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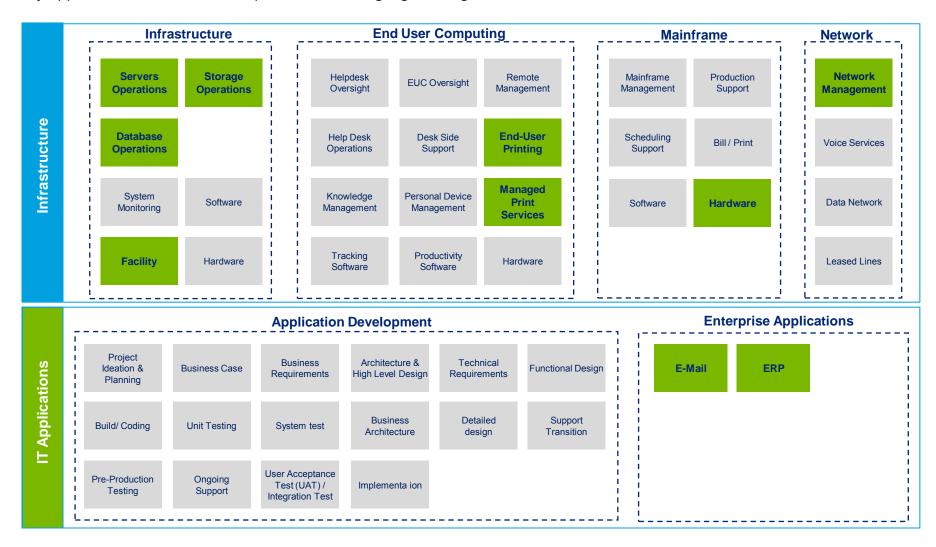
State of Louisiana Office of Information Technology

Utilization Management Plan



Utilization Focus Areas

Key disciplines within the Infrastructure and Application areas will be rated against industry best practices. The areas with key opportunities for utilization improvement are highlighted in green.



Capability Maturity Assessment Levels

A capability maturity model was used as a means for comparing the State's key infrastructure and applications with industry accepted practices to identify how the State's environment addresses utilization.

Each focus area will be assessed by a current state rating as well as a desired state rating, defined by the colors below:

Capability Maturity Assessment

1: Limited

2: Basic

3: Mature

4: Leading

The level of utilization of IT assets is very low and there is little to no management of utilization levels

The level of utilization of IT assets is mixed, with some areas having high utilization and others very low. There is some planning for increasing for increasing utilization rates

The level of utilization of IT assets is high and there are standardized processes for managing utilization levels

The level of utilization is high with processes for managing and forecasting utilization rates.
There is also use of new converged technologies that will increase utilization across platforms

Legend:





State of Louisiana Desired State

Server Assessment Level

Using the assessment model to evaluate the State of Louisiana utilization of servers is as follows:

1: Limited 2: Basic 3: Mature 4: Leading



- No standardization of server make or OS
- A separate server for every application
- Majority of physical servers
- Small amount of virtualization in place
- Some standardization of server make and OS
- Few servers running multiple applications
- Highly virtualized environment with only systems that cannot be virtualized on physical servers
- Moderate level of standardization of server make and OS
- More applications running on less servers
- Piloting a cloud solution

- Highly virtualized environment with only systems that cannot be virtualized on physical
- Fully standardized on a hardware vendor

servers

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 Private and Public Cloud solution in place with defined applications or environments hosted

Legend: State of Louisiana Current State

State of Louisiana
Desired State

- Consolidate servers to the ISB and DPS Data Centers according to the Facilities Management Plan
- Continue virtualizing servers as consolidation activities occur
- Implement a public cloud solution for qualified environments (Dev, Test, DR/BCP) according to the Facilities Management Plan
- Standardize on a hardware vendor that will offer the State a vision into their roadmap for next generation servers, as well as easing the
 deployment of servers and build servers with pre-built images for faster provisioning
- Standardize platform to allow the use of the vendors management tools, which aids in the deployment of key vendor fixes/patches
- Decrease the number of VMware Hosts by consolidating agency virtual environments into one consolidated VM environment and increase the ratio of VM clients to hosts

