

IT Project Proposal Report - Detail
Agency: 085 - PUBLIC EMPLOYEES RETIREMENT SYSTEM
Budget Cycle: 2012 Deficit **Version: AF - AGENCY FINAL REQUEST**

IT Project : Transfer NPERS Infrastructure to OCIO

General Section

Contact Name : Fred Turner	E-mail : Fred.Turner@Nebraska.Gov	Agency Priority :
Address : 1221 N. Street, Suite 325 P.O. Box	Telephone : 402 471 7076	NITC Priority :
City : Lincoln		NITC Score :
State : Nebraska	Zip : 68509-	

Expenditures

IT Project Costs	Total	Prior Exp	FY10 Appr/Reappr	FY12 Request	FY13 Request	Future Add
Contractual Services						
Design	0	0	0	0	0	0
Programming	0	0	0	0	0	0
Project Management	0	0	0	0	0	0
Data Conversion	0	0	0	0	0	0
Other	0	0	0	0	0	0
Subtotal Contractual Services	0	0	0	0	0	0
Telecommunications						
Data	0	0	0	0	0	0
Video	0	0	0	0	0	0
Voice	0	0	0	0	0	0
Wireless	0	0	0	0	0	0
Subtotal Telecommunications	0	0	0	0	0	0
Training						
Technical Staff	0	0	0	0	0	0
End-user Staff	0	0	0	0	0	0
Subtotal Training	0	0	0	0	0	0

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Expenditures

IT Project Costs	Total	Prior Exp	FY10 Appr/Reappr	FY12 Request	FY13 Request	Future Add
Other Operating Costs						
Personnel Cost	0	0	0	0	0	0
Supplies & Materials	0	0	0	0	0	0
Travel	0	0	0	0	0	0
Other	0	0	0	0	0	0
Subtotal Other Operating Costs	0	0	0	0	0	0
Capital Expenditures						
Hardware	0	0	0	0	0	0
Software	0	0	0	0	0	0
Network	0	0	0	0	0	0
Other	0	0	0	0	0	0
Subtotal Capital Expenditures	0	0	0	0	0	0
TOTAL PROJECT COST	0	0	0	0	0	0

Funding

Fund Type	Total	Prior Exp	FY10 Appr/Reappr	FY12 Request	FY13 Request	Future Add
General Fund	0	0	0	0	0	0
Cash Fund	0	0	0	0	0	0
Federal Fund	0	0	0	0	0	0
Revolving Fund	0	0	0	0	0	0
Other Fund	0	0	0	0	0	0
TOTAL FUNDING	0	0	0	0	0	0
VARIANCE	0	0	0	0	0	0

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EXECUTIVE SUMMARY:

The transfer of the Nebraska Public Employees Retirement Systems (NPERS) infrastructure to the Office of the OCIO is driven by economies and efficiencies gained in moving to a virtual environment, increased capability for disaster recovery and relocating NPERS offices from Great Western to the Assurity Building (formerly Woodmen building) in the fall 2012 or spring 2013.

GOALS, OBJECTIVES, AND OUTCOMES (15 PTS):

Project description : Existing servers will be virtualized and traditional equipment replacement costs, maintenance and upgrade costs, will be eliminated. Existing cooling, monitoring and fire suppression equipment costs will also be eliminated. Relocation and virtualization of this equipment at the OCIO will allow NPERS IT Infrastructure and Support personnel to focus on software management and reduce their time focused on hardware management. Relocate the existing NPERS infrastructure to the OCIO. NPERS has no option to build a new server room in their targeted new location, the Assurity Building, now owned by the State.

This move will eliminate an existing server room at NPERS along with costs associated with cooling, fire suppression, servers and equipment. The move will require that all NPERS backup tapes be converted to a backup format used by the OCIO.

PROJECT JUSTIFICATION / BUSINESS CASE (25 PTS):

4. Provide the project justification in terms of tangible benefits (i.e. economic return on investment) and/or intangible benefits (e.g. additional services for customers). The project will accommodate the physical move of the Retirement Agency from its current location to the Assurity/Woodmen building. Analyzing a cost comparison between NPERS vs. OCIO hosting, an approximate \$4000 savings in operating costs is projected by the 2018-2019 budget period.

