

# Case Study

## Sabah State Computer Services Department, Malaysia

[www.jpkn.sabah.gov.my](http://www.jpkn.sabah.gov.my)



Industry

Government, IT Services

### Company Profile

The Sabah State Computer Services Department (SCSD), established in 1976, is a department of the State public sector in Malaysia under the control of the Ministry of Finance. The SCSD is the sole IT security services and consultancy providers in Sabah, and the department's vision is to be the leader in the transformation of the state public service to achieve Connected Government. Clients served are all State Government Servants (ministries, departments and statutory bodies), around 24,000 in total.

### IT Environment

Microsoft Windows 2003, 2008

Microsoft SQL

Internet Information Services (IIS)

SM2, E-Leave, State Scholarship, State Examination applications

300 TB of data

150 servers

### Challenges

- Needed a reliable, DR system for critical Government application and Microsoft systems
- Many hours to recover data from tape
- Failed to comply with ISMS business continuity requirements
- Loss of Government services due to downtime
- Business-critical applications had to be offline for backup
- No guarantee of full data integrity upon data recovery from tape

### ProphetStor Solutions

- ProphetStor DR Prophet
- Unified management framework
- Snapshots every three hours

### Benefits

- Backups can be performed quickly and efficiently
- Business-critical applications stay online during backups
- Recovery time of entire EG application systems/files reduced to 30 minutes or less
- Replication is done in thin bandwidth thus reducing DR cost by 70-90%
- Eliminates costly tape and backup software previously used
- Backup easily verified to ensure DR; confidence while executing DR
- Easy to use and manage

"Disaster recovery before deploying ProphetStor DR Prophet took more than 3 hours to restore Electronic Government services after an incident last year. The DR operation has changed from manual, tape backup to a snapshot method, which has resulted in human resource usage optimization. The advantages ProphetStor provides include less supervision and more reliability as the entire DR readiness is seamlessly integrated into the business."

**– Dr. Hj Mingu Hj Jumaan, Director, Sabah State Computer Services Department**

### Sabah State Computer Services Department

DR Prophet provides local and remote block-level backup services for cost-effective disaster recovery (DR) and business continuity for mission-critical Electronic Government (EG) application systems, files, databases, and mail stores.

Sabah State Computer Services Department (SCSD) is the sole State Public Sector IT and IT security services and consultancy provider in Sabah. The SCSD is charged with the development and use of IT services related to the field of computing to around 24,000 users across all ministries, departments and statutory bodies of the Sabah State Government. The department also has branch offices in Tawau, Keningau, Sandakan, Kota Marudu, Beaufort and Lahad Datu.

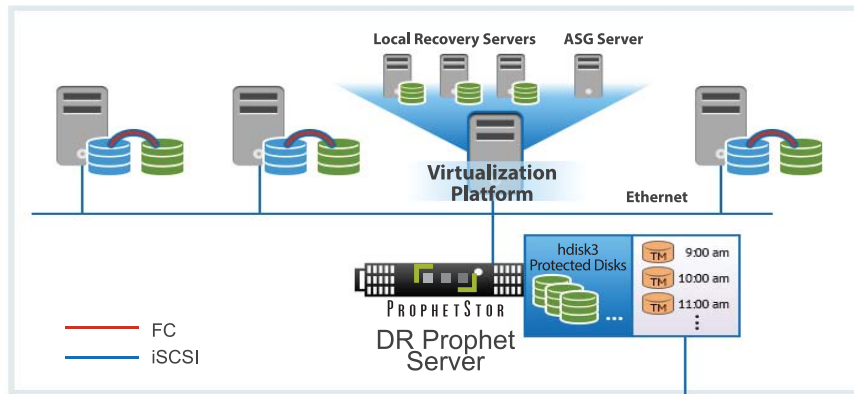
### Challenges

The State Government of Sabah relies on the SCSD to keep its major Electronic Government application systems (SM2, Eleave, E-Pay, State Scholarship and Examination Systems) up and running for 24x7 operations. With Microsoft Windows as a key platform and about 150 servers operating in a mixed physical and virtual environment, ensuring continuous operations on these systems is vital to the success of the State Government. If the systems are down for even a few hours, Government operations could potentially shut down.

