STATE OF MARYLAND 2017 INFORMATION TECHNOLOGY MASTER PLAN (ITMP)

Department of Information Technology
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CHANGING
Maryland
for the Better

Introduction

Since taking office in January 2015, Governor Larry Hogan has charged his administration with changing Maryland for the better. As an internal-facing agency, the Department of Information Technology (IT) has the most significant impact when we better support Maryland's Executive Branch agencies in accomplishing their missions. The Department of IT, therefore, will establish an Enterprise Model for IT. The model will accomplish two broad things. First, by building Enterprise-scale capabilities, we will deliver better services than those possible at the individual agency level. Second, agencies will be able to focus their efforts on the application of IT to their missions, rather than low level IT operations.

With the Enterprise Model, we will change Maryland's IT for the better in the following ways:

- **Cybersecurity:** Improve the State of Maryland's cybersecurity posture.
- **Efficiency:** Optimize resource utilization to increase efficiency of IT investments.
- **Quality:** Create consistently high quality IT capabilities across all users and agencies.
- **Interoperability:** Improve interoperability among IT systems and organizations statewide.

Collectively, this model serves as the overarching supporting strategy for these perpetual objectives. These objectives and the model itself serve as the umbrella under which State agencies can plan for, develop, and implement IT initiatives across multiple funding years and across multiple agencies.

The Enterprise

The current state of IT in Maryland State Government is a distributed model in which each agency has developed and implemented its own internal IT operation to support the needs of the agency. While there is some cross-agency support, by and large, each agency has duplicated the development and operation of IT infrastructure, systems, processes, and operations in their own way, to their own standards, and to varying degrees of effectiveness. The Enterprise Model will establish a consistent, high quality baseline that will allow agencies to focus on their missions. Investments will be made in a way that maximizes value for multiple or all state agencies.

In order to adopt the planned model capable of supporting the State, the current distributed architecture will need to be migrated into a model that provides support for the sharing of IT services. With shared services, however, we must ensure that proper levels of separation are maintained between agencies to limit threat domains and provide the ability to maintain data isolation, where applicable, for specific State business functions (agency specific missions). The model must balance the cost savings and efficiencies associated with the leveraging of services while simultaneously ensuring that the threat/failure domains are kept at a size commensurate with the acceptable level of risk to State Government operations.

Initially, the scope of the Enterprise will include the Governor's cabinet agencies and executive offices, and some independent executive branch agencies that opt-in or where required. However, all agencies should use this model as a guide and consider these goals during strategic planning.

Guiding Principles

This implementation will be guided by the following principles:

- We are guided by the Hogan Administration's goals.
- We are committed to customer service while we deliver on our IT mission.
- We will improve capabilities.
- We will reduce costs.
- We will not diminish capabilities or harm any agency missions in the application of this model.

Organizational Change

Agency Chief Information Officers (CIO) will be restructured as Deputy CIOs to establish a dual reporting responsibility to agency leadership and the State CIO. With increased visibility into agency IT operations, the State CIO can further support Deputy CIOs in understanding and complying with policies, maintaining high quality cybersecurity, and ensuring the needs of the agency are reflected in Department of IT priorities and activities.

Governance and Enterprise Services

To implement the Enterprise Model, the Department of IT will expand our leadership role in governance and services across technology & telecommunications, procurement & legal, and projects & programs. With increased leadership in governance, we will set policies, standards, and best practices, and ensure compliance and accreditation. With increased leadership in services, we will establish high quality enterprise services and support and lend our expertise with consulting and project-based or surge support.

The following table shows a representative sample of IT capabilities and offerings that the Department of IT will lead in the governance and delivery of IT services:

	Technology & Telecom	Procurement & Legal	Projects & Programs
Governance • Policies • Standards and Best Practices • Compliance and Accreditation	• **Cybersecurity policies and programs** • Enterprise architecture • Audits and IV&V • ITMP and strategic planning	• **Procurement Reform** • Standard Terms and Conditions • Controls and Approvals • BPW liaison	• Methodologies • Project Management Practices • MITDP Oversight
Services • Enterprise Services and Support • Project-based and Surge Support • Consulting	• **Enterprise service catalog** (email, web, GIS, apps, software, hardware, infrastructure, network, radio, telecom access, telephony, conferencing, etc.) • Enterprise service desk	• Master contracts • RFP review • Procurement agent • Negotiation • Contract management	• **Enterprise PMO** • Objective management and planning • MITDP OPM • Project management services (e.g. surge support, schedulers, SMEs, etc.)

