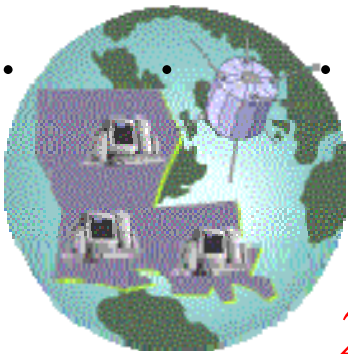


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# Louisiana Technology Innovations Fund



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*2006 Annual Report*

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# Louisiana Technology Innovations Fund

## *Annual Report to the Legislature*

### Executive Summary

As of April, 2006 seventy-two projects have been received by the Technology Innovations Fund Council for consideration. To date, twenty-nine were selected for funding. They are as follows:

Log #	Project	Agency	Funding Approved	Amount Paid	Status as of 04/01/06
98-003	Point of Sale Hunting and Fishing	Wildlife and Fisheries	\$864,671	\$775,684	Complete
98-005	On-line Insurance Reporting	Public Safety	\$98,888	\$98,888	Complete
98-007	Distance Learning	Military	\$607,000	\$607,000	Complete
98-007c	Skycell Satellite	Military	\$544,000	\$544,000	Complete
98-009	Patient Biometrics	LSU Medical Center, NO	\$862,500	\$3,588	Terminated
98-010	High Performance Computing System	LSU, BR	\$989,383	\$962,297	Complete
98-016	Campus Walls	LSU, Eunice	\$176,422	\$176,422	Complete
98-017	Multi-media Internet	Wildlife and Fisheries	\$67,410	\$54,461	Complete
99-001	Internet-based Video Conferencing	LSU Medical, Shreveport	\$765,000	\$765,000	Complete
99-004	Louisiana Treasures	LSU, BR and UNO	\$198,078	\$184,974	Complete

<b>Log #</b>	<b>Project</b>	<b>Agency</b>	<b>Funding Approved</b>	<b>Amount Paid</b>	<b>Status as of 04/01/06</b>
99-005	Lab for Info Technology and Spatial Analysis	UNO	\$449,700	\$448,178	Complete
99-006	OCDD Telemedicine	Health and Hospitals	\$956,982	\$895,160	Complete
99-012	LA E-mail	Division of Administration	\$925,000	\$923,591	Complete
99-014	Web-based Data Warehouse	Education	\$1,000,000	\$991,000	Complete
99-015	X-Band Satellite Ground Station	LSU, BR	\$970,795	\$970,795	Complete
99-016	Training Today's Students for Tomorrow's Work Environment	LSU, BR	\$275,000	\$274,060	Complete
01-001	Mobile Data Terminals	Wildlife and Fisheries	\$1,000,000	\$1,000,000	Complete
01-002	Saving Lives and Enhancing Efficiency: Managing Medications and Medical Supplies	LSU, Shreveport	\$950,000	\$950,000	Complete
01-003	A Prototype Enterprise Application Hosting Service	LSU, BR	\$431,900	\$431,718	Complete
02-001	State Trooper Mobile Office	Public Safety	\$361,400	\$361,400	Complete
02-002	Fire Marshall Information Management System	State Fire Marshall	\$1,000,000	\$829,679	Complete
02-010	LouisianaMAP	E-Services	\$472,175	\$327,058	Complete
02-011	Louisiana e-Government Portal	E-Services	\$998,590	\$974,169	Complete

Log #	Project	Agency	Funding Approved	Amount Paid	Status as of 04/01/06
02-013	Statewide Learning Management System	CPTP	\$386,000	\$287,545	Complete
02-014	Prototype for Centralized E-Mail	OIT	\$949,200	\$922,966	Complete
03-003	Exploiting Linux Services in Louisiana	LSU	\$999,768	\$989,338	In Process
03-006	Development of Business Continuity and Disaster Recovery Plans	DEQ, DNR, DOTD	\$281,250	\$171,704	In Process
03-008	Internet-based Wireless Diagnostics and Predictive Modeling System	DOTD	\$291,350	\$256,350	Complete
03-013	Towards an Integrated Juvenile Justice Information System (IJJIS)	Louisiana Children's Cabinet	up to \$335,000	\$10,171	In Process

## Accomplishments

- The Council membership during this time period was:
  - Jerry Luke LeBlanc, Commissioner, Division of Administration
  - Dominic A. Cali, IT Director, Department of Transportation
  - Jerry Guillot, Chief of Staff, Senate Office
  - Bob Harper, Undersecretary, Department of Natural Resources
  - Butch Speer, Clerk of the House, House of Representatives
- During 2005:
  - No new projects were approved due to lack of funding.
  - Two projects changed from a status of "In Process" to "Complete." To date the total number of funded projects completed within or under budget is 24.

- The LTIF Web site, which is accessible on the Internet at <http://www.doa.louisiana.gov/ltif/index.htm> under *Info Louisiana* is updated regularly to reflect current progress status and progress reports for each project.

## Budget Status

<b>Fund Balance as of April 1, 2005</b>			<b>\$0</b>
<b>Increases in Revenue/Income</b>			
	Interest Earnings	\$33,106	
	Act 14 of 2004 Regular Session	<u>\$0</u>	
<b>Expenditures /Obligations</b>			
	Expenditures	<b>\$(443,455)</b>	
	Obligations	<u>\$745,138</u>	
<b>Fund Balance as of March 29, 2006</b>			<b><u>\$334,789</u></b>

## Project Summaries and Highlights

The LTIF was established to support innovative and exemplary projects that significantly contribute to the state's technology infrastructure and/or provide creative and concrete solutions for improving citizens' services.

