

BUDGET ENTITY	D3A ISSUE CODE	COLUMN NUMBERS	CODE	ERROR MESSAGE	PAGE
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THERE WERE 0 ERRORS DETECTED

	COL A12	COL A14	COL A15	COL A16	COL A14-A12	
					AGY AMD REQ	
					FY 2016-17	
					OVER(UNDER)	
	AGY FIN REQ	AGY AMD REQ	AGY AMD N/R	AGY AMD ANZ	AGY FIN REQ	
	FY 2016-17	FY 2016-17	FY 2016-17	FY 2016-17	FY 2016-17	
POS	AMOUNT	POS	AMOUNT	POS	AMOUNT	POS
						AMOUNT
						CODES
MANAGEMENT SRVCS, DEPT OF						72000000
PGM: AGENCY STATE TECH						72980000
STATE DATA CENTER						72980500
GOV OPERATIONS/SUPPORT						16
INFORMATION TECHNOLOGY						1603.00.00.00
EQUIPMENT NEEDS						2400000
INFORMATION TECHNOLOGY						
INFRASTRUCTURE REPLACEMENT						24010C0
EXPENSES						040000
WORKING CAPITAL TRUST FUND-STATE	203,000	203,000	152,600			2792 1
OPERATING CAPITAL OUTLAY						060000
WORKING CAPITAL TRUST FUND-STATE	30,000	30,000	30,000			2792 1
SPECIAL CATEGORIES						100000
CONTRACTED SERVICES						100777
WORKING CAPITAL TRUST FUND-STATE	34,560	34,560				2792 1
DEFERRED-PAY COM CONTRACTS						105280
WORKING CAPITAL TRUST FUND-STATE	46,125	46,125		15,375		2792 1
TOTAL: INFORMATION TECHNOLOGY						24010C0
INFRASTRUCTURE REPLACEMENT						
TOTAL ISSUE.....	313,685	313,685	182,600	15,375		

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AGENCY ISSUE NARRATIVE:

2016-2017 BUDGET YEAR NARRATIVE:

IT COMPONENT? YES

ISSUE TITLE: Information Technology Infrastructure Replacement

This issue supports the Florida Strategic Plan For Economic Development Strategy #25, Improve the efficiency and effectiveness of government agencies at all levels, and the Governor's Priority relating to Maintaining Affordable Cost of Living in Florida.

SUMMARY:

This issue is to replace data center hardware and software that have reached or passed their useful service life. Failure to replace these items will result in increased support costs, decreased service availability to the agencies, increased

COL A12		COL A14		COL A15		COL A16		COL A14-A12		CODES
AGY FIN REQ FY 2016-17 POS	AMOUNT	AGY AMD REQ FY 2016-17 POS	AMOUNT	AGY AMD N/R FY 2016-17 POS	AMOUNT	AGY AMD ANZ FY 2016-17 POS	AMOUNT	AGY FIN REQ FY 2016-17 POS	AMOUNT	
MANAGEMENT SRVCS, DEPT OF										72000000
PGM: AGENCY STATE TECH										72980000
STATE DATA CENTER										72980500
GOV OPERATIONS/SUPPORT										16
INFORMATION TECHNOLOGY										1603.00.00.00
EQUIPMENT NEEDS										2400000
INFORMATION TECHNOLOGY										
INFRASTRUCTURE REPLACEMENT										24010C0

potential for data loss, as well as increased exposure to security vulnerabilities. During FY 2016-17, approximately 15 UNIX servers, will be over 6 years old and will be past their useful service life according to industry norms.

In addition, SQL licensing is needed to remediate end of service database platforms. This issue enables a subset of SQL instances to be upgraded to supported versions.