5. Describe other solutions that were evaluated, including their strengths and weaknesses, and why they were rejected. Explain the implications of doing nothing and why this option is not acceptable.

Moving NPERS from Great Western to the Assurity/Woodmen Building requires a change in the location of our infrastructure. Doing nothing is not an option. Additionally, NPERS will not be permitted to create a server room in the Woodmen building thus relocating the infrastructure to the OCIO makes good business sense for now and any future moves the agency might face..

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6. If the project is the result of a state or federal mandate, please specify the mandate being addressed.

NPERS is working with the State Building Division to move the agency from the Great Western Building to the Assurity/Woodmen building.

TECHNICAL IMPACT (20 PTS):

Describe how the project enhances, changes or replaces present technology systems, or implements a new technology system. Describe the technical elements of the project, including hardware, software, and communications requirements. Describe the strengths and weaknesses of the proposed solution.

This project moves NPERS infrastructure from its existing location at 1221 N Street, Suite 325, to the OCIO 501 building first floor server room. Additionally, this will involve the virtualization of 20 NPERS servers, 3 of which will be retired due to OCIO hosting services going forward. Tape media backup will be eliminated and backup data will be converted to a format compatible with OCIO data backup requirements. Communication between the OCIO and the NPERS agency located in the Assurity Building will occur across the State's backbone. Disaster recovery communication will occur through an internet connection between the OCIO and a disaster recovery offsite location.

8. Address the following issues with respect to the proposed technology:

- Describe the reliability, security and scalability (future needs for growth or adaptation) of the technology.

This hardware migration and conversion will provide NPERS a reliable, secure and scalable platform that will replace and improve the existing infrastructure as well as provide the required flexibility should additional agency physical moves take place.

- Address conformity with applicable NITC technical standards and guidelines (available at <http://nitc.ne.gov/standards/>) and generally accepted industry standards.

The existing NPERS infrastructure was built in conformity with NITC technical standards and guidelines and the transition of this environment to the OCIO will conform to those standards and guidelines.

- Address the compatibility with existing institutional and/or statewide infrastructure.

This migration, working in conjunction with the OCIO, will meet existing institutional and statewide infrastructure guidelines.

PRELIMINARY PLAN FOR IMPLEMENTATION (10 PTS):

9. Describe the preliminary plans for implementing the project. Identify project sponsor(s) and examine stakeholder acceptance. Describe the project team, including their roles, responsibilities, and experience.

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The project is segmented by physical-to-virtual migration, backup migration and file store migration. Planning for all three phases begins by mid September 2011 and continues until January 2012. Testing commences in February 2012 with OCIO hosting officially beginning in March of 2012. A migration schedule begins in April 2012 for the physical-to-virtual migration, backup and tape conversion as well as file store migration. Cutover to the OCIO is to be completed by mid July, 2012.

The project team is headed by Chad Schlotfeld, IT Infrastructure and Support Lead and is supported by Dean Gress, IT Infrastructure and Support Analyst. Both are NPERS IT resources. OCIO resources will also participate in the project as required.

10. List the major milestones and/or deliverables and provide a timeline for completing each.
See attached.
11. Describe the training and staff development requirements.
None at this time.
12. Describe the ongoing support requirements.
NPERS Infrastructure and Support personnel will continue to be responsible for NPERS software and the identification and resolution of any known hardware/connection issues with NPERS infrastructure hosted by the OCIO.

Attachments:

MigrationTimeline Milestones.xlsx

RISK ASSESSMENT (10 PTS):

13. Describe possible barriers and risks related to the project and the relative importance of each.

Risk	Risk Level	Risk Plan
Delay in obtaining hardware/software resources from the OCIO Assurity Building availability delayed as promised.	H	Possibly delay agency physical move
	L	Project can be implemented as planned with connection from OCIO to Great Western building.
Unforeseen connections issues	M	Call upon OCIO infrastructure resources (and Saber resources) as needed

14. Identify strategies which have been developed to minimize risks.

NPERS is working closely with the OCIO well in advance of our target date communicating our needs clearly through meetings (as required) and emails.

