

NASCA Award Application

Program Title: PA Data PowerHouse Project

Category: Governmental Technology Applications

State: Pennsylvania

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Category: Governmental Technology Applications**Nomination: PA Data PowerHouse Project****Executive Summary**

Under a directive from Pennsylvania Gov. Tom Ridge to improve the delivery of public services through the strategic use of information technology, the Governor's Office of Administration announced the Commonwealth's Data PowerHouse Project in July 1997. This project was initiated because data center operations and maintenance were identified in earlier research as support services that are not part of the core business functions to be provided by government. It had been determined that these particular services might best be contracted to private industry, as this would produce the greatest operational efficiencies and service enhancements.

Through this initiative, the Commonwealth has planned and implemented the consolidation and outsourcing of the operations and technical support functions for 17 formerly separate state agency data centers. Sixteen of the 17 participating data centers had been located within an 8-mile radius of Harrisburg, the state capital.

Unisys was selected to be the Data PowerHouse prime outsource vendor following a competitive procurement. After a federal review, in August 1999, the Commonwealth finalized its contract with Unisys to consolidate and manage the Unisys and IBM platforms of participating agencies' data centers. The seven-year contract is valued at \$527 million.

A national pioneer

The full transition of all 17 agency data centers to the consolidated and outsourced data center – the “Data PowerHouse” – was completed in October 2000. The entire migration took 14 months to complete. The Data PowerHouse has been in full production since that time. *As a result of this pioneering effort, Pennsylvania became the first state in the nation to consolidate and outsource its agency data centers across the enterprise.*

The Data PowerHouse provides a variety of features and services that most state agencies never could have attained individually:

- Obsolete computer hardware has been replaced with new technology that is more fault-tolerant and provides greater reliability to agencies.
- Increased automation capabilities and faster computers have shrunk processing times to provide more hours of online availability.
- The Data PowerHouse is a “hardened facility,” offering redundant power supplies and extensive battery back-up and diesel generators for delivering uninterrupted power.
- Access to “hot site” disaster recovery capabilities is now readily available – something many agencies did not have before.
- Unisys is contractually committed to delivering 99.9 percent availability of mainframe processing for most agencies.
- Participating agencies now have access to 24-hour data center operations, something many lacked previously.
- Extensive Data PowerHouse security is provided to safeguard mainframe data files.

Category: Governmental Technology Applications**Nomination: PA Data PowerHouse Project****a) Description of the program and relative significance to the improvement and/or efficiency of state government.**

Under a directive from Pennsylvania Gov. Tom Ridge to improve the delivery of public services through the strategic use of information technology, the Governor's Office of Administration announced the Commonwealth's Data PowerHouse Project in July 1997. Through this initiative, the Commonwealth has planned and implemented the consolidation and outsourcing of the operations and technical support functions for 17 formerly separate state agency data centers. These 17 data centers previously were operated by 14 state agencies. Sixteen of the 17 data centers had been located within an 8-mile radius of Harrisburg, the state capital; the additional data center was located in Scranton, Pennsylvania.

Services outsourced to the selected vendor include program management, mainframe and midrange operations, systems management, tier-two helpdesk, related technical support, and disaster recovery. Application development and maintenance, desktop management, printing and LAN/WAN administration services still are provided directly by the Commonwealth.

State agencies participating in the Data PowerHouse include the departments of Public Welfare, Revenue, Aging, Corrections, Labor and Industry, Health, Transportation, and Education, as well as the Civil Service Commission, the Pennsylvania State Police, the Public School Employees' Retirement System, the Public Utility Commission, the Pennsylvania Game Commission, and the Liquor Control Board.

Unisys was selected to be the Data PowerHouse prime outsource vendor following a competitive procurement. Interested federal agencies reviewed the proposed project contract during the summer of 1999. Those agencies that have received federal concurrence to participate in this project include the departments of Public Welfare, Corrections, Labor & Industry, Revenue, and Health, and the Pennsylvania State Police.

Following the federal review process, in August 1999, the Commonwealth finalized its contract with Unisys to consolidate and manage the Unisys and IBM platforms of participating agencies' data centers. The seven-year contract is valued at \$527 million.

