



GOVERNMENT OF KERALA

Abstract

Information Technology Department- Implementation of Digital Work Flow Software DDFS in Secretariat – Back up Policy and Disaster Recovery system – Approved - Orders issued

**INFORMATION TECHNOLOGY ( IT CELL) DEPARTMENT**

G.O (Rt) No:88/2010/ITD

Dated,Thiruvananthapuram,14-5-2010

Read 1) G O (Rt) No 22/2009/ITD dated 31 1 2009

2) G.O (Ms) No 10/2010/ITD dated 5 3 2010

**ORDER**

Government have decided to implement digital work flow software in seven Departments of the Secretariat. For this purpose an open source Web based application software known as DDFS has been developed This software will able handle all the activities as envisaged in the Kerala Government Secretariat Manual and Kerala Government Secretariat Instructions. As per Government Order read as second paper Government have approved Backup Policy to all e-Governance application being implemented by Government Departments/Organisations.

As part of implementing Digital Work Flow Software DDFS in Secretariat a Back Policy is become vital to ensure that the electronic records of Government are not lost due to equipment failure or physical and cyber disaster. Hence Government have pleased to approve the Back-Up Policy and Disaster Recovery Plans as annexed to this Government Order The Facility Management Service for Back Up will be entrusted with M/s Keltron, who is managing the Secretariat Network Operating Center (NOC)..

(By Order of the Governor),

**Dr Ajay Kumar**

Principal Secretary to Government

The Managing Director,M/S KELTRON, Vellayambalam, Thiruvananthapuram.

The Director,KSITM, Vellayambalam, Thiruvananthapuram.

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*Haridharan*

Section Officer

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# **DDFS BACKUP**

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## **Introduction**

Digital Document and Filing System (DDFS) stores data in two different data stores.

1 Meta Data and other similar information is stored in MySQL database

2. Attachments and uploaded computer files are stored in File System.

In order to backup DDFS data, both the data stored in the database as well as the data stored in the file system need to be considered.

## **Backup Hardware and Resources**

Once DDFS is moved to the KSWAN Data Center, DDFS requires an automated Backup mechanism. This requires a separate backup server and a backup software for automating the backup process. However, the process and procedures will remain the same except for the fact that the process is not manual, but automated, and hence initiated and run by a backup software. In the current installation, where DDFS is deployed and run out of the Secretariat Network Operating Center, Backups will be taken manually and data stored in Discs. This is only an interim solution till DDFS is deployed in KSWAN Data Center and in KSWAN data Center tape medium will be used

## ***Backup Procedures***

The following are the various procedures that need to be followed in order to implement an effective backup mechanism

### **Backup Timings**

Full backups are to be scheduled nightly in all days from Monday to Sunday. All Discs/tapes are to be tested on Sunday during day time. Removal of Discs/tapes, to be kept in safe locker, shall be performed after testing of tapes are completed. Loading of new Discs/tapes shall also be performed during this time.

### **Discs/ Tape Storage**

There shall be separate set of Discs/tapes for each daily back up. There shall be additional set of Discs/tapes for each Saturday of the month such as Saturday1, Saturday2, Saturday3, Saturday4 etc. Backups performed on Saturdays on the additional set shall be kept for one month in safe locker and used again the next month on the applicable Saturday. Backups performed on Monday through Friday shall be kept for one week and used again the following appropriate day of the week. All the Discs/tapes shall be properly labeled

Transaction Log Back up should be done additionally and copied to a remote location every half an hour/one hour depending on system requirements. The remote Transaction Log Back up need not be retained once the next full back up is taken.

### **Tape Drive Cleaning**

Discs/Tape drives shall be cleaned weekly and the cleaning tapes shall be changed monthly.

### **Monthly Back up**

Every month two sets of monthly backup shall be made. One set shall be kept in the drive and the other set in the safe location.

### **Age of Discs/ Tapes.**

The date each tape was put into service shall be recorded on the tape. Tapes that has been used longer than six months shall be discarded and replaced with new tapes.

### **Responsibility**

The System Administrator as authorised by the Super Admin shall perform all backup related activities

### **Restore Process**

In the event of an unforeseen event resulting in a system failure, a data restore (from a backup data) can be achieved by applying the following procedures.

- 1 Restore MySQL database from the latest full backup tape available.
- 2.Restore full file system back by simply copying the file system backup files from the latest full backup tape
3. Apply the transaction log backup available.
- 4.Restart the application and do a smoke testing before starting to use the application

### **Testing Backups**

It is necessary to test the quality of backup data once in a month to ensure that a successful restore is possible from the backup data.

## **Backup Security**

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All tapes containing the backup data should be kept in safe custody inside the data center. The tapes should not be taken out of the data center without prior approval from the Super Admin.

## **DDFS Disaster Recovery**

In the case of an unforeseen failure happening to DDFS Data Center deployment, users will be able to switch to a Disaster Recovery site and continue operations. For this, a full featured disaster recovery mirror site should be maintained parallel to the main deployment.

### **DR Site and Hardware Details**

After DDFS is moved from the Secretariat Data Center to the KSWAN Data Center, the Secretariat Data Center will act as a Disaster Recovery Center. Secretariat Data Center will consist of the following facilities:

1 A 4 CPU, 16GB RAM Application Server

2 A 4 CPU 24GB Ram Database Server

3 2 TB SAN (or NAS) Storage

4 A 4CPU, 16GB reporting Server

Both, attachments (file system Content) and database MySQL data will be stored in the SAN page.

### **Data Replication between Data Center and DR Site**

A real time data replication will be built between the KSWAN Data Center and DR site. MySQL database will be replicated using MySQL Master Slave replication. File System Content containing attachments will be replicated using proprietary solution.

### ***System Restore from DR site***

In the case of an unforeseen event resulting in an application failure, the DR site should be enabled and ready to be used within 4 hrs. Once enabled for use, users can point their browser to the DR site url and can access and use DDFS. All data saved in the main instance and got synchronized with the DR site will be available at the DR site also. After the main site is back, the data from the DR site will have to be moved back to make the main site current. Since this requires a downtime, this can be done during weekends and once the data is current in the main site, the DR site user access can be disabled and users can start using the main site.