Table 1: Expanded Leadership Role in the Enterprise Model

Key Enterprise Services
The following are just a few highlighted services:

Cybersecurity policies and programs
Cybersecurity reduces the exposure of state government to potentially severe fiscal and operational crises arising from cyber threats to our critical infrastructure and digital exploitation of sensitive and personal information. The Department of IT will lead cybersecurity in all IT operations and systems statewide, ensuring visibility and consistent excellence in incident prevention and response. In FY17, we aim to establish a baseline cybersecurity program along with an accreditation process that will allow us to measure progress and evaluate risk. In the meantime, we will take incremental measures, such as increased use of our next-generation firewalls, to improve Maryland's cybersecurity as risks are identified. The major tenets of the program include:

- Establishing a governance and authority structure for cybersecurity;
- Conducting risk assessments and allocating resources accordingly;
- Implementing continuous vulnerability assessments and threat mitigation practices;
- Complying with current security methodologies and business disciplines in cybersecurity;
- Creating a culture of risk awareness.

Our cybersecurity program will expand its reach and visibility to improve the overall cybersecurity posture of the State. With CJIS, IRS, NIST, FedRAMP, and other standards in use in state and federal government, this program will aim to simplify policies and compliance processes. Cybersecurity services will include assessments, audits, consulting, incident response, and more. This program will

leverage cybersecurity resources present in state agencies, and seek to consistently achieve high performance cybersecurity operations.

The use of our Security as a Service (SECaaS) will be expanded. SECaaS uses a next-generation firewall platform and log analytics capability managed from our 24x7 Security Operations Center (SOC). A central monitoring, detection, and response capability is a common need for all agencies. Expanding the use of this Enterprise service will elevate the capability of many agencies in the most cost efficient way possible. This service will be rolled out as a requisite part of the Enterprise Model, and as an available option to out-of-scope agencies.

Enterprise Service Catalog (ESC)

Our IT offerings include services that are common to any organization. These services are not operated or delivered differently based on the type of organization receiving them. They are the same to transportation, health, public safety, financial, and any other agency. Some common services in the ESC include:

- Security as a Service, or SECaaS (next-generation firewalls with 24x7 SOC monitoring)
- Office as a Service (email, office applications, communications, cloud and mobile apps)
- Networking, both LAN and WAN (networkMaryland, OMBN, SwGI)
- Servers & Storage, Hosting, Data Center operations
- Web and GIS Systems (platforms, development, migrations, iMAP, etc.)
- Telecommunications Access of Maryland (Maryland Relay, Captioned Telephone, etc.)
- Public Safety Communication System (Maryland FiRST)
- Subject Matter Expertise, consulting

Agencies will take action to avoid duplication of effort by communicating plans to the Department of IT early and often, utilizing enterprise services, and joining in multi-agency initiatives when possible. Together, we will establish secure, scalable, and interoperable enterprise capabilities, services, and systems by enhancing current operations through procurement, or by operationalizing existing resources. Agencies will direct development efforts to the widest scope possible and leverage the Department of IT for operation of common services. This will allow agencies to focus attention on the application of IT to the agency's mission or business needs.

Procurement Reform

The Department of IT is the control agency for IT procurement. In this role, we share our expertise and lessons learned from processing about $1 billion of IT contracts per year to maximize success of all IT purchases. To avoid IT failures that trace back to errors in procurement, we will collaborate with the other procurement control agencies and introduce consistency and simplicity to the process for all. We also seek to improve the following:

- Gain visibility into planned procurements early and help agencies develop responsible procurement strategies and avoid emergency actions.

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- Avoid prescriptive requirements that hamper innovation.
- Avoid unnecessarily burdensome terms and conditions that stress projects to the point of failure without effectively delivering the intended protections.
- Seek out industry best practices and innovations to increase industry participation and reform our procurement processes.

This reform will not only help prevent future failures, but also reduce barriers to partnering with industry on innovative, cutting edge solutions.

Enterprise Project Management Office (EPMO)

Given our position of authority over Major IT Development Projects (MITDPs), we will seek to maximize the success of major projects with our Enterprise Project Management Office (EPMO). The EPMO will continue to provide oversight project management to MITDPs, but will also offer more advanced services designed to maximize the success and efficiency of IT initiatives. Such services include:

- Oversight and objective management.
- Project-based, temporary, or surge support for PMO resources such as project schedulers, project managers, business analysts, etc.
- Modernization of the System Development Lifecycle (SDLC), including industry innovations, Agile methodologies, and hybrid processes.
- Portfolio management and program management.
- Training and consulting.

The Department of IT's EPMO will help develop and nurture the right management and leadership skills and capabilities within the organization by defining and supporting project management policies, procedures, standards, and guidelines. Working with agencies, the EPMO will establish governance strategies and reporting structures, inserting objectivity in the management and execution of the project. This will help agencies coordinate and navigate the complex interactions between agency and project PMOs, steering committees, and various governance bodies. We will work with industry standards and best practices, including PMBOK, modern SDLCs, ITIL, COBIT, and others.

Conclusion

This State IT Master Plan establishes the framework in which agencies will perform IT Master Planning. Perpetual objectives are established that align with the Governor's priorities, and the Enterprise Model is identified as the overarching supporting strategy for achieving those objectives. With this plan and the supporting Agency ITMPs, we will change Maryland IT for the better!