MEMORIAL
HERMANN

Disaster Recovery
Memorial Hermann ISD

Business Continuity Plan Cover Page	
Plan Business Area:	MH Information Systems Division
Business Continuity Coordinator (BCC):	Brandon Hall / Marcus Martin
Plan Creator:	Brandon Hall / Marcus Martin
Original Plan Date:	
Last Plan Update:	June 2012

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Purpose of Plan

The purpose of the Disaster Recovery Plan (hereafter referred to as The Plan) is to provide the means by which response to and recovery from a disaster situation can be accomplished in an orderly and timely manner. Because the business activities of MEMORIAL HERMANN are so highly dependent upon the support of the Information Systems Division (ISD), it is imperative that a plan exists that allows for continued support of those business activities deemed vital to MEMORIAL HERMANN if the data center facilities are disrupted.

Scope of Plan

The Plan is applicable to the Information Systems Division (ISD) personnel and facilities of the MEMORIAL HERMANN TMC Data Center located at 6411 Fannin, Houston, Texas and the MEMORIAL HERMANN CITY Data Center located at 920 Frostwood, Houston, Texas. It includes all functions, i.e., computer processing and ancillary services, administrative functions, etc., associated with Information Systems. It also includes the offsite storage facility utilized by ISD. The Plan encompasses three major phases: initial response (to a contingency occurrence); recovery processing (of critical applications systems); and restoration (of the damaged/destroyed data center).

Nature of the Plan

The Plan is directed toward any security event that has the potential to render one of the two computer processing facilities inoperable for an extended period of time (greater than 48 hours). The Plan will be activated for events such as a major fire in the computer complex; and explosion in the area of the computers; as well as any event causing structural damage to the building such that access to the computer facilities is impossible.

Statement Approval

The following individuals are authorized to approve the ISD Disaster Recovery Plan. By approving the Plan, they acknowledge that all Disaster Recovery needs of the business have been achieved to their satisfaction, and that all support areas of the business understand their responsibilities to assist the business during recovery.

Overall Strategy

Overall Coordinator:
Brandon Hall / Marcus Martin – Business Continuity Coordinator

Major Responsibilities:
Assure that the Disaster Recovery Plan, Test Plans and Disaster Recovery Testing are in place for the Information Systems Department.

Objectives of the Strategy:
Disaster Recovery Procedures are comprehensive states of consistent actions to be taken before, during and after a disaster. The Plan will be documented and tested so that if a crisis occurs the continuity of the operation(s) can be ensured and critical resources will be available.

ISD is committed to providing its customers with continued services and ensuring the well being and safety of all employees. The following guidelines are used throughout the Disaster Recovery process to designate the criticality and the recovery timetable for a function, process, area, etc.

Business Unit:
Establishment of Criticality level 5 will require that equipment, data and facilities necessary to provide service to the most critical customer needs within 8 to 24 hours of the declared disaster be in place and ready for use. Criticality level 4 recovery should occur within 24 to 48 hours of the disaster. Criticality level 3 recovery should occur within 3 to 7 days of the disaster. Achievement of criticality levels 2 and 1 should occur within 7 to 30 days of the disaster.

Training Procedures:
The Business Contingency Coordinator(s) will be responsible for training the Management Team by discussing the normal activities to be performed, the disaster mode activities for each scenario, and by assisting during tests. Additionally, the Business Continuity Coordinator(s) will schedule training whenever the plan changes dramatically or the team changes dramatically. New team members will be oriented to the plan by other team members.

Procedure to Declare for Hurricane/Inclement Weather Conditions

Strategy

Mission Statement:

A disaster to the Memorial Hermann Data Center includes the loss of all or most of the work areas within the center. A fire, tornado, hurricane, flood, or the loss of electrical power could cause this type of disaster.

I. ISD CRISIS MANAGEMENT TEAM

ISD CRISIS MANAGEMENT COMMAND CENTER TEAM					
Area	**Name**	**Work**	**Home**	**Pager**	**Cell Phone**
	Command Center location is 2nd Floor of SST Building Ste. 2.208				
ISD	David Bradshaw	713-338-4042	281-531-5313	21299	
	Amanda Hammel	713-338-5755	713-880-3897	Cell Phone	832-549-5235
	Emily Handwerk	713-338-5797		Cell Phone	713-249-2550
	ISD Solutions Partners(s)				
Disaster Recovery	Marcus Martin	713-338-6087	713-438-5141	Cell Phone	281-685-6479
	Brandon Hall	713-338-5322	281-277-3716	Cell Phone	832-363-7296
Storm Line	Status line	713-338-5040	Toll Free update 877-854-4584		

II. Key Objectives:

A. Initial Activities

1. ISD notified by Facilities Management, Corporate Security, etc., of a disaster/outage.
2. Crisis Management Team initiates designated command center(s) for ISD.
   a. TMC Location
   b. MC Location
3. Crisis Management Team notifies recovery team to report to their designated assembly area further instructions.
   a. TMC location
   b. MC Location
4. Notification to HW/SW vendors of declarations intent
   a. Pull vendor information from www.mhdr.org
5. Offsite storage should start inventory and packing of tapes for shipment instructions.

Minimum Time Frames

Business Activity Description	Time Frame Duration	Duration	Team
Disaster recovery declaration	Immediately	+/- 1 hour	
Tape inventory/pull/pack for shipment to hot-site from off-site	1 – 2 hours after declaration	+/- 3 hours	
Determine if tapes need to be shipped	4 – 5 hours after declaration	+/- 6 hours	
Recovery team travel to hot-site	4 – 5 hours after declaration	4 hours	
System restoration	12 hours after declaration	10 hours	
Application restoration	23 hours after declaration	8 hours	
Forward recovery of applications		Determined by each business unit	

III. Team Assignment Definitions

The following team designations and assignments are intended as guidelines for Memorial Hermann ISD personnel. Weather conditions or other circumstances specific to your workgroup may require adjustments. Team Assignments are defined in your HR ESS system. Your VP or SE will communicate any changes to you.