A summary description and highlights for those projects that had activity during 2005 follows. For projects that were completed between 2001 and 2004, post-implementation updates are provided.



## **LSU Baton Rouge**

### **An X-Band Satellite Ground Station for the State of Louisiana**

Log #: 99-015

Status: Completed in 2003

The X-band environmental satellite telemetry system gives Louisiana the capability of receiving and processing advanced direct broadcast, high resolution earth environmental information. This real-time access and analysis lends itself to a major decision support role for emergency management, public safety, public health, economic applications, resource management and research/education. The SAR (Synthetic Aperture) provides advanced real-time, all-weather day/night satellite-derived environmental data for our state. The X-band system can provide much more detailed measurements and maps of the earth, oceans and atmosphere on a time-series basis with higher spatial, spectral and radiometric resolutions. The higher resolution satellite data can provide time-series "birds eye" views of suspended sediments and phytoplankton blooms downstream of the largest Mississippi River diversions (Davis Pond and Caernarvon). This data could prove essential in the development of innovative management strategies for the diversions, maximizing benefits and minimizing negative impacts. The collected data will be linked via the Internet and managed as a non-profit data resource for Louisiana governmental entities and industry.

#### Post Implementation Status:

The X-band project has provided Louisiana researchers direct access to advanced earth observing satellites including NASA's MODIS sensor, the high resolution Oceansat-1 OCM ocean color sensor, and Radarsat-1 SAR data. Atmospheric, ocean, and land products derived from X-band satellite data are produced in near real-time and accessible from the ESL home page <http://www.esl.lsu.edu>. Several major milestones were achieved this year and include (1) the launch of a totally revised and expanded web page (2) completion of the ESL training lab and (3) facility enhancement of the operations area and training lab with furniture and carpeting. The second and third were funded by a LA Board of Regents Enhancement Grant with matching funds for facility enhancement provided by the LSU School of the Coast and Environment, Dept. of Oceanography and Coastal Sciences and the Coastal Studies Institute.

#### **Emergency response activities in support of the State of Louisiana**

Earth Scan Lab faculty, staff and students were very involved in emergency response activities during the 2005 hurricane season. Approximately 70 man-days were spent on emergency activities associated with Hurricanes Katrina and Rita. Since 1992, our support to LOHSEP has been provision of real-time satellite imagery for tracking hurricanes and tropical storms and for evaluating changes in track and intensity in support of hurricane evacuation. In the LOHSEP EOC, the ESL currently has a direct feed of satellite data which enables display of real-time images (10 minutes old) with updates as often as every 5 minutes. This gives Louisiana the most timely access to information on changes in hurricane track and intensity. The ESL imagery and animations, with overlays of the predicted track, are continuously displayed on one of the four large screens for all to see.

After Katrina, the X-band satellite data was useful in detecting flooding of New Orleans as well as coastal circulation and oil spills along the coast. The University of Miami CSTARS lab and NOAA NESDIS sent us high resolution SPOT and SAR imagery which provided more details on New Orleans flooding than provided by our own antenna farm. As soon as we could process this data, we provided image products and analyses to LOHSEP, state and federal agencies, the American Red Cross, the LSU Hurricane Center, the LSU FEMA data archive, the LSU ESL web page and the media (B.R. Morning Advocate, WAFB, Time Magazine, and National Geographic, as examples).

In recent years, new atmosphere and ocean products have been developed which are helping to predict both track and intensity. Dr. S.A. Hsu has shown that dry air advection into hurricanes along the western margin can significantly decrease their intensity (Hurricane Lili and Hurricane Ivan are good examples). Dr. N. Walker has shown how Gulf of Mexico currents and eddies affect hurricane intensity. For example, both Hurricanes Katrina and Rita intensified in less than 24 hours from category 2 to 5 hurricanes as they passed over the Loop Current and its eddies; which provided unlimited heat and moisture to the developing hurricane.

### **Training and Public Outreach**

Undergraduate and graduate students at LSU receive hands-on training in the Earth Scan Laboratory on uses and applications of satellite data from the X-Band antenna system including Terra-1 and Aqua-1 MODIS, Oceansat-1 Ocean Color Monitor, and Radarsat-1 Synthetic Aperture Radar (SAR) data. In 2005, the Earth Scan Lab staff participated in LSU Ocean Commotion, a K-8 educational event held annually in the Assembly Center. Numerous demonstrations were also given to visiting scientists. In 2005, faculty and staff were interviewed and featured on Baton Rouge TV stations, Time Magazine, NPR National radio, National Geographic CD and many others.

A recent BOR enhancement grant has provided workstations for undergraduate and graduate student training. Eight dedicated workstations are available to students for their research and are also used extensively in graduate level classes to give hands-on experience in satellite data processing and analysis.