Storage Assessment Level

Using the assessment model to evaluate the State of Louisiana utilization of storage environment is as follows:

1: Limited

2: Basic

3: Mature

4: Leading



- All data stored locally on a server or via direct attached storage
- Separate storage for organizations
- Management of storage is handled separately

- SAN in place but unable to meet the storage demand needs
- SAN replication in place, but space constraints is limiting its functionality
- No storage tiers based on application performance requirements
- Little capacity planning in place

- SAN in place with sufficient capacity for 1 year
- Leveraging of NAS technology for certain functions, i.e. file shares
- SAN replication in place and available to leverage such functions as snapshots
- Some applications tiered according to performance needs
- All data deemed vital is located on the SAN
- Piloting of alternative storage solutions, i.e. off premises

- Available SAN storage along with good data archival and retention policies and processes in place to contain rapid storage growth
- SAN replication in place with full functionality
- NAS solutions replaced File shares and other data environments where there is not a need for high performance disks
- Applications tiered appropriately based on its performance needs
- Plans in place to leverage an alternative storage offering (cloud) when it's more cost effective

Legend:

State of Louisiana Current State \Diamond

State of Louisiana Desired State

- Leverage less expensive storage technology such as NAS for areas not needing high throughput (i.e. file shares)
- Analyze for improvements to management tools, techniques and technologies to reduce and avoid extra costs (IBM SVC)
- Consider alternative storage offerings in the marketplace higher compression or cloud where data security is not an issue, could be addressed
 with the public cloud offering
- Consolidate storage environments across the State to decrease the amount of disparate SANs currently in production
- Analyze current environment to ensure that applications are not suffering performance issues, such as latency in disk reads/writes and high IOPS
- Review data retention requirements for data to be kept online and what can be moved to tape and shipped off site
- Implement storage capacity planning to track usage, trends and forecasting of future needs

Databases

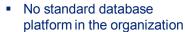
Using the assessment model to evaluate the State of Louisiana utilization of database environments is as follows:

1: Limited

2: Basic

3: Mature

4: Leading



- Specialized DBA's and DBE's staffed to support all the various types of databases
- Additional hardware required to run these databases
- High operating costs for licensing and maintenance of the various database environments
- End-users create their own databases using Microsoft Access or other desktop platforms

- Some consolidation of the number of databases in the organization
- Some centralized DBA support of database packages
- No Master Data Management in place
- Analysis to decrease the hardware supporting all the databases
- Enterprise licensing to lower the costs of database platforms
- Organization policies enforced against utilizing Microsoft Access or other desktop platforms

- Centralized database environment serving most of the organization
- Standardized database platform

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- Centralized DBA support
- Master Data Management to serve the organization
- Enterprise licensing of database software in place
- Some centralized reporting with some data extracts still providing end users access to data

- Databases consolidated further through re-platform initiative
- Use of cloud solutions to replace need for on premises hardware to support remaining databases
- Fully integrated Master Data Management and Business Intelligence program with "one source of truth" database design
- Centralized support across the organization

Legend:



State of Louisiana Current State



State of Louisiana
Desired State

- Perform analysis of all databases used by State agencies and determine need, platform and architecture
- Identify areas of duplication or where environments could be consolidated
- Review instances where databases are no longer needed and retire those immediately
- Develop a plan for Master Data Management and Business Intelligence for common data functions across agencies
- Identify opportunities where cloud solutions could reduce the need to have hardware on premises
- Centralize database support according to the future state Organization Structure

Data Center Floor Space

Using the assessment model to evaluate the State of Louisiana utilization of data center floor space is as follows:

1: Limited 2: Basic 3: Mature 4: Leading



- No UPS
- No generators
- No dedicated HVAC
- No fire suppressant
- Limited power available
- No hot/cold aisle designation

- Some planning of floor space within data centers
- UPS available in certain areas of the data center, or for certain racks/cabinets
- Generator available for key data center facilities
- Minimal HVAC
- Power suitable to meet current needs
- No hot/cold aisle designation
- Cabinets and racks not governed for optimal space