A-TEAM (Ride-out Team)

- A-Team members will be assigned to the facilities during the disaster by directions of CRISIS Management/ISD Command Center team and/or ESS designator.
  - TMC Data Center – Primary Data Center
    - Technical Services Team
      - Data Center
      - zOS
      - NetAdmin
      - NetEngineering
      - AIX
      - Telecomm
  - MC Data Center – Secondary Data Center (Backup Data Center)
    - Technical Services Team
      - Data Center
      - zOS
      - NetAdmin
      - NetEngineering
      - AIX
      - Telecomm
    - Applications Team
- In general, A-Team will report to their designated facility 2 days/48 hours prior to landfall.
- At the discretion of the ISD Crisis Management leadership A-Team members may qualify to register family members to accompany them to the facility to which the team member is assigned **who otherwise cannot evacuate.** There will be a designated area for family members and childcare during the storm. For family members, please get authorization from ISD Management Leadership.

B-TEAM (Ramp-Up and Relief Team)

- B-Team is considered a ramp-up and relief team.
- B-Team will report to their designated work location 3 days/72 hours prior to an anticipated disaster to relieve the A-Team.
- B-Team members will assist in the overall preparedness support up to 2 days/48 hours prior to the anticipated disaster.
- As relief support, B-Team will report to work within 24 hours as determined by the System Command Center and communicated via the various communication vehicles.

C-TEAM (Support Team)

- C-Team members will provide overall preparedness support up to 2 days/48 hours prior to the anticipated disaster.
- C-Team will be available to report to work within 24 - 48 hours after the disaster, as determined by the System Command Center.
- C-Team will provide relief to B-Team if necessary and be involved in restoring normal operations.

Any concerns with team assignments should be discussed with your supervisor.

IV. Notification procedure to Vendors

- ISD Solution segment will review vendor list from DR web site (www.mhdr.org) and make calls to the respective vendors putting them on stand for potential service.

- Recall Shipment for specific media – Secure shipment to Dallas Data Protection Center – Recommend shipment 72-96 hours prior to disaster – price quoted based on timeline. Three separate Recall Couriers are designated to transport the materials from Houston to Dallas for secure storage or follow on shipment to a customer identified hot site.

- Charter Air – Chartered jet or helicopter shipment to alternate site – load weight restrictions do apply – Recommend shipment 72-96 hours prior to disaster – price quoted upon order

Procedure to Declare Data Center Outage

Strategy

Mission Statement:
A disaster to the Memorial Hermann Data Center(s) includes the loss of all or most of the work areas within the center.

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	Emily Handwerk	713-338-5797		Cell Phone	713-249-2550
	ISD Solutions Partner Dir.				
Disaster Recovery	Marcus Martin	713-338-6087	713-438-5141	Cell Phone	281-685-6479
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5. Offsite storage should start inventory and packing of tapes for shipment instructions.

B. Alternate Site Processing (MC Data Center)

1. Activate Alternate Site Processing and Disaster Recovery Plan.
2. See Recovery Task Checklist. (Get from Brandon)
3. Restore applications/ Systems and verify process
4. Support application teams.

C. Resume Normal Processing

1. The Management Team will advise recovery personnel to return to primary work area.
2. Confirm from Crisis Management Team and Disaster Recovery Coordinator(s) that resumption of normal processing has occurred.

