affecting other layers, existing infrastructure, and protocols.

<sup>2</sup> Refer to P700 Enterprise Architecture Policy for details.

- A. Interoperability
- B. Portability
- C. Scalability
- D. Internet/Intranet and extranet capabilities
- E. Technologies that will enhance agency services and operational capacities.
- F. Technologies that will improve productivity and performance.
- G. Technologies that will improve public service.

#### 4.2 Green Information Technologies

Green technologies are about implementing hardware and software resources that are substantially energy efficient and environmentally friendly/neutral for the state when replacing/displacing IT infrastructure in all areas of a business unit as identified below.

- 4.2.1 **Platform Devices**<sup>3</sup> – servers, storage, and end-user (client) devices that have operating systems utilizing open pervasive industry standards that are versatile and flexible and also address security schemes and functionality of the operating system.
- 4.2.2 **Network Systems**<sup>4</sup> – network devices, cabling systems, wireless systems, protocols, topology converged services, network & transport services, interfaces and VLAN.
- 4.2.3 **Application Software**<sup>5</sup> – portable, scalable, adaptable, integrated, non-proprietary, and platform independent.
- 4.2.4 **Security Schemes and Training**<sup>6</sup> – account management, authentication, session controls, network security, encryption, incident response, virus protection, disaster recovery, backup and maintenance, media sanitizing and disposal, physical security, personnel security and security training.
- 4.2.5 **Data/Information**<sup>7</sup> – systems that support government functions and services to more effectively and efficiently communicate, interoperate, and share resources which include the following methods:
  - a. **Data Modeling** – graphical representations of a budget unit's information needs and business processes as well as the types of interactions and information exchanges that occur within and between budget units, various customers, constituencies, and business partners.
  - b. **Classification and Categorization of Data** – data/information classified according to its degree of sensitivity in a universally

<sup>3</sup> Refer to P720 - Platform Architecture Policy; S720 Platform Infrastructure Standard.

<sup>4</sup> Refer to P710 - Network Architecture Policy; S710 Network Infrastructure Standard.

<sup>5</sup> Refer to P730 - Software Architecture Policy; S730 - Applications and Related Software Standards; S731 - Software Productivity Tools Standard.

<sup>6</sup> Refer to P800 - IT Security Policy; S805 through S895 Security Standards.

<sup>7</sup> Refer to P740 - Data/Information Architecture Policy; S740 - Data Modeling Standard; S741 – Classification and Categorization of Data Standard; S742 - Database Access Standard.

understandable manner that maintains its security classification as it traverses either physical or logical boundaries with computer-related devices, networks, and software application systems.

- c. **Data Base Access Conventions** – database technologies that provide consistent direction and framework as new software application systems are procured or developed and implemented. Database access conventions and standards provide common, interoperable connectivity methods, protocols, and access languages independent of vendor-specific databases and Database Management Systems (DBMS).

#### 4.3 **Best Practices for Green Technologies**

Budget units shall establish specific procedures for greening IT infrastructure and other resources that include the following best practices for the state.

- 4.3.1 **Energy Efficiency and Personnel Health** – budget units shall implement green technologies and other resources that are energy efficient with the most up-to-date Energy Star specifications for all technologies<sup>8</sup>. Minimize health risks to state personnel that include but not limited to ergonomic product designs and emission reductions during usage (i.e., electrostatic fields, electric fields, magnetic fields, noise, etc.).
- 4.3.2 **Reuse of Technologies** – budget units shall promote the reuse of technologies with other public organizations when replacing/displacing current infrastructure either through its own effort or through State Surplus. Budget units shall also participate in the Take-Back-Recycling Program as identified in statewide contracts through State Procurement should budget units not locate any reuse recipients. For replacement/displacement of storage devices, the budget unit shall take into account A.R.S § 41-4171, 44-7501, 44-7601, and other state and federal laws or regulations for the safeguard of information classified by the budget unit as confidential or sensitive.
- 4.3.3 **Environmentally Friendly** – procurement of IT products that have a reduction in hazardous materials, possibly recyclable and/or biodegradable at the end of product life<sup>9</sup> is preferred. Environmentally preferable purchasing (EPP) as defined by Arizona Procurement Code A.R.S. § 41-2501 of the State Procurement Office.
- 4.3.4 **Solid Waste Reduction** – of IT paper waste, battery waste, printer/toner cartridges, recycling, and all other IT products, peripherals, and materials considered as solid waste.

<sup>8</sup> ADOA State Procurement Office Technical Bulletin No. 008 – Energy Star Purchasing Requirements, rev 1.

<sup>9</sup> Products that are outdated, no longer widely accepted or supported, and superseded by newer, better target technologies.

- 4.3.5 **Facility Space Utilization** – includes IT equipment space and cooling, support system space, storage, power and cooling, infrastructure materials, worker space and space utilization, building cabling and wireless network infrastructure.
- 4.3.6 **IT as Ewaste and Toxic Elimination** – is considered broken or unwanted electrical or electronic devices which cannot be reused and may be considered hazardous, toxic, and not biodegradable. Ewaste shall be disposed of properly through the Arizona Administrative Code on Hazardous Waste Management R18-8-260 and Federal/EPA Hazardous and Universal Waste Regulations.

#### 4.4. **Product Lifecycle for the State of Arizona**

The product life cycle of technology hardware is a critical area for green technologies given the substantial energy costs and environmental impact associated with computers and other IT products. Product lifecycles also deal with managing the full spectrum of a product through its development, useful life, and end of product life that has provided versatility, interoperability, portability, scalability, performance, maintenance, support, and effective costs from a business and technical perspective. Arizona's product lifecycle is used extensively in determining Target Technologies for the state. Please refer to technology target tables located at GITA's web site.

- 4.4.1. **Emerging Technologies** – are developing products that are being reviewed by the IT industry that may not be completely beta tested or prevalent in the industry and/or marketplace; or the state may not be prepared to deploy as target at this time and/or requires further evaluation.
- 4.4.2. **Target Technologies** – are based on IT industry standards and trends for acceptable use in public and private organizations. Target deployments should always be based on the most currently available version, release, model, etc., for the state.
- 4.4.3. **Transitional Technologies** – are products that may not be as prevalent in the IT industry and/or market, versions/releases are infrequent, maintenance costs are high and not as reliable as before, or maintenance is hard to find or no longer supported. At best, budget units should incrementally replace transitional technologies to avoid excessive budget requirements.

4.4.4. **Obsolete Technologies** – are typically products that are outdated, no longer widely supported, and superseded by newer, better, target technologies. Budget units should continuously develop and execute plans to replace obsolete technologies.

**5. DEFINITIONS AND ABBREVIATIONS**

Refer to the PSP Glossary of Terms for definitions and abbreviations.

**6. REFERENCES**

- 6.1. A. R. S. § 41-3501, “Definitions.”
- 6.2. A. R. S. § 41-3504, “Powers and Duties of the Agency.”
- 6.3. A. R. S. § 41-3521, “Information Technology Authorization Committee; members; terms; duties; compensation; definition.”
- 6.4. Arizona Administrative Code, Title 2, Chapter 18, “Government Information Technology Agency.”

**7. ATTACHMENTS**

None.