PROBLEM STATEMENT:

Currently, the State Data Center has no approved budget for annual replacement of hardware and software that have exceeded their expected useful service life. By the end of FY 2016-17, approximately 15 UNIX servers, will be over 6 years old and will be past their useful service life according to industry standards and best practices. End of life hardware leads to increased downtime as parts age and begin to break down. Parts become more difficult to acquire, further exacerbating the down times. Maintaining older equipment increases the support staff costs and can lead to compatibility issues with both new hardware and software. Older equipment is less efficient and requires more power and cooling. The storage associated with these aging servers has a significant amount of local storage contained in the server units themselves and is not compliant with data center standards for storage. This older equipment leads to increased risk of equipment failure and service outages, increased potential for data loss, increased maintenance and data center costs, and increased exposure to security vulnerabilities. This issue includes costs for the necessary hardware and UNIX/Linux licenses to replace the hardware and software which have passed their expected service life.

Database platforms that have reached their end of service life from the manufacturer no longer receive security patches and are subject to security vulnerabilities. Issues related to performance as well as errors that occur during production operations will not be addressed by the manufacturer as it is no longer supported. These end of service life database platforms also require the use of unsupported operating systems. These unsupported operating systems also do not receive security updates from the vendor, resulting in a database environment that has many known and exploitable security vulnerabilities that cannot be remediated. The lack of support and security patches make these old database platforms more difficult for the AST to support, manage, and secure.

PROPOSED SOLUTION/REQUEST:

Procure 15 physical systems with an estimated cost of \$19,710 per system for a total of \$295,650, of which \$230,625 (\$46,125 over five years) will be procured using the state Consolidated Equipment Financing Program (CEFP). In addition, we are requesting approximately \$2,000 per server for a total of \$30,000 in non-recurring OCO for specialized configuration needs not available as an included component of the servers. Operating system licenses must also be procured for these systems due to the age of the operating systems on the servers being replaced. We anticipate procuring 15 operating licenses, with support, at a cost of approximately \$2,333 per license for a total of \$35,000 of non-recurring expense. We will also require maintenance support on the new systems and are requesting \$34,560 of recurring contracted expense to keep the newly procured systems under maintenance.

COL A12		COL A14		COL A15		COL A16		COL A14-A12		CODES
AGY FIN REQ FY 2016-17	POS	AGY AMD REQ FY 2016-17	POS	AGY AMD N/R FY 2016-17	POS	AGY AMD ANZ FY 2016-17	POS	AGY AMD REQ FY 2016-17 OVER(UNDER)	AGY FIN REQ FY 2016-17	
AMOUNT		AMOUNT		AMOUNT		AMOUNT		AMOUNT	AMOUNT	

MANAGEMENT SRVCS, DEPT OF										72000000
PGM: AGENCY STATE TECH										72980000
STATE DATA CENTER										72980500
GOV OPERATIONS/SUPPORT										16
INFORMATION TECHNOLOGY										1603.00.00.00
EQUIPMENT NEEDS										2400000
INFORMATION TECHNOLOGY										
INFRASTRUCTURE REPLACEMENT										24010C0

Due to the challenges often found when upgrading to a new database platform and the limited agency resources available to remediate application issues, it is not expected that all database platforms will be upgraded within the fiscal year. As a result, only the funding necessary to address a subset of the oldest databases is being requested. New licenses will be purchased at a first year cost of \$168,000 with a recurring cost of \$50,400. These licenses will facilitate the creation of a shared virtualized database platform that will enable agency databases to run at a cost lower than buying the licenses individually.

**BENEFITS REALIZED BY FUNDING THIS ISSUE:**

Funding this issue will help mitigate the likelihood of decreased service availability to the agencies, increased potential for data loss, increased support costs, as well as increased exposure to security vulnerabilities occurs when hardware and software have passed the normal useful service life.

Promotes secure, virtual database platforms for customer agency use. Agencies will have the ability to quickly address upgrade needs on their out of date, unsecured systems. These databases, once upgraded and virtualized, are more easily recovered in a disaster and have increased uptime. Many of these databases run on older hardware platforms. By providing this upgrade platform, this antiquated equipment can be retired, reducing maintenance, power, and cooling costs as well as reducing consumed floor space. In addition to aging hardware, these systems often run on unsupported and unpatched operating systems. Upgrading the platform increases the speed at which the state can retire old operating systems that have reached end of life.