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NPERS is meeting regularly with State Building Division personnel coordinating space requirements and availability date of the new facility (Assurity Building).

FINANCIAL ANALYSIS AND BUDGET (20 PTS):

15. Financial Information

See "Server Hosting Comparison Spreadsheet" below for OCIO hosting costs projected to FY 2018-2019. Additionally, see Deficit Spending Request Summary noting that item number 1, Migration of NPERS Servers, contains the OCIO hosting costs for FY 2012-2013.

Attachments:

ServerHostingComparison (2).xlsx

Deficit Spending Request Summary Budget Request.docx

2011-12 Major Migration Schedule

	<u>Physical-to-Virtual Migration</u>	<u>Backup Migration</u>	<u>File Store Migration</u>
Jun-11			
Jul-11			
Aug-11			
Sep-11	Planning	Planning	Planning
Oct-11	Planning	Planning	Planning
Nov-11	Planning	Planning	Planning
Dec-11	Planning	Planning	Planning
Jan-12	Planning	Testing	Planning
Feb-12	Testing	Testing	Planning
Mar-12	Testing	OCIO Protection Begins	Planning
Apr-12	Utility Server Migration	NPERS Backup Offline	Planning
May-12	ST/Dev Migration	Tape Conversion	Testing
Jun-12	UAT Migration	Tape Conversion	Testing
Jul-12	PRD Migration	Tape Conversion	NAS Cutover
Aug-12			
Sep-12			

NPERS Hosting Cost Comparison

Item	2012-2013		2013-2014		2014-2015		2015-2016		2016-2017		2017-2018		2018-2019	
	NPERS Hosted	OCIO Hosted	NPERS Hosted	OCIO Hosted	NPERS Hosted	OCIO Hosted	NPERS Hosted	OCIO Hosted	NPERS Hosted	OCIO Hosted	NPERS Hosted	OCIO Hosted	NPERS Hosted	OCIO Hosted
Cooling ¹	\$1,280	\$0	\$1,325	\$0	\$1,370	\$0	\$1,415	\$0	\$1,465	\$0	\$1,515	\$0	\$1,565	\$0
Fire Suppression ²	\$130	\$0	\$135	\$0	\$140	\$0	\$145	\$0	\$150	\$0	\$155	\$0	\$160	\$0
Servers & Equipment ³	\$35,765	\$0	\$36,975	\$0	\$200,370	\$0	\$0	\$0	\$0	\$0	\$42,230	\$0	\$43,660	\$0
Virtual Servers ⁴	\$0	\$28,450	\$0	\$29,525	\$0	\$30,654	\$0	\$31,810	\$0	\$33,020	\$0	\$34,275	\$0	\$35,580
SAN Storage ⁵	\$0	\$4,100	\$0	\$4,665	\$0	\$5,085	\$0	\$5,305	\$0	\$6,035	\$0	\$6,865	\$0	\$7,805
NAS Storage ⁶	\$0	\$1,025	\$0	\$1,165	\$0	\$1,325	\$0	\$1,510	\$0	\$1,715	\$0	\$1,950	\$0	\$2,220
Backups ⁷	\$4,810	\$18,630	\$4,915	\$18,630	\$5,020	\$18,630	\$5,125	\$18,630	\$5,235	\$18,630	\$5,345	\$18,630	\$5,460	\$18,630
Antivirus ⁸	\$1,770	\$1,440	\$1,830	\$1,490	\$1,895	\$1,540	\$1,960	\$1,590	\$2,025	\$1,645	\$2,095	\$1,700	\$2,165	\$1,755
Totals:	\$43,755	\$53,645	\$45,180	\$55,475	\$208,795	\$57,234	\$8,645	\$58,845	\$8,875	\$61,045	\$51,340	\$63,420	\$53,010	\$65,990
Total NPERS Hosted:	\$419,600													
Total OCIO Hosted:	\$415,654													

¹NPERS cooling costs at Great Western include routine maintenance charges. The OCIO cooling cost is included in the rack space and virtual machine charge.

