

2009 Innovations Awards Program APPLICATION

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ID # (assigned by CSG): 09-S-13NC

Please provide the following information, adding space as necessary:

State: *North Carolina*

Assign Program Category: *Infrastructure and Economic Development* (Use list at end of application)

1. Program Name: *The Western NC Data Center: An Enterprise Approach to Building the IT Infrastructure and Providing Jobs*
2. Administering Agency: *The Office of the State Chief Information Officer*
3. Contact Person: *George Bakolia, State Chief Information Officer*
4. Address: *P.O. Box 17209, Raleigh, NC 27619-7209*
5. Telephone Number: *(919) 754-2980*
6. FAX Number: *(919) 981-2548*
7. E-mail Address: *george.bakolia@its.nc.gov*
8. Web site Address: [*North Carolina - State Chief Information Officer*](#)
9. Please provide a two-sentence description of the program: *To address capacity constraints and rapidly-rising vendor costs for backing up critical applications, North Carolina built and equipped a \$32.8 million data center on time and within budget. The state-of-the-art center in Western North Carolina provides the cornerstone for a number of enterprise initiatives, including improved disaster recovery and business continuity, consolidation of the state's IT infrastructure and new efforts, such as data sharing by law enforcement, the courts and corrections.*
10. How long has this program been operational (month and year)? Note: the program must be between 9 months and 5 years old on March 2, 2009 to be considered. *The Western Data Center became operational in June 2008 with a full-scale disaster recovery test.*
11. Why was the program created? What problem[s] or issue[s] was it designed to address? *The Western Data Center was built to address several major issues. 1) The cost of using an out-of-state vendor for disaster recovery was escalating rapidly. 2) Growth in state government's IT needs was bumping up against the capacity of the out-of-state vendor. 3) The state was facing capacity constraints at its data center in Raleigh. 4) Under the direction of the State*

CIO, the state had undertaken several initiatives aimed at better planning, budgeting and management of IT resources. These included an enterprise approach to business continuity planning and disaster recovery and consolidation of the IT infrastructure. Additional resources were needed to support those initiatives. 5) North Carolina leaders wanted to keep taxpayer dollars in state, create jobs and expand opportunities for high-tech companies to locate in the Western Part of the state.

12. Describe the specific activities and operations of the program in chronological order. *After a statewide Business Impact Analysis in 2004 identified the need for a fully redundant, round-the-clock disaster recovery capability, an evaluation of alternatives initiated by the State CIO supported the need for a second data center. Working with the Governor's Office and the N.C. General Assembly, the State CIO won approval for construction of the second data center. The Council of State, North Carolina's ten statewide elected officials, approved purchase of the property on August 1, 2006. Construction began on September 13, 2006. The project was completed on time and within budget, and the state took ownership of the data center on October 15, 2007. The first, full-scale disaster recovery exercise was completed in June 2008 with 15 state agencies participating, the highest number ever. Backup for the state's e-procurement system was moved to the Western Data Center in August 2008, and the site is now hosting applications for a number of state agencies.*

13. Why is the program a new and creative approach or method? *In a time of increased budget pressures, the Western Data Center was designed and built to serve a wide range of needs, giving the state the computing power it will need for years and allowing it to continue a number of cost-saving and efficiency initiatives. Two of those initiatives are the consolidation of the IT infrastructure in state agencies and a data integration initiative.*

The data integration effort was begun two years ago to break down the silos of information prevalent throughout state government agencies. The goal is to make information easily accessible to state agencies, program managers and policy makers for use in forecasting, trending, data analysis and making informed decisions based on timely data.

As in most states, North Carolina agencies deliver services through a number of different programs that are supported by multiple, disparate information technology systems. As a result, it is difficult and expensive for agencies to share information and to utilize state-of-the-art business intelligence features to produce analytical reports and statistics for decision making.

The data integration initiative is focused on developing an environment that promotes the use of business intelligence to make better, more informed decisions. The object of the initiative is to develop a strategy that identifies the technology and the business infrastructure needed to expand and promote the use of data, as an information asset, which is used to support strategic and operational business decisions. The Western Data Center serves a critical role in protecting these assets and making certain that they are available to key stakeholders when needed for critical decision making.

A few of the important statewide programs and functions that could be supported by WDC include:

Public Safety. Providing statewide crime analysis across all jurisdictional boundaries will help authorities prevent and solve crime by connecting suspect and incident data quickly and accurately.

Human Resources. Agencies will have the tools to proactively manage and forecast talent needs by analyzing employee data. As a result, they will have the ability to predict turnover, retirement, vacancies and insight into the supply of eligible candidates.

Identifying non-filers and under reporting. The Office of the State Auditor and Department of Revenue identified more than \$200 million in untaxed income in the first year of a program designed to recoup uncollected tax revenue from non-compliant guest workers. The effort received a Federal of Tax Administrators (FTA) Award for Compliance.

