

# Campus Applications and data Services Disaster Recovery Plan (CADSDRP)

## Disaster Recovery Team:

- A.** Name of agency: Francis Marion University
- B.** Date of completion or update of the plan: 05/30/2016
- C.** Synergistic On Line Solutions (disaster recovery company) contact information

Hot Site 24 X 7 Hotline: 1-888-349-2982

### Hot Site Location

Synergistic On Line Solutions  
6650 Highland Rd.  
Suite 219  
Waterford, Mi 48327  
Attn: Joe Memmer

Joe Memmer 248-666-4590 x 121

- D.** FMU staff to be called in the event of a disaster: Below is the listing comprising the Disaster Recovery Team, When **one** is reached, it is the responsibility of that person to call all persons below:

1<sup>st</sup> Contact Name: Mr. Robin M Moore  
Contact Numbers:  
Mobile: 843-601-0731  
Work: 843-661-1393  
Home1: 843-713-0926 magic jack home  
Home2: 843-396-4670 parents  
Other: 843-687-2500 spouse's cell  
1<sup>st</sup> Contact Position: Dir. of Campus Applications and data Services

2<sup>nd</sup> Contact Name: Mr. Howard M Byrd  
Contact Numbers:  
Work: 843-661-1397  
Home: 803-438-8528  
Mobile: 843-206-4555  
Other: 843-390-5107 beach

2<sup>nd</sup> Contact Position: Dir. of Programming Services

3<sup>rd</sup> Contact Name: Mr. John B Dixon

Contact Numbers:

Work: 843-661-1141

Home:

Mobile: 843-472-9263

Other:

Other:

3<sup>rd</sup> Contact Position: Chief Information Officer

Additional Contacts:

Building Maintenance: 843-661-1150

Campus Police: 843-661-1109

## 1. INTRODUCTION

### 1.1 PURPOSE:

This Disaster Recovery Plan establishes procedures to recover the data processing functions of iSeries(AS400) following a disruption.

**The following objectives have been established for this plan:**

- **Operations with backup procedures** to backup data and assure that the iSeries(AS400) can be completely restored from backup media in the case of a disaster.
- **Notification and Activation phase** to detect and assess damage, and to activate the CADSDRP.
- **Recovery phase** to restore temporary data processing operations.
- **Reconstitution phase** to restore system processing capabilities to normal operations.

### 1.2 APPLICABILITY

The CADSDRP applies to the functions, operations, and resources necessary to restore and resume FMU's iSeries(AS400) operations as installed at Francis Marion University, Florence, SC. The CADSDRP applies to FMU personnel and all other persons associated with the iSeries

### 1.3 SCOPE

Various scenarios have been considered in forming the basis for this plan, and multiple assumptions have been made. The applicability of the plan is predicated on two key principles:

1. The FMU computing facility in Florence, SC, is inaccessible; therefore, FMU is unable to perform iSeries processing for the administrative departments.

2. A valid contract exists with Synergistic On Line Solutions that provides for recovery of operations.

If Client system is down more than 24 hours, or it's self evident that they shall be, Client may immediately declare a disaster. Client and SOS will use initial 24 hours to prepare and plan and send system tapes, with hot site being available after 24 hours. Client may access SOS's hot site for up to 7 calendar days under the Disaster Recovery contract. If Client requires additional assistance after the 7 calendar day period, the Client will be billed at \$150.00 per day.

Includes (1) three day test, additional test time to be billed at \$100.00 per day. Hotsite iSeries and NT server may be shipped to client location if a disaster is declared by Client for a shipping and labor fee of \$750.00.

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### **1.3.1 Scope of Work for Synergistic On Line Solutions Contract**

Francis Marion University uses an iSeries for the keying and collection of data. We need a Disaster Recovery Facility with the following required system and configuration:

iSERIES system with 520 type 9406 OS/400 V7R1 or higher configured with at least the following requirements:

- A. 2000 CPW (relative performance rating)
- B. 600 mb internal disk
- C. 1 GB of internal disk
- D. 1 Ethernet adapter
- E. 1 iSeries console PC
- F. hp laserjet 8150 printer or compatible
- G. IBM 3580 H11 or compatible LTO1 tape drive connected to iSeries
- H. IBM 3580 H23 or compatible LTO2 tape drive connected to iSeries

Francis Marion University needs a disaster recovery company that offers multiple platform recovery in case of system loss or system change, in this case the contract may need to change according to the main system for keying and collection of data at FMU. The company will also provide FMU a Recovery Workshop, and will help FMU to create a written disaster recovery plan.

### **Contractor Requirements**

- A. **Ability to provide use of recovery facilities Networked System** - The AS400 setup and loaded with the above configuration able to connect and use 24 hours of reported disaster.