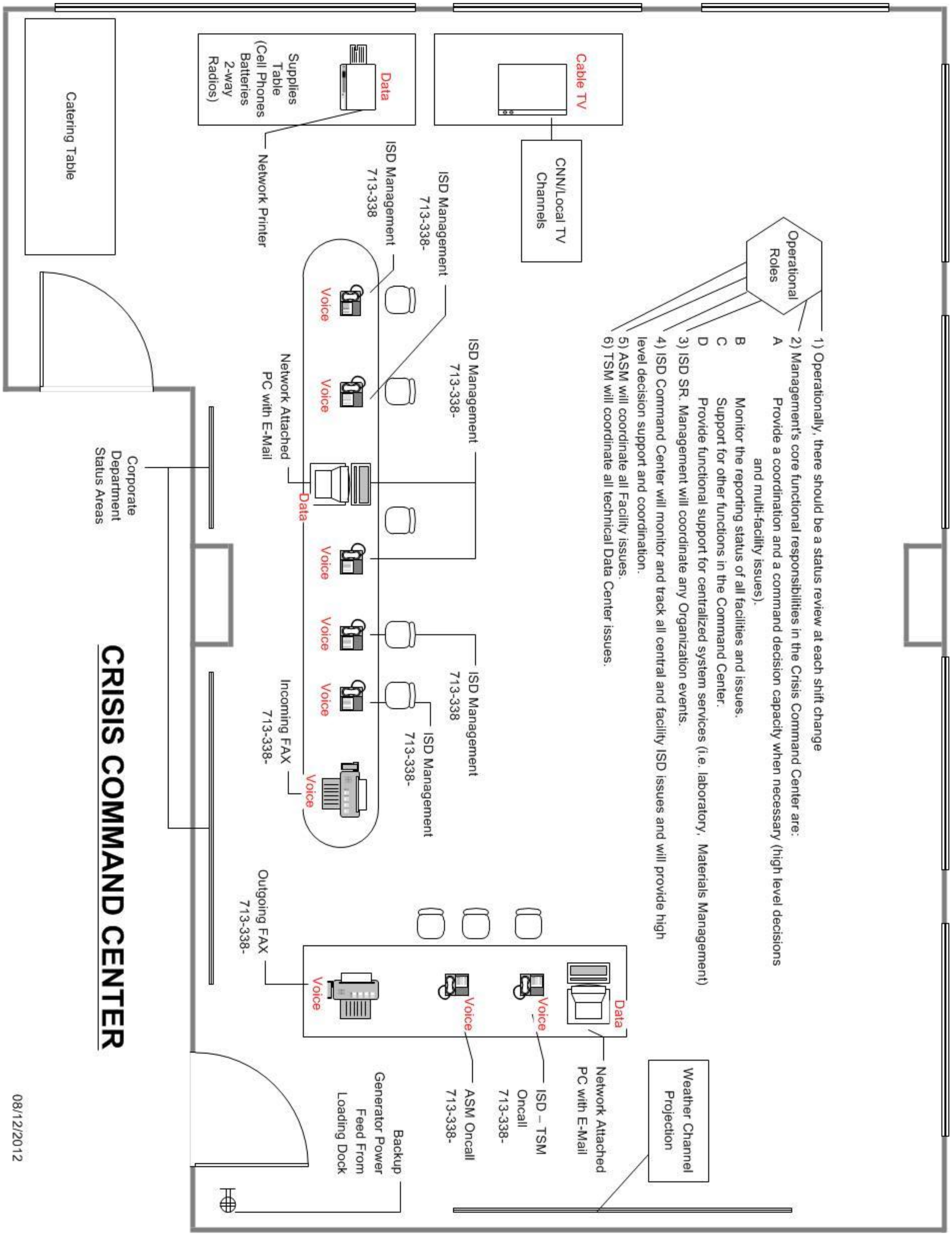
III. INSTRUCTIONS FOR USING DR VOICE MAILBOX AND CONFERENCE CALL NUMBERS

1. DR VOICE MAILBOX (will be updated every three-four hours as needed)
   a) Local calls dial 713-338-5040
      1. This number is use for gathering updated information purposes only and will not except voice messages)
   b) Out of Town dial (877) 854-4584
      1. This number is use for gathering updated information only and will not except voice messages
2. DR CONFERENCE LINE
   a) Toll Free Number (800) 374-0661 / Conference Code: 7134485171
      1. This line will be used as shift turnover and other times as instructed by the ISD CRISIS Management Team

MISC:

- Voice mail 713-338-4020 or toll free 877-854-4584

IV. CRISIS COMMAND CENTER LAYOUT



1) Operationally, there should be a status review at each shift change

2) Management's core functional responsibilities in the Crisis Command Center are:

A Provide a coordination and a command decision capacity when necessary (high level decisions and multi-facility issues).

B Monitor the reporting status of all facilities and issues.

C Support for other functions in the Command Center.

D Provide functional support for centralized system services (i.e. laboratory, Materials Management)

3) ISD SR. Management will coordinate any Organization events.

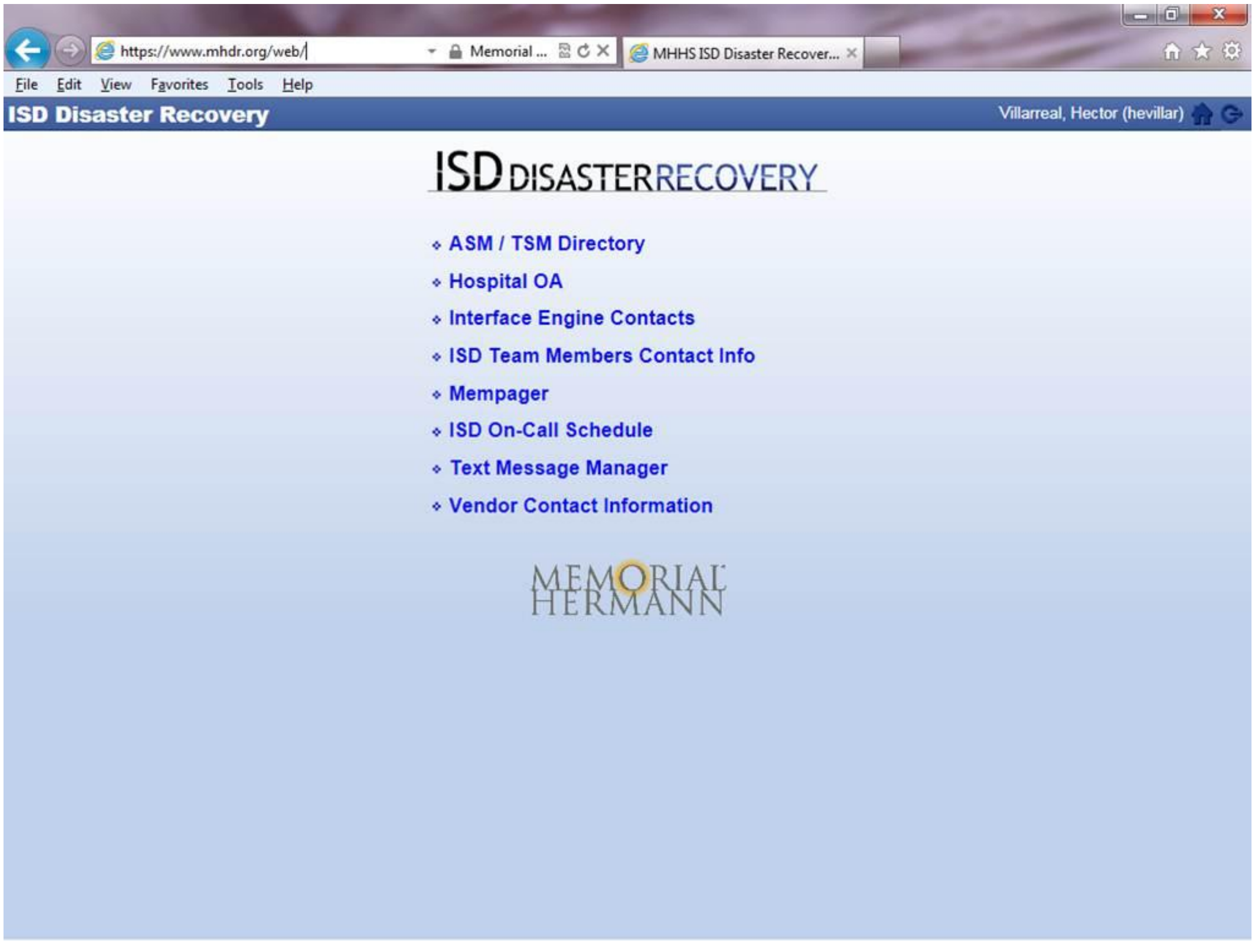
4) ISD Command Center will monitor and track all central and facility ISD issues and will provide high level decision support and coordination.