14. What were the program's start-up costs? (Provide details about specific purchases for this program, staffing needs and other financial expenditures, as well as existing materials, technology and staff already in place.) *The General Assembly appropriated \$32.8 million to build and equip the data center.*
15. What are the program's annual operational costs? *About \$4.4 million, including salaries.*
16. How is the program funded? *The operational costs of the Western Data Center are funded through subscription fees charged to users of services provided by the Office of Information Technology Services.*
17. Did this program require the passage of legislation, executive order or regulations? If YES, please indicate the citation number. *Construction and provisioning of the Western Data Center required approval at several levels. The General Assembly authorized \$24.8 million in Certificates of Participation for construction during the 2006 session. ([S.L. 2006-66, Sect. 23.12.\(c\)](#)) The Council of State, North Carolina's ten officials elected statewide, approved the special financing in August 2006. During the 2007 session, the General Assembly appropriated \$8 million to equip the Western Data Center. ([S.L. 2007-323, Sect. 29.2](#))*
18. What equipment, technology and software are used to operate and administer this program? *The program uses mainframe and distributed computing systems to run production and business recovery systems for agencies. In addition to standard mainframe products (e.g., z/OS, DB2) the mainframe also hosts z/Linux virtual servers. The distributed computing systems run an array of Windows, Linux, and UNIX systems along with a VMware-based virtual hosting environment. Microsoft SQL Server and Oracle are the primary database products used on the distributed computing systems. The storage infrastructure consists of a multi-vendor solution for disk storage, physical tape, and virtual tape systems which are all tied together with a robust storage area network (SAN) configuration. These systems are linked internally and externally over high speed networks through a sophisticated and secure network configuration consisting of a variety of routers, switches, load balancers, and firewalls.*

The Remedy Action Request System is used for Incident, Problem, and Change Management. An integrated set of tools is used for systems monitoring, maintenance, and remote management.

19. To the best of your knowledge, did this program originate in your state? If YES, please indicate the innovator's name, present address, telephone number and e-mail address. *This program originated with State CIO George Bakolia. P.O. Box 17209, Raleigh, NC 27619-7209. george.bakolia@its.nc.gov.*
20. Are you aware of similar programs in other states? If YES, which ones and how does this program differ? *We are not aware of any state that has successfully built a data center as part of an enterprise approach to better manage IT resources. We are aware of other states that are considering utilizing the same model. At least three other states, Tennessee, South Carolina and Oklahoma, have contacted or visited North Carolina to learn about the program. In addition, it has become a key part of the state's economic development effort as companies interested in relocating to North Carolina have inquired about the data center and expressed admiration for the program.*
21. Has the program been fully implemented? If NO, what actions remain to be taken? *No. The program has just begun. The Western Data Center is fully operational with staffing 24X7X365, a successful disaster recovery test has been completed and the center is hosting applications for state agencies. But North Carolina has only begun to use the full potential of the center. The General Assembly in 2008 directed the State CIO to identify critical state applications with inadequate capability to recover from a disaster, either natural or manmade, and help develop plans to use the Western Data Center to provide adequate backup. In the study, agencies identified 1,047 critical applications, with almost one-third (327) without adequate recovery capability. In addition, the state has just begun efforts to integrate, analyze and share data from across agency lines. A pilot program integrating criminal information is scheduled for roll out this spring. The data integration efforts will rely heavily on the Western Data Center.*
22. Briefly evaluate (pro and con) the program's effectiveness in addressing the defined problem[s] or issue[s]. Provide tangible examples. *The Western Data Center has addressed the immediate issues that led to its construction. Recovery time for critical state applications has been reduced from days to hours, or even minutes. About \$3 million in taxpayer money is no longer being spent out of state. The center has a total of 22 employees – ten state employees and 12 contract positions for security and janitorial services. For the first time, the state has adequate recovery capability for every application that delivers critical services to North Carolina citizens. But given current budget constraints, it will be some time before the state can fully utilize the Western Data Center.*
23. How has the program grown and/or changed since its inception? *In the beginning, the program was primarily related to disaster recovery and business continuity. As state leaders fully grasped its potential, it has evolved into the foundation of an enterprise approach to disaster recovery and business continuity, a key element in the ongoing consolidation of the IT infrastructure and a resource that provides the state with more flexibility and capability in providing a range of IT services.*
24. What limitations or obstacles might other states expect to encounter if they attempt to adopt this program? *Given the current economic situation, the primary obstacles would be budgetary. Other potential obstacles are limited expertise in the design and construction of a data center. A potential difficulty is the inability to fully utilize a data center for providing enabling technology to improve and expand the deliver of services to citizens in a more economical and effective manner.*

2009 Innovations Awards Program Program Categories and Subcategories

Use these as guidelines to determine the appropriate Program Category for your state's submission and list that program category on page one of this application. Choose only one.

Infrastructure and Economic Development

- Business/Commerce
- Economic Development
- Transportation

Government Operations

- Administration
- Elections
- Public Information
- Revenue

Health & Human Services

- Aging
- Children & Families
- Health Services
- Housing
- Human Services

Human Resources/Education

- Education
- Labor
- Management
- Personnel
- Training and Development
- Workforce Development

Natural Resources

- Agriculture
- Energy
- Environment
- Environmental Protection
- Natural Resources
- Parks & Recreation
- Water Resources

Public Safety/Corrections

- Corrections
- Courts
- Criminal Justice
- Drugs
- Emergency Management
- Public Safety

Save in .doc or rtf. Return completed application electronically to innovations@csg.org or mail to:

CSG Innovations Awards 2009
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Contact:

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This application is also available at www.csg.org, in the Programs section.

Deadline: March 2, 2009