### **Current and recent LSU research projects that use the Earth Scan Laboratory X-Band facility capabilities**

*The Center for Coastal Zone Assessment and Remote Sensing, NASA Group 3 HBCU University Research Centers, (LSU Earth Scan Laboratory is university partner to Southern University-N. Walker P.I.), April 2003-April 2008, LSU budget \$960,000, total award, \$ 6,000,000.*

*New remote sensing methodologies for the surveillance of ocean features and improved understanding of circulation processes in the Gulf of Mexico, Minerals Management Service Coastal Marine Institute, (Walker, P.I.), September 2002-August 2005, \$346,383.*

*Assessment and remediation of public health impacts due to hurricanes and major flooding events, LA Board of Regents (Walker, Co-P.I.), April 2002-March 2007, \$107,810.*

*Rawinsonding of the atmospheric structure over the Baton Rouge area in the summer 2003, Louisiana Dept. of Environmental Quality, (S.A. Hsu, P.I.), \$49,719.*

*Rawinsonding of the atmospheric structure over the Baton Rouge area in the summer 2004, Louisiana Dept. of Environmental Quality, (S.A. Hsu, P.I.), \$49,741.*

*Simultaneous measurements of atmospheric visibility, particulate matter, and mixing heights at the Breton area IMPROVE site, Louisian Minerals Management Service (S.A. Hsu, P.I.), \$299,979, September 2003- September 2006.*

*Determining overwater visibility and mixing height using satellite and in-situ measurements over the Gulf of Mexico, Minerals Management Service (S.A. Hsu, P.I.), October 2000-June 2004, \$294,102.*

*Advancing the training capabilities and satellite data access within the LSU Earth Scan Laboratory, LEQSF Traditional Enhancement: Earth/Environmental Sciences, (Walker, P.I.), July 1, 2004-June 30, 2005, \$70,000.*

*Deep Water Currents at 92W (Walker, P.I.), Minerals Management Service, 07/1999-10/2006, \$553,286.*

*Hypoxia Studies in the Northern Gulf of Mexico (Walker, co-P.I., with Nancy Rabalais, Eugene Turner and Greg Stone), NOAA Center for Sponsored Coastal Ocean Research, May 2003-April 2006, \$ 508,469.*

#### **Papers published, accepted, or submitted for publication in 2005/2006**

Blanchard, B. W. and Hsu, S. A., On the radial variation of the tangential wind speed outside the radius of maximum wind during Hurricane Wilma (2005). *National Weather Association Electronic Journal*, submitted.

Hsu, S. A. and Babin, A., Estimating the radius of maximum wind via satellite during Hurricane Lili (2002) over the Gulf of Mexico. *National Weather Association Electronic Journal*, available online at [http://www.nwas.org/ej/hsu/hsu\\_babin\\_2005.pdf](http://www.nwas.org/ej/hsu/hsu_babin_2005.pdf), 2005.

Walker, N.D., A. Haag, S. Balasubramanian, R. Leben, I. van Heerden, P. Kemp. H. Mashriqui, Hurricane prediction: A century of advances, *Oceanography*, in press.

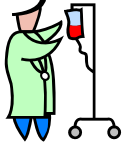
Kiage, L., N.D. Walker, S. Balasubramanian, J. Barras, Applications of Radarsat-1 Synthetic Aperture Radar imagery to assess hurricane related flooding of coastal Louisiana, *International Journal of Remote Sensing*, 26, 5359-5380, 2005.

Walker, N.D., R.R. Leben, S. Balasubramanian, Hurricane-forced upwelling and chlorophyll a enhancement within cold-core cyclones in the Gulf of Mexico, *Geophysical Research Letters*, 32, L18610, doi:10.1029/2005GL023716, 2005.

Stone, G., N. Walker, S.A. Hsu, A. Babin, B. Liu, B. Keim, W. Teague, D. Mitchell, R. Leben, What have we learned about Hurricane Ivan and its impacts along the northern Gulf of Mexico, *EOS, Transactions*, American Geophysical Union, 86, 497-508, 2005.

Walker, Nan D., William J. Wiseman, Lawrence J. Rouse, Jr., and Adele Babin, Seasonal and wind-forced changes in surface circulation, suspended sediments, and temperature fronts of the Mississippi River plume, Louisiana, *Journal of Coastal Research*, 21, 1228-1244, 2005.

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## LSU Health Science Center, Shreveport –

### Managing Medications and Medical Supplies

Log #: 01-002

Status: Complete Spring 2005

The goals of this project were to: (1) Save patient lives by avoiding adverse drug reactions resulting from medication errors. Such reactions can occur because known allergic reactions go unnoticed, because other medications prescribed for the patient interact detrimentally, or because incorrect dosages or medications are administered. Adverse drug reactions may increase the patient's length-of-stay in the hospital, also increasing the expense of caring for the patient (2) appropriately charge medications and supplies to the patient, and reduce pilferage. Furthermore, to create a "perpetual inventory system," greatly reducing the need for both standing inventories and the space to house these inventories. Through enhanced automation, the cost of procuring and distributing medications and supplies will be reduced. (3) improve efficiency and reduce errors by interfacing and exchanging information electronically; (4) use barcodes on all medications and supplies to eliminate most manual data entry and enable workforce reduction or re-allocation. Pharmacists will be freed from many manually intensive tasks and can spend more time assisting and advising physicians, a more efficient use of pharmacist expertise.