5) ASM will coordinate all Facility issues.

6) TSM will coordinate all technical Data Center issues.

V. Memorial Hermann ISD DR Website

1. Purpose of this website is to have pertinent information externally for the ISD staff to have effective communications.
   a) Http://www.mhdr.org



https://www.mhdr.org/web/
Memorial ...
MHHS ISD Disaster Recover...
File Edit View Favorites Tools Help
ISD Disaster Recovery
Villarreal, Hector (hevillar)
ISD DISASTERRECOVERY
ASM / TSM Directory
Hospital OA
Interface Engine Contacts
ISD Team Members Contact Info
Mempager
ISD On-Call Schedule
Text Message Manager
Vendor Contact Information
MEMORIAL HERMANN

VI. LISTING OF CRITICAL APPLICATIONS/ SYSTEMS FOR RESTORATION

A. CRITICAL SYSTEMS

1. Network Fabric (Internet)
2. Mainframe
3. UNIX
4. Intel Servers

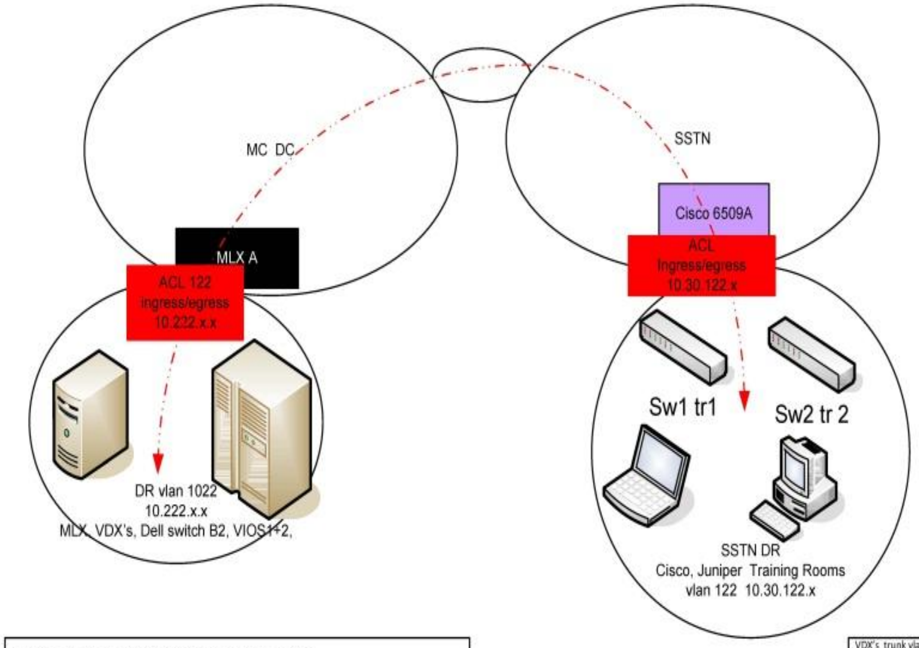
B. CRITICAL APPLICATIONS

1. Care4 (EMR)
2. CloverLeaf (Interface Engine)
3. GE PACS
4. HealthQuest
5. Lawson
6. Payroll
   - a) ITRUST (Payroll) (Mainframe)
   - b) API (Intel)
   - c) Active Staffer (Time clocks)
7. ECW (eClinical Works)