**CONSEQUENCES IF NOT FUNDED:**

Continued use of equipment, which has passed its useful service life, leads to increased risk of equipment failure and service outages, increased potential for data loss, increased maintenance and data center costs, and increased exposure to security vulnerabilities. End of service databases and operating systems will continue to run without security updates leaving the systems and the data at risk to security vulnerabilities. Databases running on these SQL instances are also more likely to suffer downtime due to lack of support from the manufacturer.

**COST CALCULATIONS:**

	FY 16/17 Request	Non- Recurring
Working Capital Trust Fund (2792)		
Expenses (040000)	203,000	152,600
Operating Capital Outlay (060000)	30,000	30,000
Contracted Services (100777)	34,560	
Deferred-Payment Commodity Contracts - CEFP (105280)	46,125	

COL A12	COL A14	COL A15	COL A16	COL A14-A12	
AGY FIN REQ FY 2016-17 POS	AGY AMD REQ FY 2016-17 POS	AGY AMD N/R FY 2016-17 POS	AGY AMD ANZ FY 2016-17 POS	AGY AMD REQ FY 2016-17 OVER(UNDER) AGY FIN REQ FY 2016-17 POS	AMOUNT

MANAGEMENT SRVCS, DEPT OF 72000000  
 PGM: AGENCY STATE TECH 72980000  
 STATE DATA CENTER 72980500  
 GOV OPERATIONS/SUPPORT 16  
 INFORMATION TECHNOLOGY 1603.00.00.00  
 EQUIPMENT NEEDS 2400000  
 INFORMATION TECHNOLOGY  
 INFRASTRUCTURE REPLACEMENT 24010C0

Total Request 313,685 182,600 FSI=1  
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Amended 2016-17 Narrative after December 4, 2015

PROPOSED SOLUTION/REQUEST Replace first sentence above in this section with the following:Using the state Consolidated Equipment Financing Program (CEFP), procure 15 physical systems with an estimated cost of \$20,500 per system for a total of \$307,500 over a five-year period. The amount requested, \$46,125, is for three quarterly payments in FY 2016-17. The annualized amount is \$61,500 per year. As such, the incremental amount required to annualize the request in FY 2017-18 is \$15,375.

Working Capital Trust Fund (2792)	FY 16/17 Request	Non-Recurring	Annualized
Deferred-Payment Commodity Contracts - CEFP (105280)	46,125		15,375

Summary: Revision to estimated cost per system, total cost, and inclusion of annualized amount information.

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STATE ENTERPRISE INFORMATION  
 TECHNOLOGY 3610000  
 MAINFRAME UPGRADE TO SUPPORT ACCESS  
 FLORIDA AND FLORIDA SAFE FAMILIES  
 NETWORK (FSFN) APPLICATIONS 36189C0  
 SPECIAL CATEGORIES 100000  
 LEASE/PURCHASE/EQUIPMENT 105281

WORKING CAPITAL TRUST FUND-STATE 3,833,922 1,533,569 3,833,922 2792 1  
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AGENCY ISSUE NARRATIVE:

2016-2017 BUDGET YEAR NARRATIVE: IT COMPONENT? YES  
 Amended 2016-17 Narrative after December 4, 2015

ISSUE TITLE: Mainframe Upgrade to Support ACCESS FLORIDA and Florida Safe Families Network (FSFN) Applications

COL A12		COL A14		COL A15		COL A16		COL A14-A12		CODES
AGY FIN REQ FY 2016-17 POS	AMOUNT	AGY AMD REQ FY 2016-17 POS	AMOUNT	AGY AMD N/R FY 2016-17 POS	AMOUNT	AGY AMD ANZ FY 2016-17 POS	AMOUNT	AGY FIN REQ FY 2016-17 POS	AMOUNT	
										72000000
										72980000
										72980500
										16
										<u>1603.00.00.00</u>
										3610000
										36189C0

MANAGEMENT SRVCS, DEPT OF  
 PGM: AGENCY STATE TECH  
 STATE DATA CENTER  
 GOV OPERATIONS/SUPPORT  
 INFORMATION TECHNOLOGY  
 STATE ENTERPRISE INFORMATION  
 TECHNOLOGY  
 MAINFRAME UPGRADE TO SUPPORT ACCESS  
 FLORIDA AND FLORIDA SAFE FAMILIES  
 NETWORK (FSFN) APPLICATIONS

This issue supports the Florida Strategic Plan for Economic Development Strategy #25, Improve the efficiency and effectiveness of government agencies at all levels, and the Governor's Priority relating to Maintaining Affordable Cost of Living in Florida.