The following outcomes are reported for the period March 1, 2005 to February 28, 2006:

#### Highlights

- **Goal 1:** The system is effective in reducing and preventing errors that may cause adverse drug reactions. However, average patient length of stay (LOS) has not decreased. LOS is an index that is affected by a number of complex factors, only one of which is an adverse drug reaction. A better measure of severity is Diagnosis Related Group (DRG) Weight, but this measure is more complex to calculate and is still affected by many diverse factors. At this time, we know that we are decreasing adverse drug events, and we will continue to investigate methods to correlate the reduction in adverse drug reactions to a decrease in the severity of the patient's condition. The Computerized Physician Order Entry (CPOE) system is now being used by all staff and residents in Psychiatry.
- **Goal 2:** At present, 75% to 80% of all medications are bar-coded by the manufacturer. Before the end of 2006, all pharmaceutical manufacturers must comply with Federal law and barcode all medications. Bar-coding, combined with just-in-time delivery of all pharmaceutical products, has dramatically reduced the cost of procuring and distributing medications. Within the year, we will also upgrade our surgery scheduling and management system, and we expect to further reduce costs by enhancing our ability to procure and manage surgical supplies.
- **Goal 3.** All standalone systems identified in the original proposal were interfaced (as shown in Figures 1 and 2.) All manual data entry that was required to move data between the stand-alone systems shown in Figure 1 has now been eliminated.
- **Goal 4.** As indicated, by the end of 2006, all medications will be bar-coded by the manufacturer, as required by Federal law. The manual data entry required of pharmacists has already been greatly reduced, and such work will be completely eliminated by the end of the year. Pharmacists are now spending more time improving compliance because the new, integrated systems provide better tools for monitoring errors. At this time, however, the new systems have not enabled pharmacists to spend

more time with physicians. In the coming year, the completion of mandatory bar-coding and the familiarity with monitoring tools may help enable the reallocation of pharmacists to assist physicians directly on the hospital wards.

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## **Louisiana State University**

### **A Prototype Enterprise Application Hosting Service**

Log #: 01-003  
Status: Completed in 2003

The Enterprise Application Hosting Service provides researchers, educators, and students across the State of Louisiana, and across the U.S., with access to Enterprise Applications from the Global market leader, SAP, including: enterprise resources planning (ERP), customer relationship management (CRM), supply chain management (SCM), strategic enterprise management (SEM), supplier relationship management (SRM), and Portals.

As the hosting entity that provides these valuable services, LSU plays a leadership role in academic hosting, enterprise systems curriculum, and enterprise systems research. As an official SAP UCC hosting site, LSU is host to a number of SAP faculty workshops for SAP University Alliance members, as well as host to an annual ASUG (SAP User's Group) meeting attended by numerous business professionals in Louisiana and Texas.

Through this service, researchers, educators and students at LSU and their hosted clients, are able to 1) access the above mentioned SAP enterprise systems for academic purposes, 2) leverage these systems to support innovative curriculum development, and 3) leverage these systems to support research initiatives.

These goals of this project have been realized, and will continue to be realized, through the SAP UCC Program established between SAP AG and LSU's E.J. Ourso College of Business Administration.

#### Highlights:

- The Hosting Services operation is self-supporting and requires a relatively low level of resources and capital. It provides access to a full suite of ERP and e-Business applications for educational purposes serving the following 17 Universities:
  - Louisiana State University
  - Southern University
  - Louisiana Institute of Technology
  - University of New Orleans
  - University of Florida
  - Georgia Institute of Technology
  - University of Houston
  - Villanova University
  - Kansas University

- Oklahoma State University
  - Miami University of Ohio
  - Youngstown State University
  - Southern Illinois University at Edwardsville
  - Pennsylvania College of Technology
  - Washington College
  - University of Akron
  - University of Alabama at Huntsville
- The hosting center operation hosts a series of annual SAP Faculty workshops for University faculty members of the SAP UA program. These faculty come from the above schools, as well as 80 other Universities in North America.
  - The Hosting Service is one of ten SAP Global University Competency Centers, five of which are located in the U.S. (University of Wisconsin-Milwaukee, Drexel University, California State University at Chico, University of Missouri, and LSU), two in Germany (University of Passau, University of Magdeburg), one in Australia (Queensland Institute of Technology), one in the Netherlands (University of Amsterdam), and one in Japan (Aoyama Gakuin University).
  - SAP AG continues to sponsor the UCC by providing Enterprise Application software at no charge, providing subsidy to support UCC operations (\$250,000 per year), and providing subsidy to support hardware requirements.
  - Recent Publications:
    - Strong, D. M., Fedorowicz J. , Sager, J. , Stewart, G. , & Watson, E. (2006). Teaching with Enterprise Systems. Forthcoming in *Communications of the AIS*.
    - Noguera, J. & Watson, E. F. (2006). Response Surface Analysis of a Multi-Product Batch Processing Facility Using a Simulation Metamodel. Forthcoming in *International Journal of Production Economics*.
    - Hu, J. ., Watson, E. , & Schneider, H. (2005). Approximate Solutions for Multi-Location Inventory Systems with Transshipments. *International Journal of Production Economics*, 97 (1), 31-43.

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**Public Safety**

**State Trooper Mobile Office**

Log #: 02-001

Status: Completed in 2003

This project was intended to provide 650 Louisiana State Police Road Troopers with enhancements to their Mobile Data office. The projected purposes of the enhancements were to allow road troopers to gather, create, and store reports and other documents more efficiently ultimately making their work environment more effective.