VII. Critical Systems Recovery Objective

1. Memorial Hermann MC DR Configuration

DR Mem City
v1 6/26/2012



- Dell switch B2 10.54.2.25 or drac 10.54.2.35 (mc-cmc-w-4-013chs1) access port to blade 6 vlan 1022

```
interface ethernet 1/xg6
mtu 9216
switchport access vlan 1022
lldp med
exit
```

```
MLX8e  w/acl's for 10.30.122.x trunk vlan to VDX's
vlan 1022 name DR_segment
tagged ethe 1/2 ethe 1/7 ethe 2/2 ethe 2/5 to 2/8
router-interface ve 1022
rstp
interface ve 1022
ip ospf area 54
ip address 10.222.0.1/16
ip access-group 122 in
ip access-group 122 out
cluster mcmlxcluster1 1
member-vlan 1022

access-list 122 remark *********** DR to training
access-list 122 permit ip 10.222.0.0 0.0.255.255 10.30.122.0 0.0.0.255
access-list 122 permit icmp 10.222.0.0 0.0.255.255 10.30.122.0 0.0.0.255
access-list 122 remark *********** Training to DR
access-list 122 permit ip 10.30.122.0 0.0.0.255 10.222.0.0 0.0.255.255
access-list 122 permit icmp 10.30.122.0 0.0.0.255 10.222.0.0 0.0.255.255
access-list 122 remark *********** DR to DR
access-list 122 permit ip 110.222.0.0 0.0.255.255 10.222.0.0 0.0.255.255
access-list 122 permit icmp 10.222.0.0 0.0.255.255 10.222.0.0 0.0.255.255
access-list 122 remark ***********  Deny everything else
access-list 122 deny ip any any
access-list 122 deny icmp any any
```

```
Juniper wz4200
edit interfaces interface-range DATA
del member-range ge-0/0/4 to ge-0/0/43
top

set interfaces interface-range DATA member-range ge-0/0/4 to ge-0/0/25
set interfaces interface-range DATA member-range ge-0/0/28 to ge-0/0/34
set interfaces interface-range DATA member-range ge-0/0/36 to ge-0/0/43

set interfaces interface ge-0/0/26 ether-options no-auto-negotiation
set interfaces interface ge-0/0/26 ether-options flow-control
set interfaces interface ge-0/0/26 ether-options link-mode full-duplex
set interfaces interface ge-0/0/26 ether-options speed 100m
set interfaces interface ge-0/0/26 unit 0 family ethernet-switching vlan members DATA

set interfaces interface ge-0/0/27 ether-options no-auto-negotiation
set interfaces interface ge-0/0/27 ether-options flow-control
set interfaces interface ge-0/0/27 ether-options link-mode full-duplex
set interfaces interface ge-0/0/27 ether-options speed 100m
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set interfaces interface ge-0/0/35 ether-options link-mode full-duplex
set interfaces interface ge-0/0/35 ether-options speed 100m
set interfaces interface ge-0/0/35 unit 0 family ethernet-switching vlan members DATA
```

```
VDX's  trunk vlan to DELL chassis B2 and VIOS servers

interface Vlan 1022
 description DR_segment
no shutdown

interface TenGigabitEthernet 20/0/56
mtu 9216
description w-4-013_m1000e_chs1_b2_p17
fabric isl enable
fabric trunk enable
switchport
switchport mode trunk
switchport trunk allowed vlan add 41,64,502-509,516,532,540,564,580,1022
switchport trunk tag native-vlan
sflow enable
no shutdown

interface Port-channel 2013
vlag ignore-split
mtu 9000
description VIOSMC01
switchport
switchport mode trunk
switchport trunk allowed vlan add 550,1022
no shutdown

interface Port-channel 2018
vlag ignore-split
mtu 9000
description VIOSMC02
switchport
switchport mode trunk
switchport trunk allowed vlan add 550,1022
no shutdown
```

Create vlan 122 ip 10.30.122.0 255.255.255.0 gw 10.30.122.1 on:

SST Cisco 6509 w/acl's for 10.222.x.x.

Cisco 6509A 10.30.127.127

```
Vlan 122
 Name DR_seg_trainrooms
interface Vlan122
description DR_Seg_trainrooms
ip address 10.30.122.3 255.255.255.0
no ip redirects
no ip mroute-cache
shutdown
ip access-group 122 in
ip access-group 122 out
access-list 122 permit ip 10.222.0.0 0.0.255.255 10.30.122.0 0.0.0.255
access-list 122 permit icmp 10.222.0.0 0.0.255.255 10.30.122.0 0.0.0.255
access-list 122 permit ip 10.30.122.0 0.0.0.255 10.222.0.0 0.0.255.255
access-list 122 permit icmp 10.30.122.0 0.0.0.255 10.222.0.0 0.0.255.255
access-list 122 permit icmp 10.30.122.0 0.0.0.255 host 10.30.122.1
access-list 122 permit udp any any eq bootpc
access-list 122 permit udp any any eq bootps
access-list 122 deny   ip any any
access-list 122 deny   icmp any any

interface GigabitEthernet2/5
  switchport trunk allowed vlan add 1022
router ospf 1
 network 10.30.122.0 0.0.0.255 area 30
ip dhcp excluded-address 10.30.122.0 10.30.122.99
ip dhcp pool dr_pool
  network 10.30.122.0 255.255.255.0
  default-router 10.30.122.1
```

Cisco 6509B 10.30.127.126

```
Vlan 122
 Name DR_seg_trainrooms
interface GigabitEthernet2/5
  switchport trunk allowed vlan add 122
```

VIII. Mainframe Systems

IX. UNIX Systems

X. Intel Servers

XI. Critical Applications (CARE4)

XII. Critical Applications (CloverLeaf)

The following test objective(s) activities are to validate the recovery capabilities of your business application/operational system. Please indicate the steps to be achieved in accomplishing these activities. If an activity listed was not performed as the result of a change made to your particular test script, please note the reason. Please provide sufficient details as they will be needed in fine-tuning the recovery process.

