Lab #9: Assessment Worksheet
Part A – Develop Disaster Recovery Back-up Procedures and Recovery Instructions

Course Name: Risk Management in Information Systems (IAA202)
Student Name: Nguyễn Trần Vinh – SE160258
Instructor Name: Mai Hoàng Đỉnh
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Overview

The most important task for a business continuity and disaster recovery plan is to document all identified mission critical IT systems, applications, and data recovery procedures. Fast recovery times for IT systems and applications are achievable with efficient and accurate recovery instructions. This lab has the students apply the same concepts of disaster recovery back-up procedures and recovery instructions to their own data.

Lab Assessment Questions

1. How does documented backup and recovery procedures help achieve RTO?

- **Answer**: RTO is the maximum tolerable length of time that a system can be down after a failure or disaster. Documented backup and recovery procedures help achieve RTO by outlining the process, frequency and steps that need to be followed in case of a disaster. They also help to test and verify the backups and ensure that data can be restored quickly and accurately.

2. True or False. To achieve an RTO of 0, you need 100% redundant, hot-stand-by infrastructure (i.e., IT system, application, and data, etc.).

- **Answer**: False. To achieve an RTO of 0, you do not necessarily need 100% redundant hot-stand-by infrastructure. You can also use other solutions such as data replication or cloud-based services that can provide near-zero RPO and RTO.

3. What is most important when considering data backup?

- **Answer**: Many factors that are important when considering data backup, such as:
    - The type and size of data you want to protect
    - The frequency and schedule of your backups
    - The backup method and strategy you use (full, differential or incremental)
    - The storage location and medium you choose (local, cloud or hybrid)
    - The security and encryption of your backup data
    - The recovery time objective (RTO) and recovery point objective (RPO) you need
    - Depending on your business needs and budget, you may have to prioritize some factors over others.

4. What is most important when considering data recovery?

- **Answer**: Data recovery is the process of retrieving inaccessible, lost, corrupted, damaged or formatted data from secondary storage, removable media or files. Some of the important factors when considering data recovery are:

- The cause and extent of data loss (physical damage, logical error, human error etc.)
- The type and format of data you want to recover (documents, photos, videos etc.)
- The availability and quality of backup data
- The recovery software or service you use (free or paid, online or offline etc.)
- The time and cost involved in the recovery process
- Depending on your situation and preferences, you may have to weigh these factors differently.

5. What are the risks of using your external e-mail box as a back-up and data storage solution?

- **Answer**: Using your external email box as a backup and data storage solution may have some risks, such as:
  - Limited storage space and attachment size
  - Data loss or corruption due to hacking, phishing, malware or accidental deletion
  - Data breach or theft due to weak passwords, unauthorized access or third-party sharing
  - Data inconsistency or duplication due to multiple versions or copies of files
  - Data recovery difficulty or impossibility due to encryption, compression or format issues
  - A better alternative may be to use a dedicated cloud backup service that can provide more security, reliability and flexibility for your data.

6. Identify the Total Amount of Time Required to Recover and Install the Lab #9 Assessment Worksheets on Your Student VM Hard Drive and open the file in Microsoft Word to verify integrity. {Insert your timed RTO using your computer clock – following your documented instructions and steps}.

- **Answer**: It took 5 minutes to recover my lab #9 assessment worksheets. The original RTO was 15 minutes, I made good time on my recovery.

7. Did you achieve your RTO? What steps and procedures can you implement to help drive RTO even lower?

- **Answer**: Some of the steps and procedures that can help you lower RTO are:
  - Perform regular backups of your data and systems to minimize data loss and recovery time.
  - Implement a disaster recovery plan that defines roles, responsibilities, processes and resources for restoring your systems after a disruption.
  - Use cloud-based services that offer high availability, scalability and redundancy to ensure your systems can resume operations quickly in case of a failure.
  - Test your backup and recovery procedures periodically to identify gaps, issues and areas for improvement.
  - Monitor your systems for performance, security and reliability issues and take proactive measures to prevent or mitigate them.

8. What are some recommendations for lowering the RTO for retrieval and access to the backup data file?

- **Answer**: Some recommendations for lowering the RTO for retrieval and access to the backup data file are:

- Having a good recovery system that can restore data quickly.
- Making sure your backups are available and tested regularly.
- Importing your backup data into your current database.
- Choosing suitable storage equipment for your data files.

9. If you drive RTO lower what must you do to streamline the procedure?

- **Answer**: If you drive RTO lower, you must streamline the procedure by:
    - Performing backups frequently.
    - Keeping the latest backups available.
    - Having a disaster recovery plan in place.
    - Auditing your business continuity plan.
    - Testing your recovery system regularly.

10. Why is documenting and testing critical to achieve a defined RTO?

- **Answer**: Documenting and testing are critical to achieving a defined RTO (Recovery Time Objective) because:
    - Documenting helps to explore your requirements for test documentation.
    - Documenting helps to communicate your test strategy, plan, cases, etc. to stakeholders.
    - Documenting helps to facilitate testing and auditing of the backup and recovery processes.
    - Testing helps to verify that your RTOS tasks are working as expected.
    - Testing helps to identify and fix any bugs or issues before a disaster occurs.
    - Testing helps to measure and improve your RTO performance.

11. Why is it a best practice for an organization to document its backup and recovery steps for DR?

- **Answer**: It is a best practice for an organization to document its backup and recovery steps for DR (Disaster Recovery) because:
    - It helps to respond to unplanned incidents such as natural disasters, cyberattacks, power outages, etc.
    - It reduces the risk of data loss, downtime, and business disruption.
    - It ensures that everyone knows their roles and responsibilities in case of a disaster.
    - It facilitates testing and auditing of the backup and recovery processes.

12. What can you do to cut down on the recovery time for accessing, copying, and recovering your Lab #1 – Lab #8 individual worksheets to help achieve the RTO?

- **Answer**: Some possible ways to cut down on the recovery time for accessing, copying, and recovering data are:
    - Being well-prepared and ready to take action quickly and effectively
    - Increasing the frequency of backups
    - Using "changed block recovery" solutions
    - Minimizing RTOS objects
    - Optimizing the task stacks

13. What will encryption of a disk or data in storage do to the RTO definition when attempting to retrieve and recover clear-text data for production use?

- **Answer**: Encryption may affect RTO depending on how fast you can decrypt your data for production use. This may depend on factors such as encryption method, key management, hardware performance, etc.

14. How many total steps did your back-up and recovery procedures consist of for this Lab exercise? Are there any that can be combined or streamlined?

- **Answer**: Hard to calculate. But the fewer steps you have and easier the steps are, the less confusion and fewer mistakes will happen and that will save time on recovery, as well as a good recovery system.

15. If the individual accessing the system for DR purposes was not familiar with the IT system and required system administrator login credentials, what additional step is required in the recovery phase?

- **Answer**: This can be done by using various methods such as:
    - Using a password reset disk or a recovery drive
    - Using another administrator account on the same computer
    - Using a third-party software tool or bootable media
    - Performing a clean install of Windows
    - However, these methods may have some limitations or risks such as data loss, security breach or system damage. Therefore, it is advisable to have a backup of your data and your administrator password before attempting any of these methods.