A national pioneer

The full transition of all 17 agency data centers to the consolidated and outsourced data center – the Data PowerHouse – was completed in October 2000. The entire migration took 14 months to complete. The Data PowerHouse has been in full production since that time. *As a result of this pioneering effort, Pennsylvania became the first state in the nation to consolidate and outsource its agency data centers across the enterprise.*

The Data PowerHouse, located in Harrisburg, houses mainframe and midrange computers used by participating state agencies to process data for providing public services like driver's license renewals, property tax and rent rebates for senior citizens, unemployment compensation claims, and many of Gov. Ridge's electronic-government initiatives.

The Bureau of Consolidated Computer Services (BCCS) has been created to oversee the outsourcing contract. BCCS is ensuring high levels of agency satisfaction, the readiness of disaster recovery capabilities, and the complete security of all public records.

Systems and operational facts

Total processing power

- 2,395 million instructions-per-second
- 6,581 terabytes of online storage

Tape library

- 282,000 cartridge tapes
- 30,000 round-reel tapes

Data PowerHouse facility facts

- 20,446 sq. ft. of Data PowerHouse floor space
- 16,000 sq. ft. for Program Management Office

Power capacity: full redundancy

- Two 12,470 volt utility feeds
- Two 500 KW UPS modules
- Installed 1,000 feet of pipe and 50,000 pounds of wire to reach and maintain full power redundancy
- PP&L dual sub-stations

Safety

- 240 smoke detectors above and below the raised floor
- Fire suppression: halon and sprinkler systems

Hardware and software

The 17 computer systems that have been outsourced represent an even split between Unisys Clearpath mainframes and IBM System 390 and AS/400 systems. Operating systems software includes OS/390, HMP 6.1, and the AS/400. Virtually hundreds of third-party software products are in use in the Data PowerHouse.

b) Calculation of actual savings in the short and/or long term.

The Commonwealth's initial business case study for this project estimated a total savings of \$127 million over the five-year life of the Data PowerHouse contract. After contract negotiations and a better definition of exactly what functions would be outsourced, that estimate was revised to \$111 million.

It must be noted, however, that the Commonwealth will realize the bulk of these savings through "cost avoidance." That is, a large part of the savings estimate was for personnel costs, assuming the Commonwealth would elect to furlough the employees who had been running the former data centers. Working constructively with the unions, the Commonwealth, instead, decided to retrain and redeploy those employees into other areas of IT responsibility (e-government applications, desktop management, application development, etc.). As a result, the estimated cost savings were transformed into cost avoidance for the services now being performed by the affected employees, as opposed to delivering true hard dollar savings.

The Data PowerHouse initiative never was initiated primarily for its cost savings potential. As private sector experience has demonstrated, the main benefits to be gained from data center outsourcing are the tremendous service enhancements that can be achieved. The early results of the Data PowerHouse Project echo this emphasis on practical service benefits.

Service benefits are immediately apparent

Some of the more prominent service improvements that already have been achieved by this initiative include:

- Unisys is contractually committed to delivering 99.9 percent availability of mainframe processing for most agencies, which is critical for agencies such as the Pennsylvania State Police, Penn DOT, and the departments of Labor & Industry and Public Welfare. Unisys has been able to consistently deliver 100 percent mainframe availability in most cases.
- Obsolete computer hardware has been replaced with new technology that is more fault-tolerant and provides greater reliability to agencies.
- Increased automation capabilities and faster computers have shrunk processing times to provide more hours of online availability, critical for deploying e-government systems over the Internet.
- The lack of adequate disaster recovery capabilities previously had led to audit findings against the Commonwealth. That situation now will be greatly improved. To date, successful off-site disaster recovery tests have been performed for nine of the 14 participating agencies.
- Redundant electrical and safety systems have been deployed to make sure computer systems and critical services are available 24X7. Many agencies did not have these safeguards in their separate facilities. (See one of three diesel power generator to right.)
- Round-the-clock staffing by Unisys personnel enables the Commonwealth to provide better service to support agency programs and better serve the public, particularly for web-based online systems that access mainframe data.
- Enhanced security provides better protection for Commonwealth data and equipment. An independent security audit has been performed on the project with very favorable results.
- ***The Bureau of Consolidated Computer Services recently completed the second year of agency satisfaction surveys. All respondents described the quality of mainframe services as “very good” to “excellent.”***

Interagency data sharing, which previously was hampered by the use of different computing technologies, now is being promoted. Cooperation between agencies is bringing new efficiencies and providing program improvements as synergies between agencies overcome previous barriers to effective public service delivery.

c) Quantitative benefits realized by service recipients, taxpayers, agencies and/or the state.