Event:	**Loss of Critical Platforms/Applications**
Disaster Declaration Date:	
Recovery Site:	**MHMC SST-N, 920 Frostwood, Houston, TX**
Test Dates:	**June 29, 2012 (4 hours from 8AM to 12 PM)**
Business Applications:	**CloverLeaf**
Platform (check one):	**AIX**
Test Team Leader:	**Herschell Wilson 713-338-5747**

<u>Activity #1 Restoration</u>

- **Step #1 Replicate O/S (AIX 6.1 - rootvg)**

- **Step #2 Replace /etc/hosts with 'hostdr' tables - change /etc/hosts permission to 664**

- **Step #3 Set hostname to drhciprod**
  Set IP to 10.222.1.75
  Set submask to 255.255.0.0
  Default Gateway 10.222.1.1
  DO NOT USE DNS

- **Step #4 Replicate volume groups - appvg, hcivg & savefilesvg**

- **Step #5 Mount filesystems: /qdx /qdx58cd /adtsites/data /hci/data /pathnet /plawson /savefiles /sites**

- **Step #6 Change /dev/kmem and /dev/mem permission to 444**

- **Step # 7 Turn over DR Cloverleaf to Interface Services**

Activity #1 Accomplished: Yes **/ No / NA**

Activity #2 Cloverleaf startup

- **Step #1 Obtain 3 Cloverleaf DR License Keys**
- **Step #2 Install new licenses & Start application (host server, root, site - adtm)**
- **Step #3 Verify accessibility for interface team**
- **Step #4 Turn over DR Cloverleaf to Interface Services & Patient Management (HQ)**
- **Step #5 Active Ports for participating sites for this DR exercise**

Activity #2 Accomplished: Yes **/ No / NA**

Activity #3 Test of HQ update to downstream systems

- **Step #1 HQ personnel enter an update in HQ on patient**
- **Step #2 HQ personnel verify update is in SIS file in HQ**
- **Step #3 Interface team verify update made it to Cloverleaf and to outbound queues**
- **Step #4 Designated downstream verify update made it to their systems (N/A for this test)**

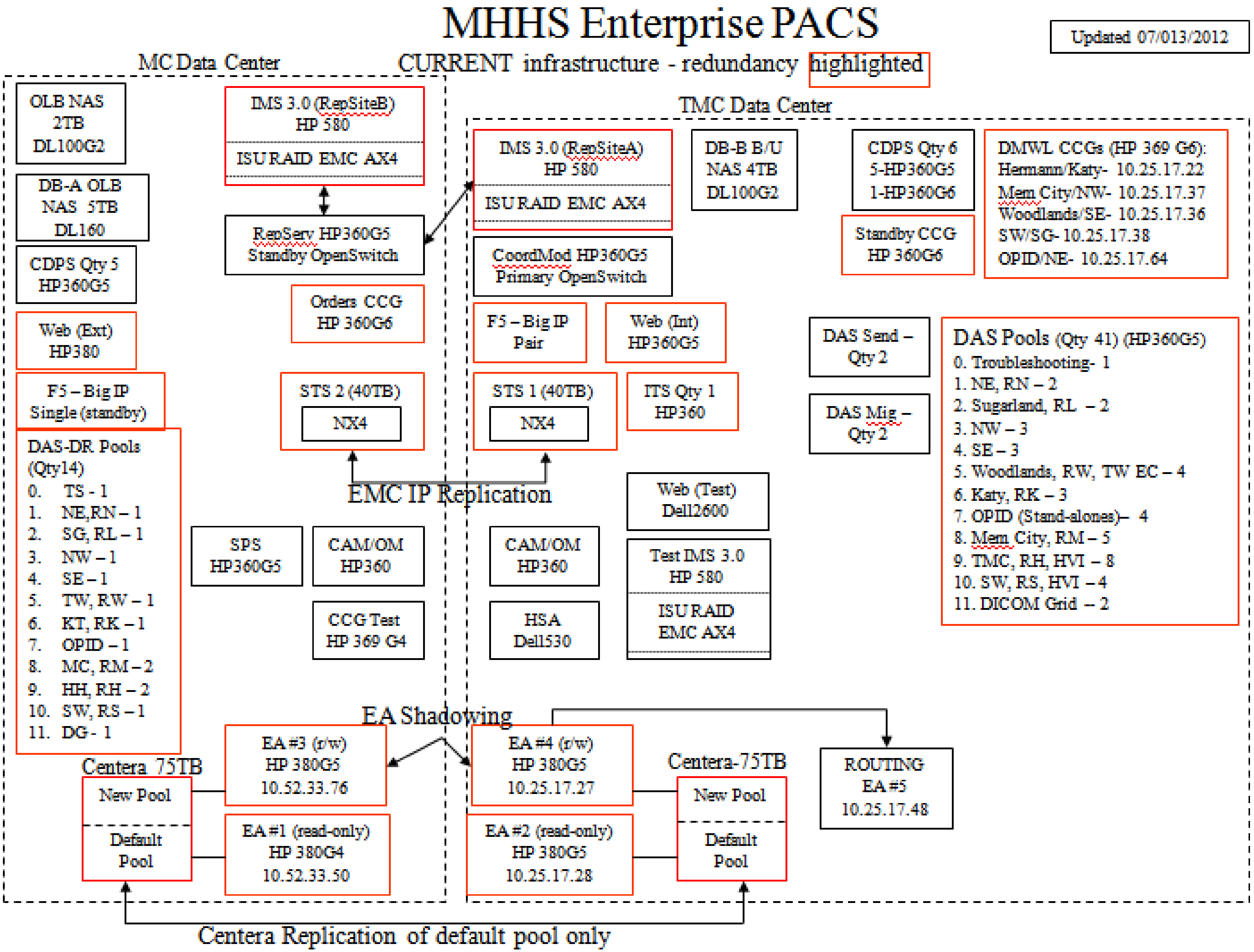
Activity #3 Accomplished: Yes **/ No / NA**

SUCCESS CRITERIA:

Overall Result (circle one): The test met ALL **/ MOST / SOME / NONE of the objectives.**

Business Unit Manager or Information Owner: Anna Flores

XIII. Critical Applications (GE PACS)



XIV. Critical Applications (HealthQuest)

Event:	**Loss of Critical Platforms/Applications**
Disaster Declaration Date:	
Business Applications:	**Healthquest Interface**
Platform:	**Z/OS**
Test Team Leaders:	**Andrew Aneke and Jake Zelaya**

The following test objective(s) activities are to validate the recovery capabilities of your business application/operational system. Please indicate the steps to be achieved in accomplishing these activities. If an activity listed was not performed as the result of a change made to your particular test script, please note the reason. Please provide sufficient details as they will be needed in fine-tuning the recovery process

Activity #1 Set IP Address & Port for HQ Outbound Interface

Run profile maintenance on profile KUIPLGC and change the COMLINK Outbound IP and Port as follows: port changed to 10101 and the IP Address changed to 10.222.1.75.