SUMMARY: This is a companion issue to the Florida Department of Children and Families (DCF) issue 36327C0. DCF requests \$3,833,922 to support an Agency for State Technology lease of a replacement International Business Machines Corporation (IBM) mainframe to support the Florida On-line Recipient Integrated Data Access (FLORIDA) and FSFN applications. The lease would total \$8,434,628 over the next three years.

PROBLEM STATEMENT: The Agency for State Technology hosts two systems on behalf of the Department of Children and Families that are dependent on AST-Northwood's mainframe: FLORIDA and FSFN. The FLORIDA application supports the Public Assistance Program, while the FSFN application supports the Child Welfare Program.

This request expands the mainframe capacity to allow the FLORIDA and FSFN applications to continue to perform at required levels. The FLORIDA system which consumes over half of the current mainframe resources experiences predictable annual growth at a rate of 7% per year. FSFN has a smaller footprint on the mainframe, but the system is growing at a faster rate currently 17% annually as more of the child welfare system of care makes use of the platform for knowledge sharing and critical decision making. These capacity constraints will be manifested by slower transaction response times and longer batch cycles. Transaction queueing is an indicator that the demands of the system exceed the available capacity of the mainframe. The FSFN application experienced five incidents of transaction queueing during the six months between January and June 2015. Twenty (20) transaction queueing incidents occurred in the four months between July and November 2015. This trend will continue and the incidents will grow more frequent as the applications' demand for resources continues to grow.

Another indicator of potential capacity constraints is the Central Processing Unit (CPU) Percentage Used. The CPU Percentage Used is the average usage of the CPU during a 15-minute interval. The system is currently averaging 99.58 percent usage during the online day. This measure indicates that there is very little additional CPU capacity available to respond to the growing workload. Slower performance is readily noticed by FLORIDA and FSFN stakeholders. With reduced performance levels, the ability of the FLORIDA and FSFN systems to handle a surge in load is in jeopardy. An example is the considerable increase in use of the FLORIDA system following the hurricanes of 2004 and 2005. Such outages may affect the timeliness of direct services (for example, abuse investigations, protective services, shelter, and food assistance) to children and families. In the current environment, no excess capacity exists and no dynamic capacity upgrades are available. The last upgrade of the processor for the FLORIDA and FSFN applications for capacity purposes was in October 2005. An upgrade was performed in July 2010 to consolidate multiple processors into one as a cost savings measure and to

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MANAGEMENT SRVCS, DEPT OF										72000000
PGM: AGENCY STATE TECH										72980000
STATE DATA CENTER										72980500
GOV OPERATIONS/SUPPORT										16
INFORMATION TECHNOLOGY										<u>1603.00.00.00</u>
STATE ENTERPRISE INFORMATION										3610000
TECHNOLOGY										
MAINFRAME UPGRADE TO SUPPORT ACCESS										
FLORIDA AND FLORIDA SAFE FAMILIES										
NETWORK (FSFN) APPLICATIONS										36189C0

maintain compatibility with operating system changes made by the vendor. No additional capacity was added during this upgrade, and the new machine was rated at the same level as the two it was replacing. An additional upgrade was performed in July 2013 to maintain compatibility with the current operating system. As with the previous upgrade, no additional capacity was added to the machine.

AST-Northwood, along with the DCF team, jointly explored options to mitigate the service risk associated with the lack of capacity. One option considered was to upgrade the current mainframe to a higher capacity setting prior to June 30, 2015, at a cost of \$2,886,830. This would have added an additional 10% of capacity to the processor. Despite the lower initial cost, this option was not considered viable as the existing processor was withdrawn from marketing by the vendor on June 30, 2015, effectively preventing any additional changes. Therefore, upgrades to the existing environment are not possible.