Highlights

- Magnetic Card Stripe Readers - This has allowed the Troopers to directly upload driver information into the intended application. This has greatly increased the accuracy of driver information being gathered. With the software that was developed for these readers, several formats of driver's licenses can be read by the magnetic card strip readers. These also have assisted Troopers in the recognition of illegally manufactured driver's licenses as well as enhanced officer safety by allowing the officer's attention to be more focused on the driver at stop locations.
- Printers in the vehicle - With these printers installed in the vehicles, Troopers have been able to print and file copies of reports, NICIC information, and other documents created for their daily activities. Troopers no longer have to travel to the troops to print out, file, or retrieve forms and reports needed thus allowing the Trooper more time to accomplish the most important task, public safety. Especially in this time of fuel crisis this has substantially cut down on fuel costs by allowing Troopers to print locally.
- Microsoft Office - MS Office programs have allowed Troopers to view and create reports vital to their job routines and requirements.
- All purposes and performance indicators that were projected by the addition of the enhancements to the Troopers' Mobile Data Offices have been met and have exceeded Trooper response. These enhancements have heightened Trooper security, efficiency and productivity by giving him important tools needed in his work place environment.

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**State Fire Marshall**

**Fire Marshall Information Management System**

Log #: 02-002

Status: Completed in 2005

The project is being implemented to provide the ability for the Louisiana Architectural, Engineering, and Construction community ("AEC") as well as the general public to submit and review plans through a web based portal; to provide the State Fire Marshall the ability

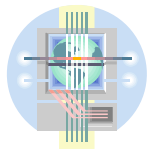
to perform construction inspections while in possession of the most current information on that specific project; the capability to provide the citizens and businesses of the State of Louisiana electronic communication with the State Fire Marshal's Office via the web; the means of producing quicker and more cost effective correspondence with the AEC and Louisiana citizens; and the implementation of a program that can potentially be interconnected with other state agencies and local municipalities around the country.

Implementation of this project provides many progressive changes in technology for the Office of the State Fire Marshal and their access to the Louisiana Architectural, Engineering, and Construction community ("AEC") as well as the general public.

Highlights

- Creation of a "Web Portal" for access to the Marshall's office to allow submittal of applications, and correspondence, access to historical records on projects by authorized participants and up to date review status tracking of the project by the submitter through the review process in our office.
- Web Portal establishes a platform for the receipt of online payment and submittal of electronic plans during the project submittal process, as these features become practical and available.
- Creation of a common database for Plan Review and Inspections assures more accurate and timely availability of information to these interconnected units, allowing more rapid and accurate performance of the work for both units.
- Implementation of "automated" inspection reports and other documents within all work units frees up data entry personnel for use on other more productive work, and increases the ease and rapidity of modification and correction of records from the field.
- Expanded databases allow more detailed and efficient reporting for administrative staff, allowing improved projections of cost, staffing, scheduling and other vital decision making functions.
- Expanded Licensing and License Complaint programs and historical databases allow more efficient and cost effective administration and handling for the thousands of licensed Fire Protection Contractors working in the state.
- Oracle Database allows for future interconnection with other state or municipal databases to share and expand information and services.

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**Office of E-Services**

**LouisianaMAP**

Log #: 02-010

Status: Completed in 2005

LouisianaMAP was a 24-month project to revolutionize e-government in Louisiana by providing a reliable, consistent geographic information and services component. The project consists of three tightly coupled initiatives. The first is a comprehensive state plan for production, acquisition, and management of key geographic framework information. An initial version of this plan, known as the Implementation Team Geospatial Framework Data Plan (I-Team Plan), was released to the Governor in September 2003 and the official version was published to the web in November 2003. The second release of the I-Team

Plan was completed in August 2004 and submitted to the Governor in September 2004. This plan will be continually maintained to reflect the current government needs, missions, priorities and major geospatial technology advancements.

The second component of LouisianaMAP is the web-based geospatial portal that was launched in November 2003. The portal provides state and local government decision makers, academia, and the general public access to and dissemination of the geographic framework data. The Portal also supports analysis of user-supplied information in the context of the geographic framework data.

The third component of the project, the LouisianaMAP Academy, provides training for the use of the data and geographic services provided through the portal. Academy sessions commenced in April 2004.

### Highlights

Since its official public release in November 2003, LouisianaMAP has been accessed more than one-million times per month, generating approximately 200MB of map data per week. LouisianaMAP clients/users include: citizens (hunters and fishermen, property owners, and tourists); businesses (real-estate, economic development and business locators); public services /governments (decision-makers, service providers, planners, and resource management professionals); and colleges and universities. Examples of mapping applications which can be integrated within an agency's Web site with little or no overhead are:

- Louisiana Department of Culture Recreation & Tourism: state and public parks and recreation centers; tourist locations such as plantation homes, museums, cultural centers; and sporting events, fairs and festivals.
- Office of the Secretary of State: voter district, precinct, ward locator (Where do I vote?); political and election districts.
- Louisiana Department of Economic Development: site-selection applications, favorable growth centers, available infrastructure; urban and rural, commuting patterns, educational attainment, population demographics.
- Louisiana Department of Education: primary and secondary schools and districts, test scores, bus routes, community resources.
- Louisiana Department of Health & Hospitals: hospitals, nursing homes, and health centers; 24 hour emergency rooms; ad hoc campaigns (*e.g.* West-Nile Encephalitis cases by parish).
- Louisiana Department of Homeland Security and Emergency Preparedness: hurricane and emergency evacuation routes; flood maps; emergency response centers (Police/Sheriff/Troopers, Fire, EMS, *etc.*)
- Louisiana Department of Social Services: parish and regional service centers; head-start and day-care centers; population demographics.