- Detailed planning of data center floor space
- UPS available to handle current load and some growth
- Generator capable of handling current load and some growth
- HVAC capable of handling current load and some growth
- Fire suppressant in place, such as Halcyon, to support the environment
- Power capable of handling current load and some growth
- Aisles designated as hot/cold
- Cabinet and rack consolidation underway

- Hot/cold aisles alignment in place as well as cabinet fillers allowing hot air from getting into the cold aisle
- N+1 or greater UPS design in place
- N+1 or greater generator design in place with delivery contracts in place
- HVAC optimized to support environment while only operating at 50%
- Available power greater than 50%
- State of the art fire suppressant in place, such as a waterless fire suppressant

Legend:





State of Louisiana
Desired State

- Re-architect aisles to designate as hot-cold aisles to make better use of HVAC
- Close up all empty space inside the cabinets with fillers, to prevent hot aisle heat coming into the cold aisle
- Increase power availability to at least 45% in DPS data center
- Tighten guidelines around rack and storage consolidation to optimize facility infrastructure
- Review power supplied to each cabinet to make sure it is suitable to equipment in the cabinet

Managed Print Services

Using the assessment model to evaluate the State of Louisiana utilization of managed print services is as follows:

1: Limited 2: Basic 3: Mature 4: Leading



- High idle time for the printers
- No scheduling or planning for print jobs
- Printing supported 8-5 Mon-Fri
- Black and white printing and limited formats
- Separate printers for mainframe, Open Systems and other platforms
- No mail pre-sorting capabilities

- Some department sharing of printers
- Idle time sporadic
- Limited scheduling of print jobs
- Printing supported 24x7 Mon –Fri
- Black and white printing with flexible formatting
- Mostly mainframe and some open systems printing supported
- Some print facilities with mail pre- sorting capabilities

- Consolidated print departments across the organization
- Minimal idle time of printers
- Printing supported 24x7x365
- Black and white and color printing with flexible formatting
- Mainframe and open systems print format
- Mail pre-sorting capabilities maximizing postage savings
- Contract in place with vendor for maintenance and consumables of printers

- One central print facility for all departments within the region
- Black and white printing and all color formatting
- All system types including mainframe advanced function printing, open systems and any other system
- Printing supported 24x7x365 with stand-by printers in case of a printer malfunction
- Mail pre-sorting maximized to leverage postage benefits

Legend: State of Louisiana
Current State

State of Louisiana Desired State

- Centralize all state agency printing to one location at DCFS
 - Consolidate DOR, DOTD, OCS and DPS printing into the one print center at DCFS
- Move the state-wide printing center into the DCFS print facility
- Reduce the number of printers and print management contracts to the DCFS print facility only
- Terminate all unnecessary leases with printers no longer needed
- Develop a process for transporting print jobs to agencies to accommodate the agency needs

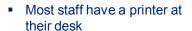
End-User Printing

Using the assessment model to evaluate the State of Louisiana utilization of end-user printing best practices is as follows:

1: Limited 2: Basic

3: Mature

4: Leading



- No printer make standardization
- No use of multi-functional printers
- No use of cost savings functions such as duplexing, black and white defaults as a policy
- No consolidated purchasing of printer supplies such as toner

- Printer/user ratio more aligned with industry standards
- Some standardization towards make/model applied
- Minimal use of multi-function devices
- No use of cost savings duplexing, black and white default as a policy

- Printer/user ratio greater than industry ratio
- Printers standardized on make/model with vendor support for repairs and consumables

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- Centralized multifunction printers with no individual scanner and fax machines
- Duplexing and black and white defaults
- Centralized managed support of printers

- Maximized user/printer ratio
- Printer make/model standardized with vendor support, consumable purchases and printer recycling program
- Multi-functional printers across the environment reducing spend on stand alone copiers and fax machines
- Default settings applied to printers for duplexing, black and white printing with personal key entry for chargeback

Legend:





State of Louisiana
Desired State

- Increase ratio of users per printer from 1.69 to 6.5 or greater
- Develop a business case for a managed services contract of all printing across all state agencies
- Implement duplex as a default to reduce pages printed by 10-20% per month
- Leverage vendor for recycling of toner cartridges and consumable purchases

Mainframes

Using the assessment model to evaluate the State of Louisiana utilization of mainframe environments is as follows:

1: Limited 2: Basic 3: Mature 4: Leading



- No standardization of make or OS
- Mixture of coding languages
- No mainframe virtualization
- No capacity planning for utilization
- Support for each application by a separate team
- Dedicated backup solution

- Some consolidation of mainframe environments
- No standardization of make or OS
- Mixture of coding languages
- No mainframe virtualization
- Some shared storage through pooling of resources
- Consolidated support crosstrained on multiple platforms

- All mainframes consolidated
- Platforms standardized, investigate potential replatform opportunities
- Phasing out of older languages
- Some mainframe virtualization
- Larger storage savings
- Consolidated support of mainframes across the state
- Consolidated disaster recovery solution
- Consolidated backup solution

- Fully consolidated environment
- Re-platform of identified environments completed
- Standardized on one coding language
- Full mainframe virtualization in place
- Maximum storage usage
- Potential use of cloud solution for DR
- Consolidated backup solution
- Centralized mainframe support team

Legend:





State of Louisiana
Desired State

- Continue the current mainframe consolidation program onto the centralized mainframe
- Begin a program to re-platform mainframe applications
- Retire one off coding languages to decrease the reliance on developers and support from contractors and retirement eligible application development and support staff
- Virtualize mainframe platforms as much as possible
- Use cloud solution for disaster recovery, backup and possibly development environments
- Centralized backup, while retiring older libraries and licenses
- Decrease storage costs through consolidation of agency mainframe storage environments

Networking

Using the assessment model to evaluate the State of Louisiana utilization of networking is as follows:

1: Limited 2: Basic 3: Mature 4: Leading

- Disparate network hardware across the State
- No virtualization of network
- No management tools to monitor the network activities
- Older technology used for connectivity into the WAN (i.e. Frame Relay)
- A separate internet circuits at each location
- Multiple vendor platforms of network infrastructure

- Some network hardware standardization
- Limited network virtualization in place
- Basic network capacity management tools
- No convergence of hardware
- Some upgrades of older circuit technology
- Fewer standalone internet circuits
- Standardizing of some components on single vendor platforms

- Hardware standardized based on network layer and technology
- Network virtualization in place at various layers of the network
- Network management tools in place to support the monitoring requirements
- Opportunities for convergence being planned
- Standardization of network connectivity connection types
- Further consolidation of older circuit technology
- Capacity managed utilized to handle spikes and normal processing

Hardware standardized based on network layer and

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technology

- Converged virtualization moving towards a software defined network
- Strong network management tools with proactive capacity planning
- Network connectivity standardized to specific technology
- All internet traffic controlled through the organizations' network

Legend:



State of Louisiana **Current State**



State of Louisiana **Desired State**

- Consolidate network hardware currently deployed in agency data centers to the ISB and DPS Data Centers as part of the Facilities Strategy
- Implement a network management suite to not only monitor the network, but backup configurations, and report key metrics to the agencies across the State
- Investigate opportunities for WAN accelerators as part of a plan to handle future demand of "bring your own device" strategies
- Converge technology when appropriate to save money on hardware purchases and maintenance renewals
- Continue retiring older circuit connectivity options, as well as circuits that bypass the State's backbone
- Mandate agencies to use State's internet connections and terminate all standalone circuits
- Conduct a circuit inventory analysis for bandwidth right-sizing

Email

Using the assessment model to evaluate the State of Louisiana utilization of consolidated email is as follows:

1: Limited 2: Basic 3: Mature 4: Leading



- Separate email environments
- Disparate SMTP servers
- Separate Spam/AV servers
- No archiving or backup solution
- No content filtering or encryption capabilities
- No disaster recovery
- Limited device support (i.e. Blackberry only support)

- Consolidation underway but still supporting Lotus Notes, GroupWise and earlier versions of Exchange
- Fewer SMTP servers
- Fewer Spam/AV servers
- Limited archiving and retention policies
- Disparate Backup solution
- No content filtering or encryption capabilities
- Disaster recovery in place
- Limited device support (i.e. Blackberry only support)