Activity #2 Verify HQ Online System

1. **Open online files for system**
2. **Verify various sub-systems PA, PM, and MR**

SUCCESS CRITERIA:

1. **The end result is to bring up HealthQuest Patient Management and Patient Accounting sub-systems.**

Business Unit Manager or Information Owner: Lauren Masraff

XV. Critical Applications (Lawson)

XVI. Critical Applications (Payroll) (ITRUST)

The following test objective(s) activities are to validate the recovery capabilities of your business application/operational system. Please indicate the steps to be achieved in accomplishing these activities. If an activity listed was not performed as the result of a change made to your particular test script, please note the reason. Please provide sufficient details as they will be needed in fine-tuning the recovery process.

Event:	**Loss of Critical Platforms/Applications**
Disaster Declaration Date:	**TBD**
Recovery Site:	
Business Applications:	**ITRUST**
Platform (check one):	**zOS**
Test Team Leader:	**Terry Baldwin / RaDonna Russ**

Activity #1 Data (file) Restoration

- **Step #1 Run jobs PISOPEN, PFROPEN to open up files on FINLCICS. If all files open ok then the files were restored ok.**
- **Step #2 On FINLCICS, go online on HRMS and perform personnel inquiry on screen 002**
- **Step #3 On FINLCICS, go online on HRMS and perform control table inquiry on screen 062**
- **Step #4 On FINLCICS, go online on HRMS and perform payroll history inquiry on screen 055 and check to make sure last check date of 07/03/2003 exist.**
- **Step #5 on FINLCICS, go online in FLEX and check coverage records on screen 003**
- **Step#6 on FINLCICS, go online in Flex and check data inquiry functions on screen 001**
- Step #7 At this point, if all steps are completed, data recovery from offsite tapes would have been completed. Need to also validate that the update functions work properly.

Activity #1 Accomplished: Yes / No / NA

Activity #2 Run Payroll Check Process

- **Step #1 Obtain the APIHOURS file from 07/03/2003 payroll to use as input. Needs to be on offsite tape.**
- **Step #2 Run PRONLEDT**
- **Step #3 Run PREDTRPT**
- **Step #3 Run PRCHECK. Verify checks in queue and notify Marcus to ftp checks to printer at SW.**
- **Step #4 Run PRGL (do not send files to Lawson) *Did not run PRGL***
- **Step #5 Run PRDWNLD (Be sure to not send files out) However, we will attempt to FTP Memorial Credit Union Files and Positive Pay files. *Did not***

run Credit Union files because we were not able to gain a contact to help verify the files.
Step #6 Run selected jobs from PRCHK2 ***Did not run PRCHK2***

Activity #2 Accomplished: Yes / No / NA

SUCCESS CRITERIA:

If we accomplish producing checks and that the HRMS/FLEX system online functions properly, then this test will be deemed a success.

Overall Result (circle one): The test met ALL / MOST / SOME / NONE of the objectives.

XVII. Critical Applications (API) (Intel)

The following test objective(s) activities are to validate the recovery capabilities of your business application/operational system. Please indicate the steps to be achieved in accomplishing these activities. If an activity listed was not performed as the result of a change made to your particular test script, please note the reason. Please provide sufficient details as they will be needed in fine-tuning the recovery process

Event:	**Restoration Critical Platforms/Applications Plan**
Disaster Declaration Date:	
Recovery Site:	**Memorial City**
Business Applications:	API
Operational Platform:	**INTEL**
Test Team Leader:	**Richard Garcia / Carol Hawthorne / Tanya Norman**

<u>Activity #1: This section covers all Activities required by Network Administration team</u>

Build and configure database and service servers. Accomplished: **Yes**

- Net Admin will prepare (3) servers (Drapisql and Drapiapp1, Drapiweb)
- - add necessary NT and service accounts - (memorial\api app support, memorial\Oracle_Admin groups)
- Service server needs to be able to map to database server
- Net Admin will restore on installation folder for application analyst to complete the install
- Net Admin will install IIS services as required (Web Configuration and Installation guide located in installation folder documentation section.

- **Requirements**
  - Three Servers – Database Server/ and Applications / Web Server
  - Backup of most recent copy of database available loaded on database server drive
  - Copy of \\apilwsql\h$\api folder for system installation loaded on application server drive
  - Network drop to connect badge reader for testing
  - Add following user accounts to servers

API Service Users

- SQL Server
  - apiADU2 – SQL Server 2005 BrowerUser, AgentUser,ReportServer,MSQLUser,MSFTEUser, Performance Monitor on SQL Server
- App Server

        - admin – apiPPS(per mon). apiRSL, apisupport,
        - apiADU2 – MSQL
        - apiPPS – per mon
        - apiADU1 - SQL Server browser
    - Web Server
        - apiADU1 – Browser
        - apiADU2 – MSQL
        - apiPPS – ISS_WPG, per mon
- Consideration - Current hardware Database server - used is 64 bit database system
- Support Resources – Net Administration, DBA Group, API emergency On call
- Tool Resources – API Installation Documentation, Debug viewer