The I-Team initiative has evolved into the LouisianaMap project for the coordination and management of the state's geospatial data. This project has also launched an initiative to develop a comprehensive statewide strategic plan for the implementation and management of GIS technology and geospatial assets.

The LouisianaMap Academy has remained active in outreach and training. Training sessions are provided on an ongoing basis for state staff and local government. Training is coordinated with federal government resources as well. The LouisianaMap Academy has been successful in securing federal grant funding to expand its capability to deliver these services.

New initiatives are planned for the LouisianaMap portal to upgrade the application architecture to take advantage of the latest dramatic advances in software functionality. One of the key initiatives being planned for the portal is the mapping and presentation of state service locations on the internet.

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### **Office of E-Services**

### **e-Government Portal**

Log #: 02-011

Status: Completed in 2005

This project has established an enterprise level State e-Government Portal focused on ensuring that Louisiana can meet the increasing demands of its constituents for immediate, comprehensive access to state government. The project includes:

- A hardware/software infrastructure to host the State Portal and extensible to agency web sites in a platform consistent with the enterprise security architecture standard.
- An operational e-Government Portal.
- A content management system allowing agencies to better manage their information assets.
- A Citizen relationship management system ensuring that needs and concerns of users of the state portal are addressed accurately, timely, and consistently.
- An Enterprise Search capability that can be utilized by all state agencies.
- Integration of eServices using eCommerce capabilities of the software infrastructure.

#### Highlights

For calendar year 2005, the traffic volume for the Louisiana.gov portal was in excess of one million hits monthly. The application environment for Louisiana.gov has proven to be very robust and reliable. Up time for the Louisiana.gov portal during the past year has been 99.9%. In the wake of hurricanes Katrina and Rita, the portal proved to be an extremely valuable communications channel to citizens in Louisiana and organizations throughout the world for information related to the disaster response and recovery efforts. In the months following the events, over 1.25 million pages of information directly related to the disasters were served to visitors of the portal.

The Louisiana.gov portal implemented RightNow Technologies's constituent relationship management application branded as Ask Louise. The ASK Louise knowledgebase contains the top level or most frequently asked questions about state services and information resources. Each record provides comprehensive information: description of service or information resource, directory contact (phone, fax, e-mail address, mailing and physical address), access to downloadable forms, e-commerce links when available, and active links

to relevant Web sites. Users can ask their questions through e-mail if answers to their questions are not found on this knowledgebase, and answers are e-mailed back promptly. Based on user access data, ASK Louise answered a definite need. The number of sessions (which allows users to view the answers), increased 264% in the last three years from 23,910 sessions in 2002 to 87,270 sessions in 2005 (through June). Answers in the ASK Louise database are categorized, and the records in these categories had the highest user access: General Information (unclaimed property, do not call program, genealogy resources, hurricane and weather-related emergency information); Licenses, Permits, and Certifications; Business; Government (legislators, taxes, bids, and grants); and Health Care and Social Services. The ASK Louise service was another valuable communication tool utilized to provide information to constituents related to the hurricane response and recovery efforts.

eCommerce capabilities have been integrated into the Louisiana.gov portal environment via the Louisiana E-Mall and the Payment Gateway applications. Use of the E-Mall has increased steadily since initial implementation in 2002. In 2003, the number of transactions handled for the same applications increased by 40% per month over 2002 with a total of more than 150,000 transactions for the year in 2003. In 2004 the E-Mall environment was migrated from an outsourced hosting service into the Louisiana.gov portal application. At the same time the total number of transactions increased by approximately 28% to over 190,000. With the expansion of E-Mall participation and the addition of new functionality such as electronic check processing, the E-Mall will supported a volume of approximately 280,000 transactions in 2005, with a dollar volume in excess of \$16 million. Continued growth is expected with this service as additional agencies web enable their applications.

Enterprise Search capabilities are supported in the Louisiana.gov portal through the Verity Ultraseek search application. Enterprise Search is hosted by OES and provided as a service free of charge to state agencies. Agencies may take advantage of this service to provide customized, context related search capabilities for their web assets.

The value of Louisiana.gov was demonstrated during the response to the Hurricane Katrina disaster. Immediately prior to and immediately following landfall of Katrina the portal was utilized as a vital communication channel to provide information to state agencies, state employees, and the general public. Within days following the landfall OES was able to launch the Katrina.Louisiana.gov site as the official state site for information related to the disaster relief and recovery effort. Within the first 30 days of this sites operation it received over 2 million hits.

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### **Comprehensive Public Training Program (CPTP)**

### **Statewide Learning Management System**

Log #: 02-013

Status: Completed in 2005

This project was to acquire and implement a centralized statewide Learning Management System (LMS) to consolidate existing but separate State employee training databases into one repository for all state employee training data. This created the foundation for an e-learning environment that will allow CPTP to plan, deliver, track, manage and report all

types of employee training, offer a full range of content via custom web-based courses and commercially available courses, and create web-based tests and assessments.