Single email for all users

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- Decreased number of SMTP servers
- Decreased number of Spam/AV servers
- Archival and Backup environment leveraged into single solution
- Some agencies with content filtering and encryption capabilities
- Disaster recovery solution in place
- Various types of devices supported (i.e. Blackberry, Apple, Android)

- Single email for all users
- Shared SMTP servers
- Hosted Spam/AV service
- Cloud based archival solution
- Backup environment needs decreased
- Policy driven content filtering and encryption capabilities
- Disaster recovery solution in place
- Support for various types of devices (i.e. Blackberry, Apple, Android)

Legend:





State of Louisiana
Desired State

- Complete the upgrade of users from Exchange 2007 to Exchange 2010
- Begin migration of >6900 users from Lotus Notes to Exchange 2010
- Begin migration of >5700 users from Novell GroupWise to Exchange 2010
- Identify and retire "other" email environments used
- Investigate leveraging a cloud based archival solution instead of Centera environment
- Implement a cloud based provider for Spam and AV services
- Decrease the amount of backup tapes are needed by relying on archival environment
- Implement statewide content filtering scanning for PHI/PII data being sent over email without encryption

Applications

Using the assessment model to evaluate the State of Louisiana utilization of consolidated applications is as follows:

1: Limited

2: Basic

3: Mature

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4: Leading



- Widespread use of applications with overlapping capabilities in-use by multiple organizations
- No standardization of application coding languages or development standards
- Dispersed application support with high reliance on contractors or resources with specialized skills
- Application enhancements are time consuming because of poor application structure and a lack of documentation

- Some application capability overlap across organizations
- Application coding standards created but not fully enforced
- Steps towards consolidation of application support across like application functions
- Reliance on application specialists diminishing as consolidation and standards begin to be implemented
- High amount of application consolidation for like functions shared across the organization
- Support staff centralized to provide support as needs arise to maximize utilization of resources
- Application standards for reuse and coding languages enforced to allow centralization of application development
- A higher ratio of enhancements than support and maintenance

- Complete consolidation of application functions
- Applications aligned with the technical architecture to promote reuse and eliminate redundancy
- Governance in place to promote application standards and enhanced capabilities
- Centralized application development and support to maximize staff utilization
- Enterprise applications (e.g. payroll) are centralized across agencies, but agency specific applications are consolidated by function (e.g. Public Safety, HHS, etc.)

Legend:

State of Louisiana Current State \Diamond

State of Louisiana Desired State

- Identify application capability overlap for the following target areas:
- Payment Processing
- Licensing and Credentials
- Eligibility

- Processes and Procedures
- Collaboration Tools Regulatory

- Audit and Compliance
- Case Management
- Asset Management
- Business Intelligence
- eGovernment
- Education
- Use a scoring system for technical condition and business value to determine whether to retire, re-platform, re-design, or retain each application
- Re-train the support staff to support the rationalized application environment
- Consider migrating some of the target applications or application components in the rationalized environment to the cloud

Enterprise Resource Planning (ERP) Platforms

Using the assessment model to evaluate the State of Louisiana utilization of ERP best practices is as follows:

1: Limited

2: Basic

3: Mature

4: Leading

- Human Resource and Finance functions not supported by an Enterprise Resource Planning platform
- Separate HR and Finance applications across the organization
- Dedicated hardware for the environments

- Multiple ERP implementations performing the same HR and Finance functions
- Separate support staff for the ERP applications
- Other applications outside of ERPs performing HR and Finance functions across the organization
- Dedicated and separate hardware for the separate ERP platforms
- Overhead costs to build integration of ERPs

 One single ERP for HR and Finance functions

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- Consolidated support staff
- Little need for integrations
- Standardized and consolidated hardware for all ERP functions
- Cloud services for ERP for Development, Test, and DR environments

- One single ERP for all HR and Finance functions
- Cloud enabled ERP services for Development, Test, DR and Production where polices allow for cloud to be utilized

Legend:



State of Louisiana Current State



State of Louisiana
Desired State

- Define requirements to complete migration from ISIS to SAP and begin implementation
- Review the current hardware used for supporting ISIS and either retire, terminate lease, or repurpose
- Re-train the ISIS support staff to support the SAP environment
- Evaluate opportunities for migrating SAP functionality to the cloud for Development, Test and DR

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