The objective of a disaster recovery plan is to ensure that you can respond to a disaster or other emergency that affects information systems and minimize the effect on the operation of the business. When you have prepared the information described in this topic collection, store your document in a safe, accessible location off site.

**Section 1. Example: Major goals of a disaster recovery plan**

 Here are the major goals of a disaster recovery plan.

* To minimize interruptions to the normal operations.
* To limit the extent of disruption and damage.
* To minimize the economic impact of the interruption.
* To establish alternative means of operation in advance.
* To train personnel with emergency procedures.
* To provide for smooth and rapid restoration of service.

**Section 2. Example: Personnel**

You can use the tables in this topic to record your data processing personnel. You can include a copy of the organization chart with your plan.

| **Data processing personnel** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Name** | | **Position** | | **Address** | | **Telephone** |
|  | |  | |  | |  |
|  | |  | |  | |  |
|  | |  | |  | |  |
|  | |  | |  | |  |
|  | |  | |  | |  |
| **Data processing personnel** | | | | | | |
| **Name** | **Position** | | **Address** | | **Telephone** | |
|  |  | |  | |  | |
|  |  | |  | |  | |
|  |  | |  | |  | |
|  |  | |  | |  | |
|  |  | |  | |  | |

| **Data processing personnel** | | | |
| --- | --- | --- | --- |
| **Name** | **Position** | **Address** | **Telephone** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Section 3. Example: Application profile**

You can use the Display Software Resources (DSPSFWRSC) command to complete the table in this topic.

| **Application profile** | | | | |
| --- | --- | --- | --- | --- |
| **Application name** | **Critical Yes / No** | **Fixed asset Yes / No** | **Manufacturer** | **Comments** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Comment legend:  1.  Runs daily.  2.  Runs weekly on \_\_\_\_\_\_\_\_\_\_\_\_.  3.  Runs monthly on \_\_\_\_\_\_\_\_\_\_\_\_. | | | | |

**Section 4. Example: Inventory profile**

You can use the Work with Hardware Products (WRKHDWPRD) command to complete the table in this topic.

| **Application profile** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Manufacturer** | | **Description** | | **Model** | **Serial number** | **Own or leased** | **Cost** |
|  | |  | |  |  |  |  |
|  | |  | |  |  |  |  |
|  | |  | |  |  |  |  |
|  | |  | |  |  |  |  |
|  | |  | |  |  |  |  |
| Notes:  1.  This list should be audited every \_\_\_\_\_\_\_\_\_\_\_\_ months.  2.  This list should include the following items:Processing units                        System printer Disk units                                 Tape and optical devices Models                                     Controllers Workstation controllers              I/O Processors Personal computers                   General data communication Spare workstations                    Spare displays Telephones                               Racks Air conditioner or heater            Humidifier or dehumidifier | | | | | | | |
| **Miscellaneous inventory** | | | | | | | |
| **Description** | **Quantity** | | **Comments** | | | | |
|  |  | |  | | | | |
|  |  | |  | | | | |
|  |  | |  | | | | |
|  |  | |  | | | | |
|  |  | |  | | | | |
| Note: This list should include the following items:  Tapes                                                    CDs and DVDs PC software                                          Emulation packages File cabinet contents or documentation     Language software (such as COBOL and RPG) Tape vault contents                                Printer supplies (such as paper and forms) Optical media | | | | | | | |

**Section 5. Information services backup procedures**

Use these procedures for information services backup.

* + System i® environment
    - Daily, journals receivers are changed at \_\_\_\_\_\_\_\_\_\_\_\_ and at \_\_\_\_\_\_\_\_\_\_\_\_.
    - Daily, a saving of changed objects in the following libraries and directories is done at \_\_\_\_\_\_\_\_\_\_\_\_:
      * \_\_\_\_\_\_\_\_\_\_\_\_
      * \_\_\_\_\_\_\_\_\_\_\_\_
      * \_\_\_\_\_\_\_\_\_\_\_\_
      * \_\_\_\_\_\_\_\_\_\_\_\_
      * \_\_\_\_\_\_\_\_\_\_\_\_
      * \_\_\_\_\_\_\_\_\_\_\_\_
      * \_\_\_\_\_\_\_\_\_\_\_\_
      * \_\_\_\_\_\_\_\_\_\_\_\_

The preceding procedure also saves the journals and journal receivers.