The Data PowerHouse provides a variety of features and services that most state agencies never could have attained individually. But by consolidating 17 data centers under one roof, all are able to benefit from a number of important enhancements.

For instance, some of the agencies participating in the project previously did not have the personnel to operate their data centers on a 24-hour basis. The Data PowerHouse, in contrast, is staffed around-the-clock, 365-days-a-year, providing optimal use of the Commonwealth's computer resources. The new facility also uses tape-handling robotics to reduce the errors that are more prevalent with manual tape handling procedures. Few of the participating agencies previously had access to such automation features. Plus, the Data PowerHouse has extensive building security to safeguard the data files housed there.

Faster access to the latest technology

Additionally, the Data PowerHouse provides agencies with the fastest access possible to the latest high-tech computing technology. In comparison with state agencies, Unisys can procure data center equipment much more quickly. Since new computing technology continues to offer faster processing speeds and special features, this improved procurement speed provides agencies with the best equipment for delivering reliable and quicker response times for their customers.

The Data PowerHouse also is a “hardened facility,” offering redundant power supplies and extensive battery back-up for delivering uninterrupted power in the case of an outage. Three on-site diesel generators provide another level of redundant power supply in the event of extended power loss from the public power grid.

Improved disaster recovery capabilities

Another important new feature is the availability of “hot site” disaster recovery capabilities, which had not been available previously to most agencies. In the case of a potential disaster that might cripple the Data PowerHouse facility, this service ensures that state agencies will be provided, within hours, with data processing capabilities from a protected site located some distance from Harrisburg. This extra safeguard ensures that state services will not be disrupted if disaster should strike.

“The processing power and redundancy contained in Pennsylvania’s Data PowerHouse rivals anything we’ve seen in the private sector,” says Bob Evans of Unisys.

“I’ve heard from numerous technology managers within state agencies who tell me how this project has freed them from having to worry about overseeing their own data center,” says Curt Haines, who manages the Data PowerHouse Project. “Now they can focus on the development of software applications that directly benefit their customers.”

“For many of these folks, managing a data center was a distraction – it kept them from delivering services that truly added value for their customers. Plus, they’ve now gained access to features like automation and disaster recovery that they simply couldn’t provide on their own. Agencies have been very supportive of the project.”

Providing more networked PC’s to Commonwealth employees is reinvesting money saved through the Data PowerHouse Project. By putting the power of desktop technologies in the hands of frontline workers, the Commonwealth is gaining improvements in workplace productivity and opportunities for providing better customer service.

d) Relevancy of use by other state, local and federal governments.

Leading private sector companies, like Heinz and PPG Industries, have proven the value of data center consolidation and outsourcing over the past decade. ***However, in the public sector, Pennsylvania is the first state to consolidate and outsource the operations and maintenance of its data centers on this scale.***

According to Bob Evans, president of Unisys Global Outsourcing, “This project is a validation that large-scale public sector outsourcing can work, and that government and industry can work productively together.”

The Data PowerHouse Project was initiated because data center operations and maintenance were identified in earlier studies as support services that are not part of the core business functions to be provided by government. It had been determined that these particular services were best contracted to private industry because this would produce the greatest operational efficiencies and service enhancements. It was surmised that these services could be

outsourced without detracting from government's performance and, in fact, could actually deliver a higher level of performance for the same or lower cost. The experience of the Data PowerHouse Project is confirming those early assumptions.

Former data center employees retrained to support the desktop

A major challenge experienced in at least one other state that previously had attempted to outsource its data center operations was the objections raised by state employees whose jobs could have been impacted by the proposed change. In contrast, a key element in the success of the Commonwealth's Data PowerHouse Project has been the commitment to retrain all employees who worked in formerly state-run data centers.

Approximately 180 employees were offered extensive retraining opportunities, and all but one employee has been moved into other high-demand information technology positions – most with the Commonwealth. Many now are working in desktop and network administration, supporting the 40,000 state employees who use PCs to do their daily work. The single employee who declined retraining elected, instead, to retire. Informal discussions with these employees indicate that many feel their careers have actually benefited from this training in network administration and desktop technologies, skills that are in great demand. By working constructively with unions on this effort, the Data PowerHouse Project has enjoyed strong union support.