Activity #2: Data Restoration Accomplished: Accomplished: Yes

- DBA Group will install SQL and database from backup tapes and assign logins and appropriate access to necessary system accounts to database
- DBA Group should also install SQL client on application and Web server
- DBA Group needs to install Report Services to test reports
- DBA Group should report any databases that were not installed – only Laborworkx_Live is required for DR testing

On SQL Server (Windows 2003 Operating system)

Activity #3: Install API application components on servers

- **Application Analyst Responsibilities**
    - Install all necessary system components needed for application to run
    - Pre-install
        - Verify necessary service logins on all 3 servers (apiADU2, apiADU1,apiPPS, apiRSL) and password required (AP1lwork5 / Hhht_115)
        - access required – shared data files – scripts needed
    - Install
        - Application Servers – Install primary and secondary services
        - Run (AppServerSetup.exe) found in \\drapilwsql\h$\api\laborworkx\08.03.00\Setups if pre-requisites are required you will be prompted on preinstall check pre-requisites found in \\drapilwsql\h$\api\8.03 prerequistes
            - Instance – Create New
            - Configurations – select Live

- Server type – start with primary then secondary(s)
- Role – Standard (role options blank)
- Installation Path (select D drive if available) then accept default path recommended
- Database setup (enter db server (may need ,port (1540) also, name user account and password (use lwadmin)
- Replication – do not use for DR
- Local db setup – use System DB
- Enter Primary Application server IP
- Enter System password
- Enter Service password for apiPPS account
- Review and complete install
- Repeat process for secondary services
    - Role type for Calc and Agent is (data processing)
    - Role type for devices is (data collection)
- Agent Setup – change threads to 16 then next and complete install
- Device options (select device types to install) (clock type to be used for testing in DR)
    - Replication – not used in DR
    - Local setup – System DB
    - DRAPIAPP1 – IP – System password – Service password – complete installation

- *** If Historical or Storage Databases are not installed then disable both in configuration file** path \\DRAPIAPP1\D$\Program Files\API\Application Server\Live\Primary\bin   file name - ApplicationServer.exe.config
- **Install latest updates found in hot fix folder (should be identified prior to DR exercise** location \\DRapilwsql\h$\api\laborworkx\08.03.00\Hot Fixes

    - Application Tools Install
        - Run AppToolsSetup.exe found in \\drapilwsql\h$\api\laborworkx\08.03.00\Setups
            - System Configuration – Live
            - Installation Path – change to D drive then defaults
            - Components – select all
            - Click next on ready to install to complete installation
    - Web Portals Install
        - Rune WebPortalSetup.exe found in \\drapilwsql\h$\api\laborworkx\08.03.00\Setups
            - Create new Virtual Directory
            - System Configuration – select Live
            - SQL replication – do not use in DR

    - Local setup – select system DB
    - .Net review then – next
    - Select components – check Quick Badge for testing
    - Portal Configuration – enter System password
    - Primary APP IP – drapiapp1 IP
    - Local Host Setup – review then next
    - IIS Pool Selection – Create new (Laborworkx_Live)
    - IIS Pool Settings – Next
    - IIS Pool Identity – Services passwordAP1
    - Portal setup – next
    - Pass Through Authentication – not checked
    - Ready to install – next to complete
  - **Refer to install manual for advance port settings**
- **Configure Application Tools – Process Developer / Report Services**
  - Login to Developer and update path information for data stores and downloads that will be tested
  - Check portal setup to make sure that ASP Pages are allowed
- **Use AppToolsSetup.exe to install tool components**
- **Refer to install quide for configuration settings**
  - Process developer – use system guide to configure data shares / interfaces
  - Reporting service – will need to publish all reports
- **Use DeviceToolsSetup.exe (Update existing tools for 2012 DR)**
- **Configure Device Tools – Device Manager /EIS Configuration Tools**
- Refer to install Guide for settings
  - For DR annual test - 1 reader can be installed in isolated network for testing
  - For actual DR situation – contact API to activate all readers back into system
- **Start Services**
  - Start primary Application service
    - all workorders / hotfixes / upgrades should be re-installed prior to starting services
  - Start secondary application services (devices, calc, and agents)
  - Start Web service
  - Login to portal and add new DR web portal under configuration / Portal Configurations

Activity #4 Validate the data and connections.

- Test Components
  - Test logins - Login to system - OK
  - Test search options – search by employee / department - OK
  - Test Quick Badge – clock into system - OK
  - Test Time Clock - NA
  - Test Calculation process – check clocking transaction - OK
  - Test edit capabilities – add and remove a clocking - OK
  - Test Reports – run TCR from employee and reports screens - NA
  - Badge Reader Testing (if available) - NA
  - Test Calc Me Now - OK
  - Test API tools and Device applications for connectivity – Partial testing

SUCCESS CRITERIA:

Functional API application
Correct data restored from backups – Storage DB not restored

Overall Result (circle one): The test met MOST of the objectives.

Business Unit Manager or Information Owner: Tanya Norman, Manager

XVIII. Critical Applications (Databases)

XIX. Other

2013 DR Exercise Team		
Platform	**Application**	**Notes**
AIX		
	CloverLeaf	Interface Engine
	AMS Imaging Root Server	
	AMS Imaging WAL Server	
	MRS	
	Lawson	
Databases		
	Logician	
	MRS	
	API	
	AMS Imaging	
	Lawson	
Mainframe		
	HealthQuest	
	Payroll	
	Utilites	
Wintel		
	API	
	Logician	
	MRS	
	AMS	
	DNS	
	Active Directory	
	SSO	
	Citrix	