* + - On \_\_\_\_\_\_\_\_\_\_\_\_ at \_\_\_\_\_\_\_\_\_\_\_\_ a complete save of the system is done.
    - All save media is stored off-site in a vault at \_\_\_\_\_\_\_\_\_\_\_\_ location.
  + Personal Computer
    - It is suggested that all personal computers be backed up. Copies of the personal computer files should be uploaded to the System i environment on \_\_\_\_\_\_\_\_\_\_\_\_ (date) at \_\_\_\_\_\_\_\_\_\_\_\_ (time), just before a complete save of the system is done. It is then saved with the normal system save procedure. This provides for a more secure backup of personal computer-related systems where a local area disaster can wipe out important personal computer systems.

**Section 6. Disaster recovery procedures**

For any disaster recovery plan, these three elements should be addressed.

* Emergency response procedures
  + To document the appropriate emergency response to a fire, natural disaster, or any other activity in order to protect lives and limit damage.
* Backup operations procedures

To ensure that essential data processing operational tasks can be conducted after the disruption.

* Recovery actions procedures
  + To facilitate the rapid restoration of a data processing system following a disaster.

[**Disaster action checklist**](http://publib.boulder.ibm.com/infocenter/iseries/v7r1m0/topic/rzarm/rzarmdisaactionchecklist.htm)

This checklist provides possible initial actions that you might take following a disaster.

[**Recovery startup procedures for use after actual disaster**](http://publib.boulder.ibm.com/infocenter/iseries/v7r1m0/topic/rzarm/rzarmrecstrtupprocuseactudisa.htm)  
Consider these recovery startup procedures for use after actual disaster.

**Section 7. Recovery plan for mobile site**

This topic provides information about how to plan your recovery task at a mobile site.

* 1. Notify \_\_\_\_\_\_\_\_\_\_\_\_ of the nature of the disaster and the need to select the mobile site plan.
  2. Confirm in writing the substance of the telephone notification to \_\_\_\_\_\_\_\_\_\_\_\_ within 48 hours of the telephone notification.
  3. Confirm all needed backup media are available to load the backup machine.
  4. Prepare a purchase order to cover the use of backup equipment.
  5. Notify \_\_\_\_\_\_\_\_\_\_\_\_ of plans for a trailer and its placement (on \_\_\_\_\_\_\_\_\_\_\_\_ side of \_\_\_\_\_\_\_\_\_\_\_\_).
  6. Depending on communication needs, notify telephone company (\_\_\_\_\_\_\_\_\_\_\_\_) of possible emergency line changes.
  7. Begin setting up power and communications at \_\_\_\_\_\_\_\_\_\_\_\_.
     1. Power and communications are prearranged to hook into when trailer arrives.
     2. At the point where telephone lines come into the building (\_\_\_\_\_\_\_\_\_\_\_\_), break the current linkage to the administration controllers (\_\_\_\_\_\_\_\_\_\_\_\_). These lines are rerouted to lines going to the mobile site. They are linked to modems at the mobile site.The lines currently going from \_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_ would then be linked to the mobile unit via modems.
     3. This can conceivably require \_\_\_\_\_\_\_\_\_\_\_\_ to redirect lines at \_\_\_\_\_\_\_\_\_\_\_\_ complex to a more secure area in case of disaster.
  8. When the trailer arrives, plug into power and do necessary checks.
  9. Plug into the communications lines and do necessary checks.
  10. Begin loading system from backups.
  11. Begin normal operations as soon as possible:
      1. Daily jobs
      2. Daily saves
      3. Weekly saves
  12. Plan a schedule to back up the system in order to restore on a home-base computer when a site is available. (Use regular system backup procedures).
  13. Secure mobile site and distribute keys as required.
  14. Keep a maintenance log on mobile equipment.
  15. **Mobile site setup plan**  
      You can attach the mobile site setup plan here.
  16. **Communication disaster plan**  
      You can attach the communication disaster plan, including the wiring diagrams here.
  17. **Electrical service**  
      You can attach the electrical service diagram here.