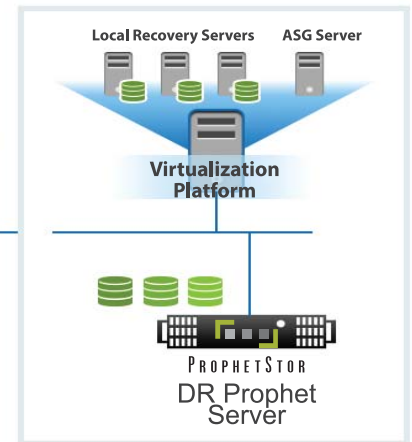
The Sabah State Computer Services Department has a staff of 240 supporting data applications across 6 major districts and 14 IT Support Groups at Government agencies across the State. SCSD had previously relied on costly tape and backup software to manage the full backup and restore of data. In a past data recovery situation, it took several hours to enable system availability using data that was backed up through the traditional tape model. During recovery, it was mandatory for all systems to be offline.

"When put to the test, our backup strategy proved taxing. It took an extraordinarily long period of time to recover our data and the process was complicated. We had a non-standardized method for recovery at our production and DR site, and most often the data restoration had no guarantee of full data integrity," said SCSD Director Dr. Hj Mingu Hj Jumaan. "Our goal was to improve our recovery time from hours to 30 minutes or less."

## Production Site (Kota Kinabalu)



## DR Center (Tawau)



## ProphetStor Solutions

DR Prophet provides Business Continuity and Disaster Recovery (BC/DR) with local and remote block-level backup services for mission-critical application servers.

SCSD wanted to create a reliable DR environment for its EG system and looked into ProphetStor DR Prophet, which offer advanced capabilities such as snapshots, data replication, and thinly provisioned mirror volumes.

DR Prophet also provides a unified management framework to facilitate effortless disaster recovery data provisioning to ensure a continuous State public service delivery system. The user friendly graphic interface changes the normally tedious and error prone deployment of DR solution into an easy task.

## Deployment Details

DR Prophet consists of three components – a main management server, Storage Server and Application client agent – to provide heterogeneous periodic/continuous protection and instant recovery for enterprise data centers and remote offices.

The DR Prophet Web Console serves as the centralized management tool for the storage network. It allows SCSD administrators to manage the snapshots and replication settings while monitoring the storage resources and services on multiple storage and application servers.

DR Prophet can produce up to 1,000 snapshots, creating point-in-time delta images of protected data, with snapshot schedules configured to match data protection policies. Snapshots can then be mounted instantaneously for data validation, application testing, report generation, DR rehearsal, and rapid data recovery.

Implementing DR Prophet was the critical element to SCSD's DR plan, as it is a cost-effective alternative to the manual, tape backup method.

The DR Prophet solution provides SCSD with fully application-aware Snapshot Agents, enabling Dr. Hj Mingu and his team to replicate and recover data with 100% transactional consistency. This accelerates the recovery process by presenting a ready-to-use copy of data in case of data loss or system failure. SCSD uses DR Prophet to take snapshots every three hours and replicates these snapshots over an IP network using bandwidth-efficient replication technology.

Replication (WAN)

## Benefits

ProphetStor DR Prophet allows SCSD to protect critical data and ensure its availability while reducing IT costs.

The DR processes are automatically validated by verifying the health of snapshots. There is no effect on the EG production systems during a DR rehearsal, with the time to complete the rehearsal dramatically reduced through fully automated processes. For the SCSD, this means that rehearsals can run at any time with minimal impact to daily operations. The easy backup verification and DR testing gives the EG users confidence that the systems and applications will work as expected.

The advantages DR Prophet provide include less supervision and more reliability, as the entire DR readiness is seamlessly integrated into the business continuity. With replication of data across system, protocol, and virtual/physical boundaries, WAN traffic is optimized and compressed, reducing bandwidth costs by 70-90%.

In addition, the return on investment (ROI) of the ProphetStor DR Prophet solution surpassed that of the incumbent tape backup system. Without DR Prophet, the traditional DR method was a manual, tape backup method. DR Prophet's snapshot method has freed up valuable resources and resulted in resources focused on handling other tasks which would not have been possible previously.

## Future Plans

With the success of the DR Prophet implementation at SCSD, Dr. Hj Mingu and his IT team plan to expand DR coverage to the remaining servers as well as to the Sandakan branch within the next 2 years.

"DR Prophet has saved the Sabah State Government's EG operation cost and at the same time has leveraged the snapshot services in term of the business continuity for the department," said Dr. Hj Mingu.



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