The proposed approach is to lease a new mainframe with increased capacity. This approach addresses the critical capacity need, provides greater long term flexibility, and maintains manufacturer support of the operating environment. In addition, the system change will continue to leverage specialty engines. The FSFN and FLORIDA applications are able to use specialty engines installed in the current processor to remove some workload from the general purpose engines running on the mainframe. These specialty engines run at the full rated speed of the processor and are a perpetual license. Once a specialty engine is purchased, the agency is entitled to the same type of specialty engine in any upgraded processor at no additional charge. These engines are not visible to most third party software and no license fees are paid to third party vendors. This allows AST to utilize a processor at a lower capacity setting and avoid the cost of higher license fees while still having the capacity needed to run the applications. No changes would be required for any of the FSFN or FLORIDA applications to run on the newer processor, and the migration time, post-delivery and install, is negligible.

The mainframe technical support staff at AST-Northwood performed a capacity study in order to identify capacity requirements for a newer processor. The raw data was additionally provided to the hardware vendor for an independent study to validate the capacity calculations for the new model. Vendor quotes for a base model machine were used to generate the estimated costs by fiscal year listed below. These figures include the amounts for the increased license costs for hardware and software by fiscal year. The difference of \$1,533,569 between years one and two represents the one-time fees for the upgraded capacity that will be due to the various software vendors. The amount of increase due to hardware lease and maintenance is \$395,628 annually, and the amount of increase for software license and maintenance is \$1,904,725 annually.

WHAT BENEFITS WILL BE OBTAINED BY FUNDING THIS ISSUE: The replacement leased mainframe will support the projected growth of the FLORIDA and FSFN applications over the next three years, support the work of the 15,000 FSFN users and the 9,500

COL A12		COL A14		COL A15		COL A16		COL A14-A12		CODES
AGY FIN REQ FY 2016-17 POS	AMOUNT	AGY AMD REQ FY 2016-17 POS	AMOUNT	AGY AMD N/R FY 2016-17 POS	AMOUNT	AGY AMD ANZ FY 2016-17 POS	AMOUNT	AGY AMD REQ FY 2016-17 OVER(UNDER) AGY FIN REQ FY 2016-17 POS	AMOUNT	

MANAGEMENT SRVCS, DEPT OF										72000000
PGM: AGENCY STATE TECH										72980000
STATE DATA CENTER										72980500
GOV OPERATIONS/SUPPORT										16
INFORMATION TECHNOLOGY										<u>1603.00.00.00</u>
STATE ENTERPRISE INFORMATION										3610000
TECHNOLOGY										
MAINFRAME UPGRADE TO SUPPORT ACCESS										
FLORIDA AND FLORIDA SAFE FAMILIES										
NETWORK (FSFN) APPLICATIONS										36189C0

FLORIDA users at the current level of performance, accommodate new functionality in order to meet evolving program demands, and provide the ability to upgrade capacity in an emergency situation in order to continue to provide service in a timely manner to the citizens of Florida.

WHAT IMPLEMENTATION MECHANISMS WILL BE CHANGED AS A RESULT OF THIS ISSUE: When funded, the Department of Children and Families will transfer funds to AST to support the cost.

RETURN ON INVESTMENT: This hardware upgrade directly affects the performance of the system, which affects the productivity of the 9,500 FLORIDA users and 15,000 FSN users.

COST CALCULATIONS:

The cost of the mainframe upgrade is the state price from the approved vendors for the required hardware.

FY 2016-2017	\$3,833,922
FY 2017-2018	\$2,300,353
FY 2018-2019	\$2,300,353
Total	<u>\$8,434,628</u>
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	FY 16/17 Request	Non- Recurring	
Working Capital Trust Fund (2792)			
Lease/Purchase/Equipment (105281)	3,833,922	1,533,569	
Total Request	<u>3,833,922</u>	<u>1,533,569</u>	FSI=1
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Summary: This is a new issue.

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TOTAL: INFORMATION TECHNOLOGY 1603.00.00.00

BY FUND TYPE						
TRUST FUNDS.....	313,685	4,147,607	1,716,169	15,375	3,833,922	2000
	=====	=====	=====	=====	=====	