**Section 8. Recovery plan for hot site**

An alternate hot site plan should provide for an alternative (backup) site. The alternate site has a backup system for temporary use while the home site is being reestablished.

* 1. Notify \_\_\_\_\_\_\_\_\_\_\_\_ of the nature of the disaster and of its desire for a hot site.
  2. Request air shipment of modems to \_\_\_\_\_\_\_\_\_\_\_\_ for communications. (See \_\_\_\_\_\_\_\_\_\_\_\_ for communications for the hot site.)
  3. Confirm in writing the telephone notification to \_\_\_\_\_\_\_\_\_\_\_\_ within 48 hours of the telephone notification.
  4. Begin making necessary travel arrangements to the site for the operations team.
  5. Confirm that you have enough save media and that it is packed for shipment to restore on the backup system.
  6. Prepare a purchase order to cover the use of the backup system.
  7. Review the checklist for all necessary materials before departing to the hot site.
  8. Make sure that the disaster recovery team at the disaster site has the necessary information to begin restoring the site.
  9. Provide for travel expenses (cash advance).
  10. After arriving at the hot site, contact home base to establish communications procedures.
  11. Review materials brought to the hot site for completeness.
  12. Start to load the system from the save media.
  13. Begin normal operations as soon as possible:
      1. Daily jobs
      2. Daily saves
      3. Weekly saves
  14. Plan the schedule to back up the hot-site system in order to restore on the home-base computer.
  15. [**Alternate-site system configuration**](http://publib.boulder.ibm.com/infocenter/iseries/v7r1m0/topic/rzarm/rzarmhotsitesysconfig.htm)  
      You can attach the alternate-site system configuration here.

**Section 9. Restoring the entire system**

You can learn how to restore the entire system.

To get your system back to the way it was before the disaster, use the procedures in Checklist 20: Recovering your entire system after a complete system loss.

***Before you begin:*** Find the following save media, equipment, and information from the on-site tape vault or the offsite storage location:

* + If you install from the alternate installation device, you need both your save media and the CD-ROM media containing the Licensed Internal Code.
  + All save media from the most recent complete save operation
  + The most recent save media from saving security data (SAVSECDTA or SAVSYS)
  + The most recent save media from saving your configuration, if necessary
  + All save media that contains journals and journal receivers that you saved since the most recent daily save operation
  + All save media from the most recent daily save operation
  + PTF list (stored with the most recent complete save media, weekly save media, or both)
  + Save media list from most recent complete save operation
  + Save media list from most recent weekly save operation
  + Save media list from daily saves
  + History log from the most recent complete save operation
  + History log from the most recent weekly save operation
  + History log from the daily save operations
  + The Installing, upgrading, or deleting i5/OS and related software PDF. You can order a printed version of this PDF (SC41-5120; feature code 8006) with i5/OS software upgrade orders or new hardware orders.
  + The Recovering your system PDF. You can order a printed version of this PDF (SC41-5304; feature code 8007) with i5/OS software upgrade orders or new hardware orders.
  + Telephone directory
  + Modem manual
  + Tool kit

**Section 10. Rebuilding process**

The management team must assess the damage and begin the reconstruction of a new data center.

* If the original site must be restored or replaced, the following questions are some of the factors to consider:
  + What is the projected availability of all needed computer equipment?
  + Will it be more effective and efficient to upgrade the computer systems with newer equipment?
  + What is the estimated time needed for repairs or construction of the data site?
  + Is there an alternative site that more readily can be upgraded for computer purposes?