## B. Use of recovery facilities for TEST

### 1.3.2 Assumptions

Based on these principles, the following assumptions were used when developing the CADSDRP:

- A. The iSeries is inoperable at the FMU computer center and cannot be recovered within 24 hours.
- B. Key iSeries personnel have been identified and trained in their emergency response and recovery roles; they are available to activate the CADSDRP.
- C. Preventive controls (e.g., generators, environmental controls, waterproof tarps, sprinkler systems, fire extinguishers, and fire department assistance) are fully operational at the time of the disaster.
- D. Computer center equipment, including components supporting iSeries, are connected to an uninterruptible power supply (UPS) that provides 45 minutes to 1 hour of electricity during a power failure.
- E. iSeries hardware and software at FMU are unavailable for at least 24 hours. Current backups of the application software and data are intact and available at the accounting office fire safe or the offsite storage facility.
- F. The equipment, connections, and capabilities required to operate iSeries are available at the Disaster recovery facility.
- G. Service agreements are maintained with iSeries hardware, software, and communications providers to support the emergency system recovery.

## 2. OPERATIONS WITH BACKUP PROCEDURES

### 2.1 System Description and Architecture

Francis Marion University campus applications and data Services uses an **iSeries** to hold all administrative departments data (financial, payroll, academic, etc.). This midrange computer is located in the ACC computer center

### 2.2 Backup Procedures

The backup procedure for this midrange computer is made up of two parts, part A. and part B. When restoration of these two parts to our iSeries or another one is complete, we will have all data as of the time when the last daily incremental backup was performed:

- A. The complete save (**GO SAVE Menu OPTION 21. Entire system**) is made every time we change the iSeries operating system or add any program temporary fixes to the system. This saves all information on the system including data.

- B. The daily is done every morning Monday through Friday at 1 a.m. This save contains all data files that could have changed.

## **2.3 Responsibilities**

The following members have been trained to respond to a contingency event affecting the iSeries system. This CADSDRP establishes several members assigned to participate in recovering the iSeries system operations. These members are responsible for recovery of the iSeries midrange computer environment and all applications. Members of this team include personnel who are also responsible for the daily operations and maintenance of iSeries:

Mr. Robin M. Moore : Director of campus applications and data services  
Mr. Howard M. Byrd : Director of Programming Services  
Mr. John B. Dixon: CIO of FMU

## **3. NOTIFICATION AND ACTIVATION PHASE**

This phase addresses the initial actions to be taken to detect and assess damage inflicted by a disruption to the iSeries. Based on the assessment of the event, the plan may be activated by any member of the disaster team.

**In an emergency, FMU's top priority is to preserve the health and safety of its staff before proceeding to the Notification and Activation procedures.**

- A. Contact information for team members is located at the beginning of this document
- B. The team needs to assess the damage to the iSeries and/or the building, to determine the extent of damage, and to estimate recovery time.
- C. The CADSDRP is to be activated if one or more of the following criteria are met:
  - 1. iSeries will be unavailable for more than 24 hours.
  - 2. Facility is damaged and will be unavailable for more than 24 hours.
  - 3. ANY other unseen criteria as determined by the team for health, safety or preservation of data reasons.
- D. If the plan is to be activated, all members of the team need to be notified and informed of the details of the event and if CADSDRP is in place.
- E. The team members must notify disaster recovery company storage facility that a disaster event has been declared.

## **4. RECOVERY OPERATIONS**

This section provides procedures for recovering the application at the disaster recovery site, whereas other efforts are directed to repair damage to the original system and capabilities.

The following procedures are for recovering the FMU iSeries data at the disaster recovery site. Each procedure should be executed in the sequence as presented in order to maintain efficient operations.

**Recovery Goal.** Restore the iSeries with all data to allow the execution of all needed applications.

#### 4.1 Restore Procedures

The restore procedure for the iSeries midrange computer is made up of two parts. The first part is a system restore and the second part is a daily restore. When restoration of these two parts to disaster recovery company iSeries is complete, we will have all information restored as of the time when the last daily backup was performed. The following steps will restore the iSeries data to the disaster recovery company site: (estimated time in brackets this time is estimated could be way off)

- A. Place the tapes in the matching drives [ 1 min ]
- B. Create user to use to restore from: **crtusrprf** usrprf(Synergistic) password( )  
usrcls(\*secofr) astlvl(\*intermed) inlpgm(qcmd) spcaut(\*usrcls) jobd(Synergistic)  
[ 2 min ]
- C. End all subsystems : **Endsbs** \*all \*immed [ 2 min ]
- D. The following will be restored from large tape LTO2 device
- E. Restore User Profiles : **rstusrprf** dev(TAPDEV) endopt(\*leave) mail(\*yes)  
alwobjdif(\*all) [ 5 min ]
- F. Restore Configuration : **rstcfg** obj(\*all) dev(TAPDEV) endopt(\*leave) srm(\*none)  
alwobjdif(\*all) output (\*print) [ 5 min ]
- G. Restore Libraries ( \*NONSYS, \*ALLUSR, \*IBM, etc. ... ) : **rstlib** savlib(\*nonsys)  
dev(TAPDEV) endopt(\*leave) mbropt(\*all) alwobjdif(\*all) output(\*print)  
[ 1 to 3 hours ]
- H. Restore Document Libraries : **rstdlo** dlo(\*all) dev(TAPDEV) endopt(\*leave)  
alwobjdif(\*all) output(\*print) [ 5 min ]
- I. Restore Objects From Other File System(s) : **rst** dev('/qsys.lib/ TAPDEV.devd')  
obj((/\*) ('/qsys.lib' \*omit) ('/qdlr' \*omit)) alwobjdif(\*all) endopt(\*unload)  
[ 30 min ]
- J. Restore Authority : **rstaut** usrprf(\*all) [ 30 min ]