COMMONWEALTH OF PENNSYLVANIA
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May 30, 2001

Curt Haines, Director
Bureau of Consolidated Computer Services
Suite 201
2300 Vartan Way
Harrisburg, PA 17110

Dear Mr. Haines:

The Commonwealth Technology Center (CTC) has received many benefits with our move to the Data PowerHouse Project. The most notable was the upgrade of our hardware and software technologies, resulting in an increased level of support to our customers. This was evident by the shrinkage of our batch processing window, faster throughput of our transactions and additional access times gained with 24 x 7 coverage.

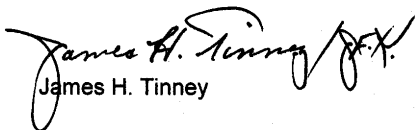
We were also able to redirect many of the ex-mainframe personnel into other IT disciplines allowing those initiatives to move ahead.

For the first time in our agency's existence, we have a disaster recovery agreement in place, with biannual testing, that ensures us the ability to recover in the event of a disaster.

These improvements coupled with instant access to a world wide network of technical support all the way up to the engineers who wrote the code and designed the equipment have made this a very successful venture for CTC.

We look forward to continued benefits from this relationship.

Sincerely,


James H. Tinney

cc: Charles F. Gerhards
Scott Elliott

Telephone (717) 720-4749 Fax (717) 772-5372

MEMO

To: Charles F. Gerhards

Deputy Secretary

Office of Administration, Office for Information Technology

From: Dale H. Everhart

Executive Director

Public School Employees' Retirement System

Date: May 29, 2001

Subject: Non-monetary Impacts of the Data Power House on PSERS

In July 1997, under a directive from Gov. Tom Ridge to improve the delivery of public services through the strategic use of information technology, the Governor's Office of Administration (OA) announced the Commonwealth's Data Power House Project. Through this initiative, the Commonwealth would be outsourcing the operations and technical support for up to 20 separate data centers operated by 16 state agencies. Application development, network management, and desktop computing functions would not be outsourced. In August, the Commonwealth finalized its contract with the Unisys Corporation to consolidate and manage the Unisys and IBM platforms of participating agencies' data centers. The full transition to the outsource vendor was expected to take one year to complete and the data center would be located at the Willow Oak Center in Harrisburg.

After thorough analysis of the project proposal, PSERS found that our objectives were aligned with the objective of the Data Power House Project. The most important of these objectives was to ensure that all PSERS annuitants receive accurate and timely payments by providing:

- More secure and reliable computing facilities, critical to ensure system
- Availability
- "Hot site" disaster recovery capabilities, critical to payroll/ annuitant processing.
- The ability to more quickly "right size" PSERS mainframe CPU. In the Data Power House Project, PSERS does not buy or own a CPU. The contract contains the flexibility to allow quicker hardware changes.

PSERS successfully migrated its applications to the data center at the Willow Oak Center over the Memorial Day Weekend in 2000. I would like to share with you the non-monetary benefits PSERS has experienced as a result of that move.

1) Disaster Recovery Capabilities. PSERS had no existent disaster recovery capabilities before our transition to the data center. We had a disaster recovery "plan" but neither the infrastructure nor the services necessary to implement the plan.

With the new data center, we have a disaster recovery infrastructure and associated services available to us. In fact, as you know, PSERS was the first agency to complete its Disaster Recovery test at the new disaster recovery center, by running a number of our payroll application programs and connecting to the disaster recovery center

machine from remote microcomputers. That test went very well and, in fact, we have successfully executed the test a second time.

2) Improved Power Backup. Prior to our transition to the Data Center, if the power went out, we had approximately 1 1/2 to 2 hours of battery backup electricity via our UPS. It was originally intended that this backup would give us enough time to get the power company in to manually switch to a second power feed -and, if it looked like that switch wasn't going to happen for whatever reason within the available timeframe, it gave us time to do a controlled/ orderly shut-down as opposed to a crash.

We now have sufficient power to carry us through a number of days until the Data Center personnel can find an alternate processing site for the longer term, if necessary.

3) 24x7 Oversight Of Our Computer Processing. Because of pre-existing technical limitations, we are unable to run our on-line update programs at the same time we run our batch programs. As a result, our typical mainframe schedule provides on-line, real-time update capability to our clients from 6:00am to 6:00pm. At 6:00pm, we bring down the on-line update system and begin to run our batch programs.

