ITS Strategic Roadmap – FY20 Planning

Server Infrastructure

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Background

To successfully manage servers that support key business applications within Metro Government, multiple systems are required in support of that infrastructure.

Infrastructure support services are enterprise-level tools which include:

1. The centralized data storage environment has a fiber channel infrastructure, is highly redundant, and is easily expandable when needed. This environment has several fail-safe features built in for reliability and redundancy, such as multi-connections. ITS hosts over 1.2 PB of data in total, supporting most of the departments within Metro Government. This environment also has built in thin provisioning (over subscribing) which utilizes resources more efficiently. ITS also supports a network attached storage platform that stores over 150TB of video files.

2. The VMware virtual infrastructure utilizes the storage environment to create virtual servers that house over half of the applications used by Metro Government. These virtual servers are easily configurable; they require considerably less down time and in most cases can be online while increasing resources.

3. The Commvault backup and recovery solution utilizes our storage environment in order to provide a landing zone for the backup data. It provides scheduled backups of Metro's electronic data which is then available to restore on demand. It also has built in features to provide that data for BC/DR purposes.

Current Strategic Drivers

1. **Customer Desire: Cloud Computing** (Game-changing) – The widespread public acceptance of cloud for services that employees and citizens use every day, along with the potential for positive financial impact and effective cloud vendor security stances make cloud infrastructure services appealing.

2. **Customer Demand: High Availability** (High) – Customers and the citizens they serve demand extremely high availability of data center services to meet their business-critical needs, and for some departmental customers, life-safety responsibilities they hold.

3. **Demand for Secure Government Systems** (High) – With massive data breaches in the news on a regular basis, we must strive at all times to protect the security, availability and integrity of all systems entrusted to our management.

4. **Customer Demand for Storage** (High) – Increase in data storage due to unlimited retention for unstructured data, new projects, as well as data growth.

5. **Regulatory Compliance Obligations** (High) – Regulations and standards such as HIPAA/HITECH, PCI-DSS, TCA 47-18-2107, GLBA, and FERPA have specific information security control needs that

must be addressed to realize appropriate levels of compliance with applicable laws, standards, and regulations.

6. **Microsoft Enterprise Agreement: Office 365** (High) – Microsoft's enterprise agreement with Metro provides 5 terabytes of cloud-based storage for each licensed user, which is storage that does not have to be provided via on-premise infrastructure.

7. **Data Center 2 Project** (High) – Planning and design is complete for the construction of the Metro Data Center 2. Full implementation of the plans is dependent on funding.

8. **Demand: E-Discovery tools** (High) – Responses to public records requests and for legal matters require the ability to search and segregate data from across sources, with the Legal Department to be included in the search process.

On the Horizon Strategic Drivers

1. **Specialty Data Center Needs** (High) – Planning on the new Data Center 2 and understanding associated space constraints would suggest that additional data center type services may be needed to house specialty services, such as the Department of Emergency Communications.

2. **Primary Data Center Approaches 10 Years old** (Medium) – As the primary data center reaches a decade old, even with regular and consistent preventative maintenance risks of failure can increase.

Short Term Goals (0-6 months) 7/1/19 – 12/31/19

#	Goal/Objective	Est. Start	Est. Duration
1	Capacity and best practices review for the complete storage environment to ensure growth and stability, presented to ELT. Required expansions will be dependent on capital funding.	07/2019	6 months
2	Elimination of employees' personal H: Drives (personal network storage) following conversion of Metro O365 One Drive in 2018.	07/2019	9 months
3	Upgrade Commvault to version 12 and update license to full subscription for use of all tools including Oracle and SQL.	07/2019	3 months
4	Upgrade VMware to version 8	07/2019	6 months
5	Support the O365 team in training Legal department staff around the ability to use self-service on EDiscovery in the Cloud on Azure.	07/2019	3-6 months

Medium Term Goals (6-18 months) 1/1/20 – 12/31/20

#	Goal/Objective	Est. Start	Est. Duration
1	On-going capacity and best practice reviews for Commvault, Storage and VMWare with related upgrades. Capital funding required	1/2020	6-9 months
2	Implementation of moving all SQL into clusters for efficiency and cost savings.	01/2020	12 months

Long Term Goals (18-36 months) 1/1/21 – 12/31/22

#	Goal/Objective	Est. Start	Est. Duration
1	Update storage as necessary. Capital funding required	01/2021	6 months
2	Plan and implement disaster recovery equipment and services for in the backup data center. Capital funding required.	01/2021	12 months

Related Roadmaps

- Data Center and Environmental
- Server Support
- Office 365