²NPERS fire suppression costs at Great Western include ongoing system maintenance and monitoring fees. The OCIO fire suppression cost is included in the rack space and virtual machine charge.

³NPERS servers/data center costs at Great Western for 2012-2014 include the maintenance renewals of all of the equipment. In 2014-2015 all of the equipment will need to be retired and replaced. In 2017-2019 the new equipment will have maintenance renewals each year. The OCIO servers/data center equipment costs are \$0, because all NPERS software and data will reside on OCIO-owned equipment.

⁴NPERS virtual server costs at Great Western are \$0, because all of NPERS servers are existing physical servers. OCIO virtual server costs will include the virtualization of 20 of the existing NPERS servers. 3 of the existing NPERS servers will be retired at this point, because they host services that will be provided by OCIO going forward.

⁵NPERS SAN storage costs at Great Western are \$0, because all of NPERS' data is stored on existing physical servers and attached storage. OCIO SAN storage costs include the storage of all major NPERS SQL databases, as well as all imaging data, on the OCIO SAN. The current size of this data as of 4/2011 is approximately 1100GB. The future SAN costs take into account the 25% average annual growth rate of the NPERS SAN data and the 9% average annual cost decline of magnetic storage as reported by the US Bureau of Labor Statistics.

⁶NPERS NAS storage costs at Great West are \$0, because all of NPERS' data is stored is stored on existing physical servers and attached storage. OCIO NAS storage costs include the storage of the file server data and the software distribution data. The current size of this data as of 4/2011 is approximately 550Gb. The future NAS costs take into account the 25% average annual growth rate of the NPERS NAS data and the 9% average annual cost decline of magnetic storage as reported by the US Bureau of Labor Statistics.

⁷NPERS backup costs at Great Western include tape media and renewal of Symantec Backup Exec. The backup hardware costs are included in the servers price line. The OCIO backups cost includes backup of all of NPERS data. The current size of the NPERS data is 2250GB and an average growth rate of 25% annually is estimated. Also accounted for is the 20% annual decline in tape media costs per Gb.

⁸NPERS antivirus costs at Great Western include renewal of Symantec Endpoint Protection. The antivirus software is installed on an existing multipurpose server that is included in the servers price line. The OCIO antivirus cost includes the OCIO managed antivirus solution.

Note: The cost estimates originate from both readily attainable price rates or, when price rates were not readily attainable, were extrapolated from earlier purchases. An inflation rate of 3.38% was used in several line items to estimate future costs of the items. Exceptions accounting for known divergences from the 3.38% inflation rate are noted in the spreadsheet footnotes. OCIO costs were based on the OCIO shared services rates for FY2010.

NPERS IT Deficit Spending Request Summary

This deficit spending request covers the approximate IT expenses for four items:

- 1.) **Migration of the NPERS servers** from NPERS to the OCIO Virtual Machine (VM) environment. This migration will provide economies in the elimination of hardware maintenance and replacement, backup tapes and management, and disaster recovery capability.

1.) Migration of servers from NPERS to OCIO (1-Time Costs)

Physical-to-Virtual Migration

Virtual Machines	\$9,000.00	Includes virtualization of 20 NPERS servers. 3 of the existing NPERS servers will be retired because hosting services are provided by OCIO going forward.
Storage	\$750.00	Includes the storage of all major NPERS SQL databases plus imaging data. Current size is approximately 1100GB.
Sub-total	\$9,750.00	

Backup Migration (Tapes)

Backups	\$7,000.00	Includes backup all NPERS data. Current size is approximately 2250GB.
Sub-total	\$7,000.00	

File Store Migration

Storage	\$500.00	Includes the storage of file server data and software distribution data. Current size is approximately 550GB.
Sub-total	\$500.00	

Total Migration Cost **\$17,250.00**