In the past, these batch programs were monitored through 10:00pm. However, there is batch work that was scheduled to execute after midnight - and this processing was not monitored. In the morning when the operator would come in, they would check to see if there had been a problem. If so, they would deal with and attempt to "fix" the problem before the on-line system could be brought back up. In many instances, due to the amount of time it took to resolve the problem, the on-line system was unavailable for use during the first portion of the workday.

With the move to the Data Center, all processes are monitored 24x7. If a problem occurs, staff is notified and work to resolve the problem can begin immediately making it more likely that the on-line update system will be available to our clients at the beginning of their workday.

4) Availability Of Technical Support And Level 2 Helpdesk Support. Prior to our transition to the Data Center, if a technical problem related to system software occurred, PSERS had to assign internal staff to thoroughly investigate the problem, identify alternative solutions, contact technical support, and apply the solution.

Now, PSERS' opens a problem ticket and dedicated technical staff from the Data Center does the problem investigation, identifies alternative solutions, and, after discussing it with PSERS staff, applies the selected solution.

Related to this is the added value in getting technical support and assistance in other areas that are necessary to better serve and protect the interests of our members. For example,

- a) Data Center staff have helped us learn, install, configure, and implement a product called InfoGuard. This product will allow us to implement new levels of

security on our mainframe by monitoring attempted and actual security violations, enforcing stricter password management, and providing a higher-level of program and database access controls.

b) Through the Power House project, we were able to have an in-house "workshop" which helped educate us in building On-Line Transaction Processing (OLTP)-compliant applications between our legacy applications.

c) Data Center staff has assisted us in implementing an automated scheduler -which reduces the chance of processing and scheduling errors -and an automated tape library system -which reduces the need for manual intervention and processing errors.

5) Technology Refreshment. Since our transition to the Data Center, numerous upgrades have been made to both system software and third-party software. As a result of working together with the Data Center staff, PSERS is receiving the benefits of keeping current with appropriate software versions.

I want to take this opportunity to let you know that we are extremely pleased that this project has delivered in terms of the expected benefits. The enterprise-thinking by this administration in this and many other technology areas has served PSERS and our membership very well. We look forward to a continuing relationship of mutual successes.

cc: Terri Savidge
Curt Haines

**PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
BUREAU OF INFORMATION SYSTEMS
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HARRISBURG, PA 17120-0041**



May 22, 2001

Curtis Haines
Director, Bureau of Consolidated Computer Services
Office for Information Technology
Office of Administration
Address

Dear Curt:

This is to highlight some of the benefits we have been able to see as a result of the data center outsourcing effort. While all issues with contractor performance are still being resolved, there have been improvements in the following areas when compared to our own operation.

- PENNDOT went from a leased facility to a more stable facility which will not be as vulnerable to lessor desires to renew or not renew, or increase costs.
- We now have the most comprehensive backup power system in the history of PENNDOT. At our leased facility, there was insufficient exterior space to accommodate generators. This will help insure that critical applications such as police access to driver and vehicle records will remain available during any power failure situation.
- The backup "hot site" is another important benefit. While PENNDOT had employed a hot site during our recovery from the fire emergency in 1994, we were subsequently unable to obtain a long term outsourcing contract. This resulted in vulnerability of our computer operations which thankfully was never weathered. With the outsourcing contract we now have hot site coverage which has successfully undergone its first test.
- The Virtual Tape System (VTS) has probably been the most important benefit of the migration to the outsourced data center. Early in the startup period, it was apparent that the volume of tape mounts PENNDOT must perform was something the contractor was not prepared to handle. PENNDOT averages in excess of 55,000 tape mounts per month. Use of the VTS system was planned as a later migration effort. However, when problems surfaced, PENNDOT took the lead along with the contractor, and in a combined effort worked to fast-track implementation of the VTS. The benefits initially were stabilization of operations and completion of batch processing on time each night. A long term benefit has been more efficient batch

processing. The VTS system was able to eliminate the normal delays resulting from manual tape mounting and de-mounting. VTS also locates tapes almost

immediately, where manual searching for a tape generally imposed a delay. The net result is that all batch processing is completed in a shorter window of nightly operations leaving a better buffer before on-line systems must be made available for daytime operations.

Sincerely,

R. Brian Radcliffe, Director
Bureau of Information Systems

Cc: Scott Elliott