Highlights

- The LMS has been set up to allow it to be the statewide repository (database) for all state employee training data. The database has multiple layers of secured access. Employees are able to self-register for classes. Other departments can use it for their course and employee skills tracking. All courses, regardless of delivery method, can be distributed through the LMS to allow for tracking and evaluation. Curriculums can be developed based on career management.
  
- Training can be accessed from any computer with access to the Internet.
  
- The Gap Analyzer tool can be used to plan, track, and evaluate training for individuals and groups, as well as identify competency gaps and forecast demand for training programs. Gap Analyzer’s exception analysis capability is useful in tracking certification and compliance with regulatory requirements.

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**Office of Information Technology**

**Prototype for Centralized E-Mail**

Log #: 02-014  
Status: Completed in 2005

Historically, individual state agencies have been responsible for providing their own e-mail service, which entails significant hardware, software, personnel and training expenses (or outsourcing), and results in service quality that varies drastically between departments, and provides no integration of e-mail or free/busy scheduling between state departments. This project seeds the implementation of a statewide e-mail line of service based on a cost recovery model. It entails one centrally managed standard e-mail offering to replace the three primary e-mail software packages currently deployed statewide, and provides one common e-mail directory and calendaring tool that can be shared by all State employees while at work or via the Web. Agency subscribers are charged a set price-per-seat that is lower than the costs associated with managing their individual, distributed sites statewide, and quality of service will improve.

Other key benefits anticipated are: 1) to implement an IT line of service that can provide immediate benefit to core business function that encompasses a large base of the state’s workforce; 2) to develop a statewide deployment plan that can be used for this and other enterprise services to be offered in the future; 3) to build the technical and support framework through which other desktop lines of service can be offered.

Highlights:

- The statewide email project now supports 6,000 state employees in the following agencies for messaging functions:
  - o Division of Administration

- o Department of Economic Development
  - o Governor's Office
  - o University of Louisiana Systems
  - o Department of Education
  - o Civil Service
  - o Department of Natural Resources
  - o Department of Environmental Quality
  - o Public Service Commission
  - o Department of Revenue and Taxation
- The statewide email system is very tightly integrated with the Office of Telecommunications Management's Blackberry Enterprise Service.
  - ISIS Payroll / Personnel workflow uses statewide email to deliver the online leave approval system.

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- Discussed email consolidation plans with the Department of Social Services, Board of Regents, Secretary of State, Office of the State Treasurer and the Department of Culture, Recreation and Tourism.
- Enabled ISIS Payroll / Personnel workflow for the Department of Natural Resources, Department of Environmental Quality and Department of Education.
- Experienced NO outages before, during or in the aftermath of hurricanes Katrina and Rita.
- Installed email appliances as gateways to handle the increase in internet mail traffic and to strengthen protection against virus and SPAM threats.
- Implemented multi-vendor anti-SPAM solution by installing Microsoft's Intelligent Message Filter.
- Began installation of a disaster recovery site at the Department of Public Safety.
- Initiated pilot of Live Communication Server for instant messaging.
- Worked with the Office of Telecommunications Management to pilot Avaya's unified messaging application to integrate voice mail with email.

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**Louisiana State University**

**Exploiting Linux Services in Louisiana**

Log #: 03-003

Status: In Process, 90% Complete

LSU proposes to develop a robust, scalable environment to accelerate and facilitate the evaluation and deployment of Linux services and applications within public-supported entities in Louisiana. Linux combined with virtualization technology offers a possible opportunity to combat the growing cost of supporting burgeoning, complex information technology infrastructures and the increasing dependence on a proprietary software platform. The intent is to maximize the opportunity to accelerate innovation with Linux, to limit dependence on proprietary systems and to focus on total cost of ownership issues.

Highlights:

- Currently support over 50 z/Linux virtual machines spread across two logical partitions (LPARs) on the z800 processor.
- McNeese and SLU are using their z/Linux virtual machines on this platform for various network tests to and from their campuses and for some disaster recovery feasibility exercises.
- z/Linux environment enhancements include new “sudo” (SUperuser DO) configurations to allow root access to virtual machine owners without requiring the root password, rollout of the net-snmp utility from Velocity Software to better integrate service monitoring with the ESALPS utilities, improvements to the automated procedures for managing web administrator Ids on the LSU web site (now hosted on a z/Linux virtual machine), further retirement of older Red Hat virtual machines after migrating their applications to the SLES 9 platform, and improvements to the automated patching and upgrade scripts that run monthly.
- Completed upgrading the z/VM operating system, monitoring and performance management suite of tools, flashcopy routines, new utilities to list the TCPIP addresses of the virtual machines, implementation of virtual tape device drivers, adjustments to the memory allocation for minidisk cache to free up expanded storage for use by vdisks, and various adjustments to enhance failover of critical web services to standby Intel platforms. Installed the OSASF utility to simplify management of the TCPIP configurations on the OSA network interfaces.
- Continue to update the SLES8 and SLES9 virtual machines with kernel and application patches and upgrades as they become available. These usually occur on a monthly basis.

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**Department of Natural Resources,  
Department of Transportation and Development,  
Department of Environmental Quality**

**Development of Business Continuity and Disaster  
Recovery Plans**

Log #: 03-006

Status: In Process, 85% complete

Continuity of critical government services in the event of a disaster or crisis is of paramount importance to the State of Louisiana. Three key Louisiana State agencies are participating in this project that will demonstrate the viability and feasibility of using sophisticated mitigation software to develop disaster recovery plans that meet the needs of the individual agency, yet integrate at the Statewide level. Disaster recovery plans define the resources determined critical for recovery, how fast, by whom, and where a recovery will take place to re-establish critical business infrastructure. The business continuity plan includes procedures to return to normal business conditions. Experience gained in this prototype

will be portable and transferable to other agencies that also need to develop business continuity plans and disaster recovery plans.

