

# CASE STUDY

**\*\*\*NEWSFLASH!\*\*\*  
UDO: ONLY STORAGE TECHNOLOGY  
TO SURVIVE HURRICANE KATRINA  
AT VA HOSPITAL IN NEW ORLEANS!**

*"We were able to recover all of the patient images off of the Plasmon libraries... We are now primarily using the Plasmon UDO Archive Appliance for its long term recoverability."*

Kenneth Allen  
Health Systems Specialist  
South Central Health Care

INDUSTRY: MEDICAL

APPLICATION: IMAGE STORAGE

INTEGRATOR: HEWLETT-PACKARD

SOLUTION: PLASMON G-SERIES  
LIBRARY AND UDO ARCHIVE  
APPLIANCE

ROI: 95% PATIENT DATA  
RECOVERY AFTER KATRINA



*Plasmon UDO stands up to  
Category 5 Hurricane, when  
other storage technologies fail!*

## Southeast Louisiana Veterans Hospital

### The Organization

The Southeast Louisiana Veterans Health Care System (formerly the VA Medical Center, New Orleans) and its outpatient clinics located throughout southeast Louisiana are committed to providing quality, compassionate and safe health care to the more than 220,000 veterans who live in the 23-parish region served by the Medical Center. The 354-bed acute care facility and its Lindy C. Boggs Transitional Care Unit located in New Orleans were affected by flooding following Hurricane Katrina in August 2005.

### Situation:

Among the challenges facing New Orleans in the aftermath of Hurricane Katrina was the significant destruction and disruption of health care services. Hurricane Katrina, which made landfall near the Louisiana-Mississippi border on the morning of August 29, 2005, and the subsequent flooding caused by the failure of the New Orleans levee system, resulted in one of the largest natural disasters to hit the United States.

Among other things, the hurricane resulted in the sudden closure of several hospitals, including the Southeast Louisiana Veterans Health Care System (formerly known as the VA Medical Center, New Orleans) and its outpatient clinics, which suffered extensive damage. The hospital provided health care to the more than 220,000 veterans who live in the 23-parish region served by the Medical Center. The closure of this hospital has severely damaged the availability of health services for veterans in the New Orleans area. With 206 available beds and doctors and services to accommodate the patients, the closure of the hospital impacts the overall health care infrastructure for New Orleans.

TEL: 800-451-6845  
FAX: 720-873-2501  
SALES@PLASMON.COM  
WWW.PLASMON.COM



## AustSTOR

AustSTOR Data Storage (ADS) Pty Ltd

1300 134 795 (Toll Free)  
www.auststor.com.au  
sales@auststor.com.au

[www.plasmon.com](http://www.plasmon.com)

## Business Challenge

"This has been a year long process that began with trying to determine the technical status of the hospital," said Kenneth Allen, Systems Specialist. "We had to determine what information was retrievable among the absolute chaos of the first week after Katrina, said Allen."



As a result of the flooding caused by Katrina, all medical records from the hospital were destroyed or severely damaged. The only recoverable data found was stored on optical disks from Plasmon, DISC and Phillips and stored in the empty hull of the New Orleans hospital. While the optical disks were not immediately exposed to flood waters, the high humidity from stagnant waters two floors below caused significant concern over the reliability of the optical disks containing the sensitive patient data.



The goal of Kenneth Allen, health systems specialist, South Central Health Care System and his team was to recover as much data as possible and to develop a new disaster recovery plan that would prevent a catastrophe of this magnitude in the future.

The area of the hospital storing medical records was comprised of a SAN with two clustered servers, five image Gateway servers, a RAID system and a Plasmon G638 archive library. This equipment was housed on the second floor of the main hospital building and was the main SAN that stored all patient records.

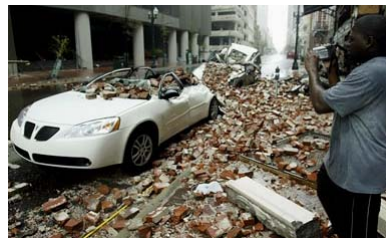
Once onsite, the hospital recovery team discovered that water had entered the basement of the building knocking out all utilities - electrical, plumbing, and communications thus straining the hospital's emergency and non emergency systems. After the system safeguarding the computer network exhausted its battery power, the electronic medical patient records also became unusable. The backup power had only lasted a few hours and with the entire area's communication and transportation in disarray the medical center's IT staff could neither access nor drive to the hospital to perform a safe shut down of the system.

Moreover, the extensive RAID disk drives of the SAN and the servers had been physically removed in an effort to prevent the theft of sensitive patient records. Due to building damage, the onsite security had to break into the computer room at which point they physically removed the RAID drives from the room. Unfortunately, by pulling out the discs from the drives and putting them into unmarked boxes, which no one was ever able to find, all data on the RAID system was lost.



[www.plasmon.com](http://www.plasmon.com)

"Had the RAID drives remained in place, and if power and network connectivity had been quickly restored, then this tragedy wouldn't have been so bad," said Kenneth Allen, health systems specialist, South Central Health Care System. "However, with the loss of the RAID drives, the lack of a complete series of backup tapes and the uncertainty of reliable utilities, normal "Disaster Recovery" plans would have been futile."



## Solution

Allen and his team retrieved the optical disks with the stored patient records and images, including media from the Plasmon library for recovery efforts. The team brought the 1100 disks which represented approximately 6.2 terabytes of data to their facility in North Little Rock, Arkansas for recovery where they built a new SAN exclusively for the purpose of recovering patient data.



"The media had been exposed to extremely high temperatures and humidity from brackish standing water, they were covered in debris and dust for more than a month," said Allen. "We were able to recover all of the patient images off of the Plasmon libraries. We had just started to migrate to ultra density optical

(UDO) for an archive solution when the hurricane hit. We are now primarily using the Plasmon Archive Appliance for its long term recoverability."

This was a community effort with many commercial companies pitching in to help without asking for anything in return. Generous work to clean, reload and restore as many disks as possible was undertaken by Sony, Plasmon, Kodak and EMC.

***A year after the tragedy, the Southeast Louisiana Veterans Health Care System has restored 99.5% of its pre-Katrina patient data.***

Although the New Orleans hospital building itself is no longer available for patient care, Veterans continue to receive some diagnostic services from a myriad of outpatient clinics in the surrounding area. Clinicians working in these outpatient clinics have been able to access restored patient data since February of 2006 through the VAs VistA Remote Image View process. There are plans to build a new hospital in the New Orleans area, and when it is opened for patient use, patient records, past, present and future will await the hospital staff to continue to fulfill the VA's pledge to "Serve Those Who Have Served."

"Our disaster recovery plan for the hospital was backup tape and RAID," said Allen. "The backup tapes were never found in the debris and the RAID System was lost. When people start thinking about disaster recovery plans, they need to determine the levels of disaster and then think about the solution. Since this disaster, we have begun a migration to Plasmon's archive appliance solution to meet our policies and regulations for record retention," he continued.



# AustSTOR

AustSTOR Data Storage (ADS) Pty Ltd

1300 134 795 (Toll Free)

[www.auststor.com.au](http://www.auststor.com.au)

[sales@auststor.com.au](mailto:sales@auststor.com.au)