- K. Normal Mode IPL : **pwrdownsys** option(\*immed) restart(\*yes) iplsrc(b) [ 50 min ]
- L. The following will be restored from large tape LTO1 device
- M. Restore Objects (Objects from savchgobj backup or any other manual object restored as needed) : **rstobj** obj(\*all or OBJECT NAME(s)) savlib(LIBNAME) dev(TAPDEV) endopt(\*leave) mbropt(\*all) alwobjdif(\*all) output(\*print) [ 2 to 6 hours]
- N. Normal Mode IPL : **pwrdownsys** option(\*immed) restart(\*yes) iplsrc(b) [ 20 min ]
- O. Finished system is up and running as of time last small tape was saved.
- P. Run any programs needed.....
- Q. Do a complete save ( GO SAVE Menu OPTION 21. Entire system) for restore on FMU's iSeries. [ 2 to 5 hours ]**

## 5. RETURN TO NORMAL OPERATIONS

This section discusses activities necessary for restoring iSeries operations at FMU's original or new site. When the computer center at the original or new site has been restored, iseries operations at the disaster recovery company site must be transitioned back.

The goal is to provide a seamless transition of operations from the disaster recovery company site to the computer center.

### 5.1 Plan Deactivation

Make sure that the disaster recovery company facility is free of the following:

- A. All data on the iSeries (make sure you do the above save first).**
- B. FMU equipment, materials, etc.**
- C. Sensitive information on paper or handwritten.**
- D. Collect any tapes, CD's, etc.**
- E. Collect any other information belonging to FMU**

### 5.2 Restore Operations on FMU's iSeries

The restore procedure for the iSeries midrange computer consists of two parts( one part if returning from a disaster recovery with disaster recovery company. Do steps A – K below). The first part is a system restore and the second part is a daily restore. When restoration of these two parts to our iSeries has been completed, we will have all information restored as of the time the last daily save was performed. The following steps will restore the iSeries:

- A. Place the tapes in the matching drives
- B. Create user to use to restore from: **crtusrprf** usrprf(\*\*user\*\*) password( )  
usrcls(\*secofr) astlvl(\*intermed) inlpgm(qcmd) spcaut(\*usrcls) jobd(\*\*user\*\*)
- C. End all subsystems : **Endsbs** \*all \*immed
- D. The following will be restored from large tape LTO2 device
- E. Restore User Profiles : **rstusrprf** dev(TAPDEV) endopt(\*leave) mail(\*yes)  
alwobjdif(\*all)
- F. Restore Configuration : **rstcfg** obj(\*all) dev(TAPDEV) endopt(\*leave) srm(\*none)  
alwobjdif(\*all) output (\*print)
- G. Restore Libraries ( \*NONSYS, \*ALLUSR, \*IBM, etc. ... ) : **rstlib** savlib(\*nonsys)  
dev(TAPDEV) endopt(\*leave) mbropt(\*all) alwobjdif(\*all) output(\*print)
- H. Restore Document Libraries : **rstdlo** dlo(\*all) dev(TAPDEV) endopt(\*leave)  
alwobjdif(\*all) output(\*print)
- I. Restore Objects From Other File System(s) : **rst** dev('/qsys.lib/ TAPDEV.devd')  
obj((/\*') ('/qsys.lib' \*omit) ('/qdl's' \*omit)) alwobjdif(\*all) endopt(\*unload)
- J. Restore Authority : **rstaut** usrprf(\*all)
- K. Normal Mode IPL : **pwrdownsys** option(\*immed) restart(\*yes) iplsrc(b)
- L. **Stop here if only restoring one tape such as after Synergistic on line recovery (restoring information from one AS400 to another with GO SAVE Menu OPTION 21. Entire system save).**
- M. The following will be restored from large tape LTO1 device **(if needed see L. above).**
- N. Restore Objects (Objects from savchgobj backup or any other manual object restored as needed) : **rstobj** obj(\*all or OBJECT NAME(s)) savlib(LIBNAME)  
dev(TAPDEV) endopt(\*leave) mbropt(\*all) alwobjdif(\*all) output(\*print)
- O. Normal Mode IPL : **pwrdownsys** option(\*immed) restart(\*yes) iplsrc(b)
- P. **Finished**, system is up and running as of time last LTO1 tape was saved.