Highlights:

- Completed the Business Impact Analysis, identified crisis management teams and Business Continuity team leaders, identified recoverable tasks, and determined the approach to be used after disaster declaration.
- Hurricane Katrina slowed the progress down due to lack of available employees to work on the project. Contractual issues with the main contractor slowed down the process as well. All of these issues are being resolved and the project has been resumed as of March 15, 2006.

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**Department of Transportation and Development**

**Internet-based Wireless Diagnostics and Predictive Modeling System**

Log #: 03-008  
Status: Completed in 2005

A primary DOTD function is to ensure the operational health of its mission critical vehicle and equipment assets, which account for nearly 25% of the State’s total vehicle fleet. Inadequate maintenance is the primary cause of premature wear and unscheduled downtime, both of which result in significant costs. The proposed system utilizes patent-pending technology to wirelessly flow in-vehicle diagnostics to a centralized fleet management system, designed to monitor onboard parameters and diagnostics. If necessary, the fleet system responds to incoming vehicle data by appropriately notifying operators, maintenance and management personnel, and relevant vendors via the Internet and field-based hardware devices. All data is stored in a central data warehouse for interrogation and predictive modeling.

Highlights

- DOTD hired an electrical contractor to install the appropriate electrical service and to run the telecommunications network lines via underground conduit to the appropriate buildings at the Central Repair Shop campus where the installation of this technology is located. This effort was completed in early December, was paid by DOTD, and did not use TIF funding.
- Three (3) wireless antennas were installed at this campus to ensure coverage, making it much easier to remove the antenna and relocate it if necessary.
- Several vehicle data modules were installed but the vendor was not able to provide working Vehicle Data Modules. The project was officially terminated on August 17, 2005 and remaining funds returned to LTIF.

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## Office of the Governor / Children's Cabinet

### Towards an Integrated Juvenile Justice Information System

Log #: 03-013

Status: In Process, 25% Complete

The Children's Cabinet, in partnership with the Louisiana Commission on Law Enforcement (LCLE), the Office of Youth Development, Department of Public Safety and Corrections, the Supreme Court, and various district courts, will implement an integrated, web-based Juvenile Offender Information Network (JOIN) system based on national standards to enable data sharing among statewide and local juvenile justice agencies involved with juvenile delinquency, traffic, formal FINS, probation, detention, and corrections.

The integrated Juvenile Offender Information Network (JOIN) system will be installed and tailored to meet the needs of at least two pilot sites within 21 months of the date of grant award. Thereafter, it will be a goal to install and tailor the system to meet the needs of at least three additional pilot sites per year or a minimum total of fifteen sites in five years.

Each pilot site will begin reporting data as required by the Children's Cabinet, the Louisiana Commission on Law Enforcement, the Legislature, and perhaps other entities within one year after the installation of each system.

The JOIN system will be merged and integrated with the stand-alone systems being developed by the Supreme Court and potentially other users into the Integrated Juvenile Justice Information System (IJJIS) within two years of the completion of this grant and the first year of installation of the offender system within the pilot sites.

#### Highlights:

- Meeting with JOIN-IJJIS User Team leaders to discuss status of Project; continuation and inclusion of the following local user groups: 4<sup>th</sup> JDC, 9<sup>th</sup> JDC, 14<sup>th</sup> JDC, 16<sup>th</sup> JDC, 21<sup>st</sup> JDC, 26<sup>th</sup> JDC, Caddo Parish Juvenile Court, Jefferson Parish Juvenile Court, Orleans Parish Juvenile Court, Houma City Court, Lafourche Sheriff's Office, Lake Charles Police Department, Juvenile Police Officers Association, Louisiana District Attorneys Assn.
- Reviewed post-hurricane status of project and to set plans for continuing the project.
- Reviewed and commented on progress to date, the revised schedule, the document formulary, automate minute entries, data structure, data dictionary, technical documentation, import data methodology, and prototype sites for testing the juvenile traffic module.
- Discussed juvenile traffic prototype testing sites, readiness criteria for the selection of pilot sites, Formal FINS issues, and other matters.
- Discussed Formal FINS component of the JOIN-IJJIS.
- Ready to test the juvenile traffic module in four prototype sites (Caddo, the 14<sup>th</sup> JDC, Orleans, and Jefferson) and to display the screens on the web portal for user group reaction. The juvenile traffic module will include the following functionalities: intake, calendaring, scheduling, automated minute entries, document generation, tracking, and

reporting. In addition a formulary of general and traffic forms has been developed and is still being reviewed by law enforcement, district attorney and court personnel.

- The project was delayed significantly by Hurricane Katrina which disrupted work from September through November of 2005.

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## Project Progress Reports

The LTIF guidelines stipulate that each award recipient provide progress reports indicating the status of the project, accomplishments by milestone, and expenditure of funds. The latest progress reports for each of the funded projects can be found at [www.doa.louisiana.gov/ltif/ltifprop.htm](http://www.doa.louisiana.gov/ltif/ltifprop.htm)