After the decision to rebuild the data center has been made, go to [Section 12. Disaster site rebuilding](http://publib.boulder.ibm.com/infocenter/iseries/v7r1m0/topic/rzarm/rzarmsiterec.htm).

**Section 11. Testing the disaster recovery plan**

In successful contingency planning, it is important to test and evaluate the plan regularly.

Data processing operations are volatile in nature, resulting in frequent changes to equipment, programs, and documentation. These actions make it critical to consider the plan as a changing document.

[Table 1](http://publib.boulder.ibm.com/infocenter/iseries/v7r1m0/topic/rzarm/rzarmtestdisarecplan.htm#rzarmtestdisarecplan__tstpln) should be helpful for conducting a recovery test.

| Table 1. Checklist for testing the disaster recovery plan | | | | | |
| --- | --- | --- | --- | --- | --- |
| **Item** | **Yes** | **No** | **Applicable** | **Not applicable** | **Comments** | |
| *Conducting a Recovery Test* |  |  |  |  |  | |
| * 1. Select the purpose of the test. What aspects of the plan are being evaluated?   2. Describe the objectives of the test. How will you measure successful achievement of the objectives?   3. Meet with management and explain the test and objectives. Gain their agreement and support.   4. Have management announce the test and the expected completion time.   5. Collect test results at the end of the test period.   6. Evaluate results. Was recovery successful? Why or why not?   7. Determine the implications of the test results. Does successful recovery in a simple case imply successful recovery for all critical jobs in the tolerable outage period?   8. Make suggestions for changes. Call for responses by a given date.   9. Notify other areas of results. Include users and auditors.   10. Change the disaster recovery plan manual as necessary. |  |  |  |  |  | |
|  |  |  |  |  |  | |
| *Areas to be tested* |  |  |  |  |  | |
| * 1. Recovery of individual application systems by using files and documentation stored off-site.   2. Reloading of system save media and performing an initial program load (IPL) by using files and documentation stored off-site.   3. Ability to process on a different computer.   4. Ability of management to determine priority of systems with limited processing.   5. Ability to recover and process successfully without key people.   6. Ability of the plan to clarify areas of responsibility and the chain of command.   7. Effectiveness of security measures and security bypass procedures during the recovery period.   8. Ability to accomplish emergency evacuation and basic first-aid responses.   9. Ability of users of real time systems to cope with a temporary loss of online information.   10. Ability of users to continue day-to-day operations without applications or jobs that are considered noncritical.   11. Ability to contact the key people or their designated alternates quickly.   12. Ability of data entry personnel to provide the input to critical systems by using alternate sites and different input media.   13. Availability of peripheral equipment and processing, such as printers and scanners.   14. Availability of support equipment, such as air conditioners and dehumidifiers.   15. Availability of support: supplies, transportation, communication.   16. Distribution of output produced at the recovery site.   17. Availability of important forms and paper stock.   18. Ability to adapt plan to lesser disasters. |  |  |  |  |  | |

**Section 12. Disaster site rebuilding**

Use this information to do disaster site rebuilding.

* + Floor plan of data center.
  + Determine current hardware needs and possible alternatives.
  + Data center square footage, power requirements and security requirements.
    - Square footage \_\_\_\_\_\_\_\_\_\_\_\_
    - Power requirements \_\_\_\_\_\_\_\_\_\_\_\_
    - Security requirements: locked area, preferably with combination lock on one door.
    - Floor-to-ceiling studding
    - Detectors for high temperature, water, smoke, fire and motion
    - Raised floor
  + **Vendors**  
    You can attach the vendors information here.
  + **Floor plan**  
    You can include a copy of the proposed floor plan here.

**Section 13. Record of plan changes**

Keep your plan current, and keep records of changes to your configuration, your applications, and your backup schedules and procedures.

* You can get print a list of your current local hardware by typing the following command:

DSPLCLHDW OUTPUT(\*PRINT)